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State Solar Energy Legislation of 1977: A Review of Statutes Relating to Buildings

Robert M. Eisenhard
Laura A. Santucci

Building Economics and Regulatory Technology Division
Center for Building Technology
National Engineering Laboratory
U.S. Department of Commerce
National Bureau of Standards
Washington, D.C. 20234

February 1979

Prepared for
Department of Energy
Office of Conservation and Solar Applications
Washington, D.C. 20545

and

Department of Housing and Urban Development
Division of Energy, Building Technology and Standards
Washington, D.C. 20410

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U.S. DEPARTMENT OF COMMERCE, Juanita M. Kreps, Secretary

Jordan J. Baruch, Assistant Secretary for Science and Technology

NATIONAL BUREAU OF STANDARDS, Ernest Ambler, Director

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ABSTRACT

This report reviews State legislation on solar energy, as applied to buildings, which was enacted in 1977. Acts involve tax incentives, sun rights, standards for solar units, and State support or promotion of solar research, solar demonstrations, and solar loans. The Acts are identified and abstracted, and responsible State agencies and officials identified. The Acts, supporting forms and other documents are included in the Appendices.

Keywords: Buildings; design; energy; legislation; solar; standards; State.

1. Background

From ancient times, the sun has been known as a source of energy, but only sporadic short-lived attempts were made to harness this available heat and power. In the early 20th century solar water heaters made their appearance on rooftops in Arizona, California, and Florida. However, low-cost, mass-produced water heaters using cheap natural gas or electricity put an end to most of this early use. By mid-century solar water heaters were becoming popular in Israel, Japan, and Australia. The impact of the oil embargo of 1973, with the resulting recognition of United States dependence on dwindling fossil fuels, rekindled national interest in the power of the sun. This report provides a review of building related solar legislation passed by the States in 1977 and a graphic update of all State enactments in this area since 1974. By bringing together in one volume the Acts, as well as implementation information, it is hoped that the future solar legislative process will be aided and the solar community assisted in identifying the types and extent of incentives, standards, and research and development activities which are being undertaken.

The interest in solar energy at the State level continued to escalate in 1977. Legislation was passed by 33 States dealing with the application of solar energy to buildings. There were 72 bills enacted into law as compared to 44 in 1976¹ and 34 in 1974 and 1975.² Table 1 indicates State legislation passed in 1977, as well as in the preceding three years. As of the end of 1977, a total of 40 States have adopted one or more solar related bills.

The bills enacted had the common goal of encouraging the early acceptance and therefore full commercialization of solar devices to provide hot water heating and space heating and cooling of buildings. The bills include tax incentives, standards and certification, loans, easements, demonstrations, research and development, and methods of providing information to the public which can shorten the normal time required to introduce this new technology which will ease the strain on the dwindling supply of fossil fuels. Solar energy continues to provide an easily understood energy source that will be limitless, unrestricted, essentially non-polluting, useful in many locations without long transmission lines or costly transport, and relatively safe with normal precautions. With popular support, the State legislatures have pressed on in many instances to pass a wide array of solar related Acts.

¹ Eisenhard, Robert M., National Bureau of Standards, "State Solar Energy Legislation of 1976: A Review of Statutes Relating to Buildings," NBSIR 77-1297, September 1977.

² Eisenhard, Robert M., National Bureau of Standards, "A Survey of State Legislation Relating to Solar Energy," NBSIR 76-1082, April 1976.

STATE ACTS RELATING TO SOLAR ENERGY 1974 - 77	TAX INCENTIVES			EASEMENTS & ZONING	STANDARDS AND OR CERTIFICATION	CODE PROVISIONS	PROVIDE STATE PROMOTION, INVESTIGATION OR R&D	STATE BUILDINGS TO USE SOLAR	LIFE CYCLE COST ANALYSES AND FEASIBILITY OF NON-FOSSIL FUEL IN STATE OWNED/ASSISTED BUILDINGS	SOLAR LOANS	UTILITIES & SOLAR
	REAL PROPERTY	INCOME	SALES								
Alabama											
Alaska		*							●		
Arizona	●	●	*				●				
Arkansas		*					●				*
California	* 1	●			*	●	●	*			●
Colorado	●	*		●			●		●		
Connecticut	●		*		●						
Delaware											
Florida					●	●	●		●		
Georgia	●		●				●				
Hawaii	●	●					●		*		*
Idaho		●									
Illinois	●						*		*		*
Indiana	●										
Iowa							●	*			
Kansas	*	●		*					*		
Kentucky							●				
Louisiana											
Maine	*		*				●				
Maryland	●			*			●				
Massachusetts	●	●							●	*	
Michigan	●		●				●				
Minnesota					●				*	*	
Mississippi											
Missouri											
Montana	●	*					●				
Nebraska									*		
Nevada	*						●				
New Hampshire	●										
New Jersey	*				*						
New Mexico		●		*	*		●		●		
New York	*				*		●				
North Carolina	*	*					●		●		
North Dakota	●	*		*							
Ohio							●				
Oklahoma		*							*		*
Oregon	●	*		●	*		* 1			*	
Pennsylvania											
Rhode Island	*						●				
South Carolina											
South Dakota	●										
Tennessee											
Texas	*	●	●				*		*		
Utah							*				
Vermont	●										
Virginia	●				*		●				
Washington	*				*		●		●		
West Virginia											
Wisconsin		*			*						
Wyoming											
Totals	27	17	6	6	11	2	25	2	15	3	5

● 1974 - 1976 LEGISLATION

1 Not approved by voters

* 1977 LEGISLATION

TABLE 1

2. Purpose and Scope

This report provides detailed information on activities of State legislatures in 1977 in regard to solar energy. A number of sources were contacted to obtain information on State legislation and several listings were checked to ensure total coverage. Information has been obtained from the National Conference of State Legislatures³, the National Solar Heating and Cooling Information Center⁴, the U.S. Department of Housing and Urban Development⁵, and from various State agencies in order to provide one publication surveying the total 1977 legislative output.

Hopefully, all solar legislation relating to or impacting on buildings has been identified; however, it is possible that some significant legislation may have been overlooked. In some instances State programs involving solar energy are not specifically authorized by new legislation. Therefore, solar programs may be underway under the general authority of an energy agency or a building regulatory agency. Table 1 should not be construed to include all ongoing programs but only those for which specific new legislation has been identified.

3. Legislative Summary

In many States, the provision of tax incentives to encourage the installation and use of solar energy devices continues to play a large part in the solar legislative program.

3.1 Real Property Tax Incentives

Ten States (Figure 1) enacted real property tax incentives bringing the total number of States with programs in this category to 27.

³ "Energy Report to the States," National Conference of State Legislatures, Vol. 4, No. 8, April 28, 1978.

⁴ "State Solar Legislation," National Solar Heating and Cooling Information Center, July, 1978.

⁵ "HUD Solar Status," U.S. Department of Housing and Urban Development, HUD-PDR-189-7, January 1978.

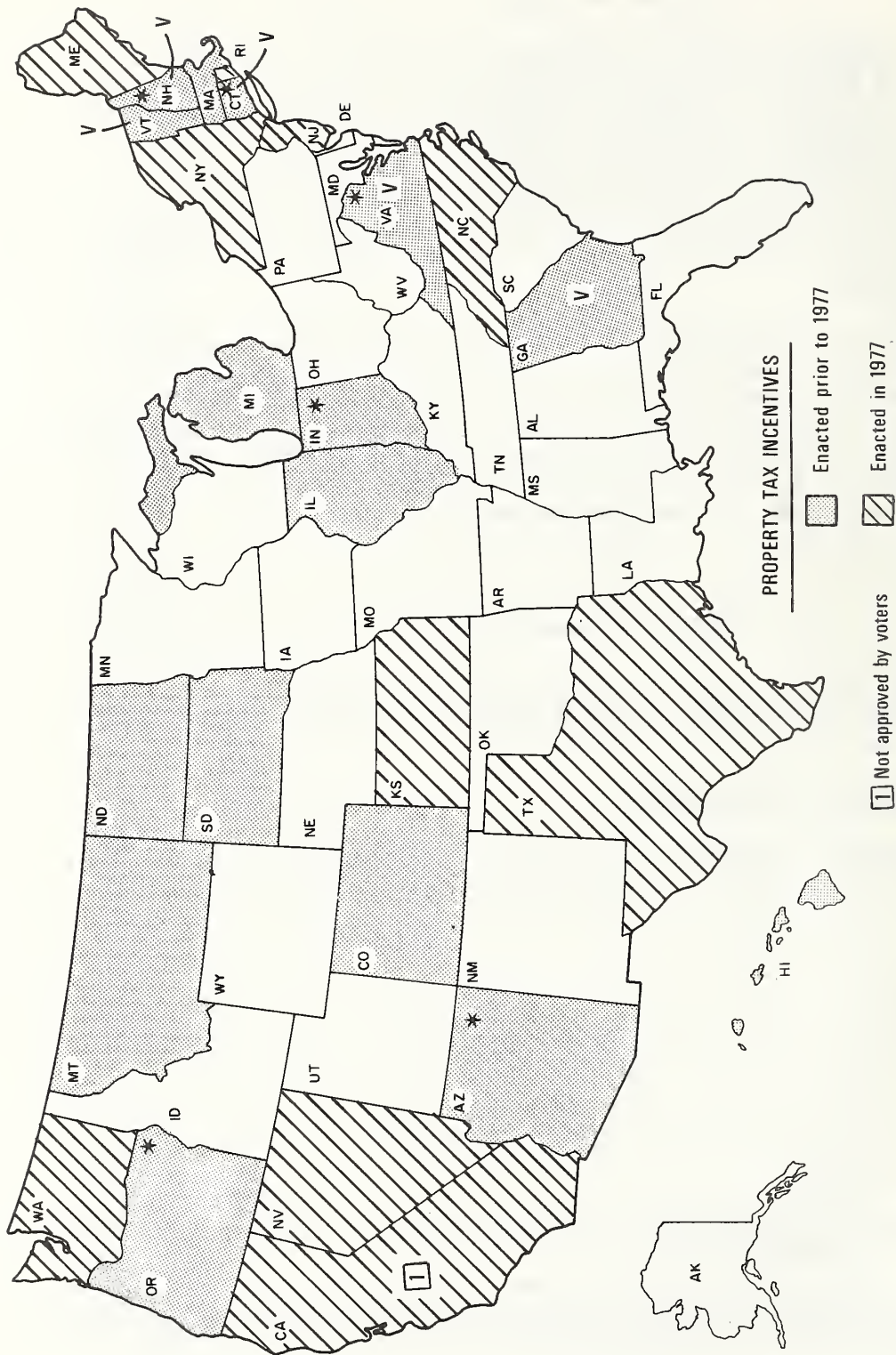


Figure 1 — STATES WITH ACTS PROVIDING FOR PROPERTY TAX INCENTIVES FOR USE OF SOLAR ENERGY IN BUILDINGS

Kansas HB 2618 provides for reimbursement of 35% of tax paid on property equipped with a solar energy system capable of providing 70% of the energy needed to heat or cool the structure. The reimbursement will run for 5 years.

Maine HP 1645/LD 1845 provides an exemption from property taxation of solar energy equipment for 5 years.

Nevada AB 277 provides for a tax allowance equal to the amount the solar system would have increased the property tax.

New Jersey AB 1801 provides a property tax assessment reduction equal to the assessed value of the solar system through 1982.

New York SB 3629A/AB 5147A (amended by SB 6869/AB 8995) provides an assessment exemption for a solar system for 15 years.

Texas SJR 53 allows voters to approve a State Constitutional amendment authorizing the legislature to exempt solar and wind powered energy devices from property taxes. The voters approved the amendment on November 7, 1978.

Virginia HB 1404, following up on a 1976 Constitutional amendment, enables municipalities to provide a whole or partial property tax exemption for solar devices. The exemption is to be permitted for not less than five years.

Washington HB 388 allows a 7-year property tax assessment exemption for solar related equipment.

North Carolina HB 607 provides a property tax assessment exemption for all equipment used exclusively for solar purposes.

Rhode Island HB 5583 provides that a building equipped with solar devices will be assessed at a value no greater than a building with conventional equipment.

California SB 146 and SCA 15 allowed a property tax exemption for solar devices, but it did not receive the required voter approval in the June 1978 primary election.

In addition, Arizona, Connecticut, Indiana, Oregon, and New Hampshire modified or clarified property tax incentives already in existence.

3.2 Income Tax Incentives

Nine States (Figure 2) have added income tax incentives in 1977 bringing the total to 17.

Arkansas SB 53 provides that a homeowner can deduct from his gross income the entire cost of purchase and installation of a solar device as well as any other energy saving equipment.

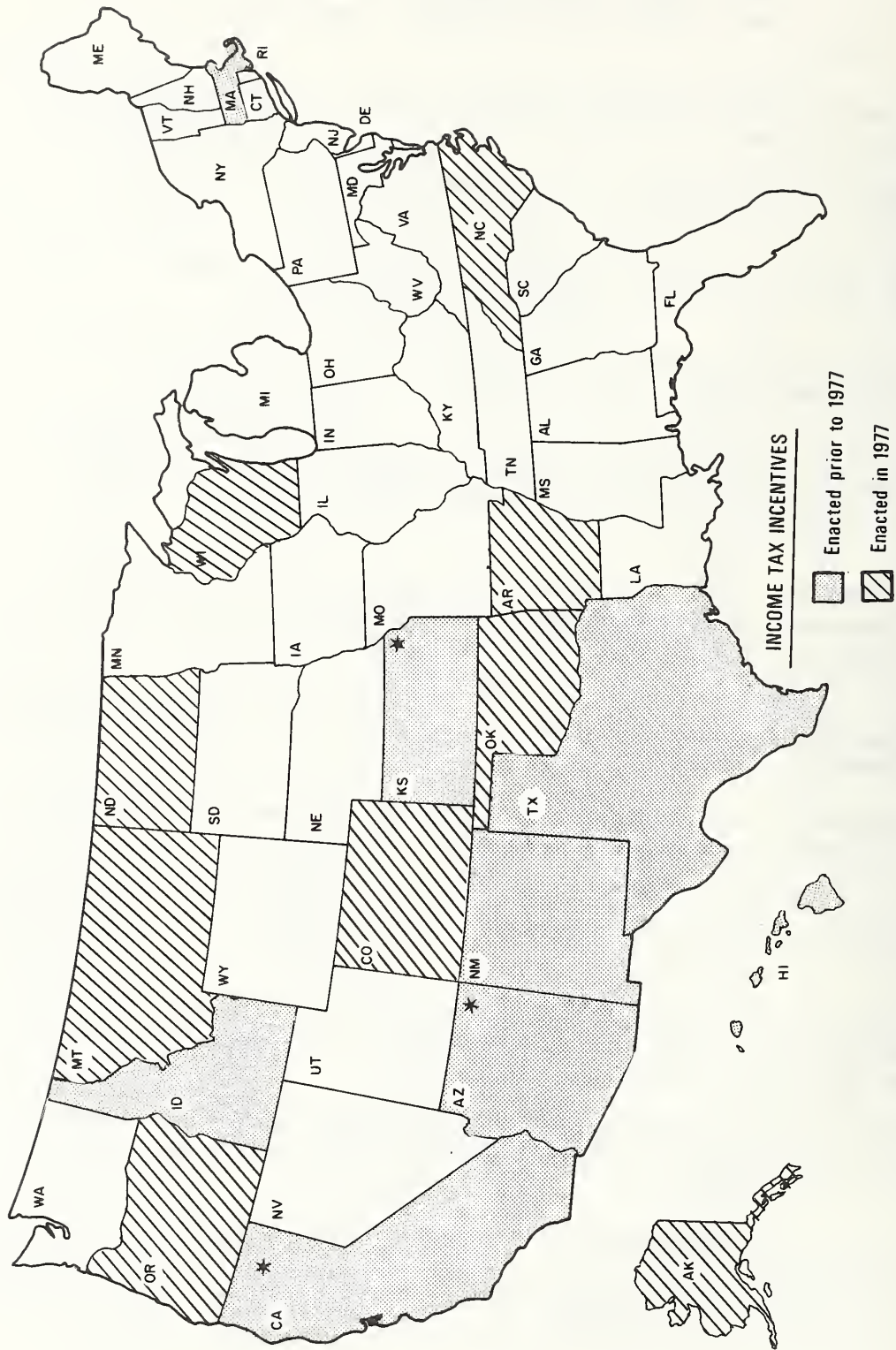


Figure 2 - STATES WITH ACTS PROVIDING FOR INCOME TAX INCENTIVES FOR USE OF SOLAR ENERGY IN BUILDINGS

North Dakota HB 1479 allows a credit against tax of 5% of the total cost of the solar system including acquisition, installation, redesigning, and remodeling for a two-year period.

Oklahoma HB 1322 allows a tax credit for installing a solar device in a private residence of 25% of the cost of construction or \$2,000, whichever is less. If the credit exceeds liability, the credit can be carried forward for five years.

Alaska HB 329 provides a tax credit for residential solar installations of 10% of the cost, not to exceed \$200.

Oregon SB 339 provides a tax credit for a residential application of 25% of the cost of the device or \$1,000, whichever is less, that may be carried forward for five years.

California AB 1558, increasing its tax credit over 1976, allows a tax credit of 55% of the cost not to exceed \$3,000 for a single-family dwelling. Where costs exceed \$6,000 on other structures, the credit can be \$3,000 or 25% of the cost, whichever is greater.

North Carolina HB 1003 allows both a personal and corporate income tax credit for solar installations of 25% of the cost or \$1,000, whichever is less. The credit can be carried forward for the three succeeding years.

Colorado HB 1519 allows a deduction from gross taxable income of the cost of the solar device.

Montana SB 167 allows for residential solar installations, a tax credit of 10% of the first \$1,000 of cost and 5% of the next \$3,000. Credit may be carried forward for four years.

Wisconsin AB 1019 provides a corporate business deduction of all costs of an alternative energy device or an individual income tax credit on a sliding scale of from 30% to 8% of the cost, depending on the year of installation and whether applied to new or existing buildings.

Arizona which previously allowed a 36-month amortization period for solar devices, provides in HB 2068 for a 35% credit for the cost of a solar installation in a taxpayer's residence. The credit cannot exceed \$1,000 and declines 5% per year until it ends with the 1984 tax year.

Kansas which provided an income tax credit in 1976 and allowed a 60-month business property amortization, describes a subsequent owner's amortization authority in SB 14.

3.3 Sales Tax Incentives

Three States (Figure 3) provided sales tax incentives, which brings the total to six.

Arizona HB 2063 providing a sales and use tax exemption for solar devices, extends through 1984 and Maine HP 1645/LD 1845 provides a sales tax rebate that is effective through 1982.

Connecticut HB 5266 (Substitute) provides a sales tax exemption for solar collectors purchased prior to September 30, 1982.

Texas HB 858 amends HB 546 (1975), which provided sales and franchise tax exemptions, to allow companies engaged exclusively in the installing of solar devices to take advantage of the law.

3.4 Zoning or Easements

Solar zoning or easements Acts (Figure 4) were passed in four States as follows:

Maryland	HB 360	North Dakota	HB 1069
New Mexico	HB 294	Kansas	HB 2096

Six States now have laws relating to easements or zoning.

3.5 Standards, Certification and Codes

Acts involving solar standards, certification, or rules and regulations (Figure 5) were enacted by eight States as follows:

California	AB 1512
	AB 1558
New Jersey	AB 1801
New Mexico	SB 160 & 387
New York	AB 5147A/SB 3629A
Oregon	SB 572
Virginia	HB 1404
Washington	HB 388
Wisconsin	AB 1019

This brings the total number of States with this type of legislation, including code provisions, to thirteen.

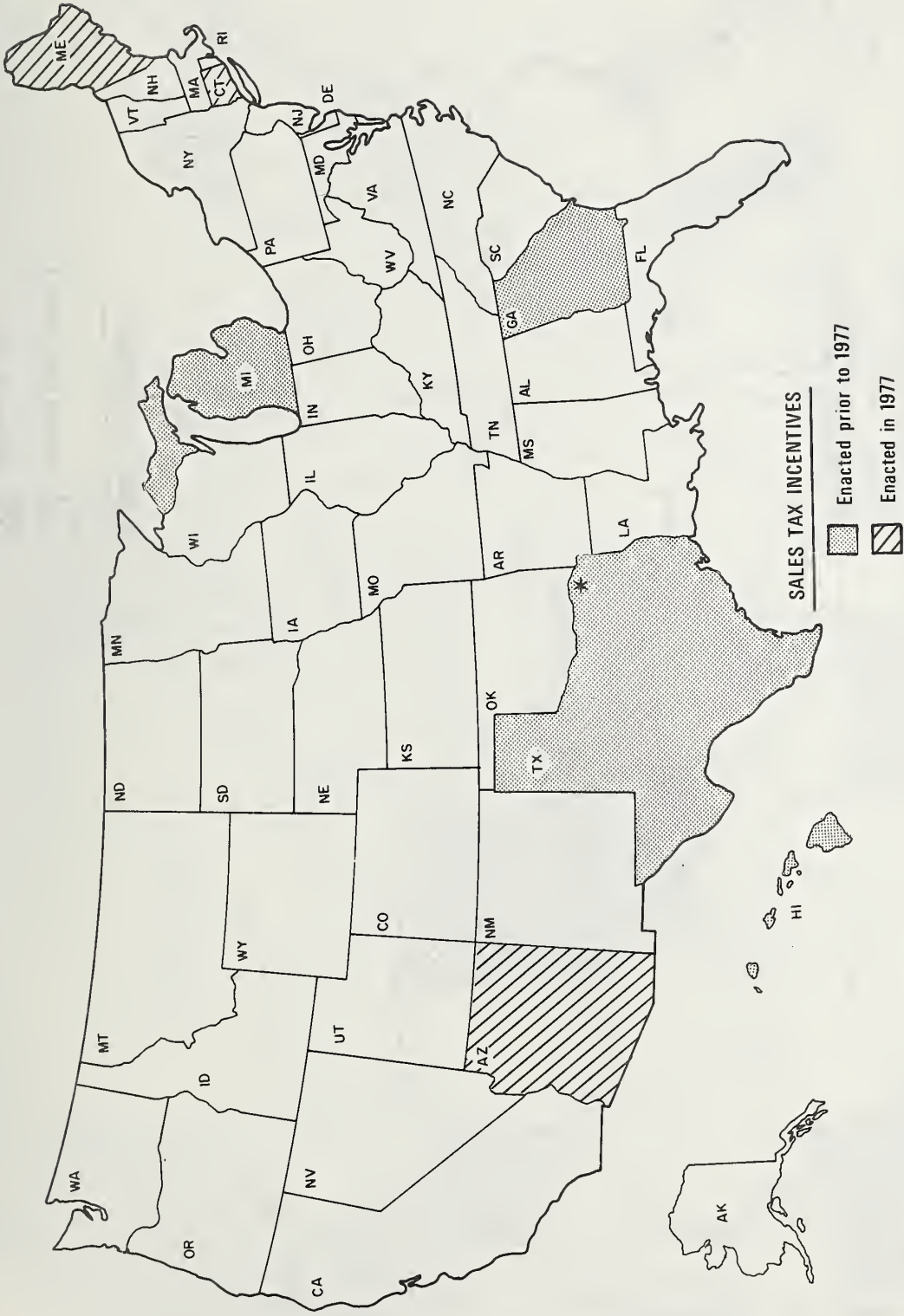


Figure 3 — STATES WITH ACTS PROVIDING FOR SALES TAX INCENTIVES FOR USE OF SOLAR ENERGY IN BUILDINGS

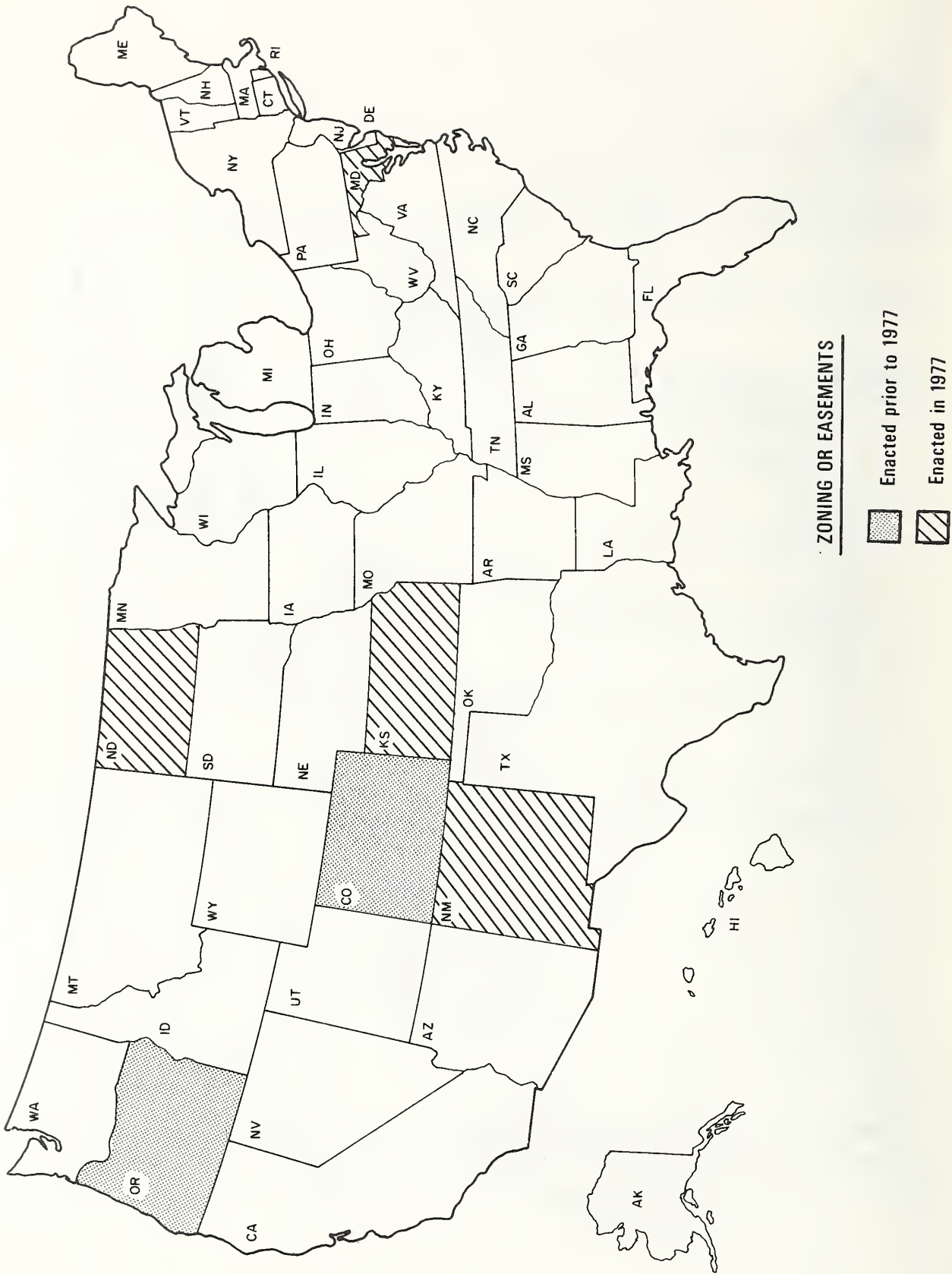


Figure 4 – STATES WITH ACTS RELATING TO ZONING OR EASEMENTS

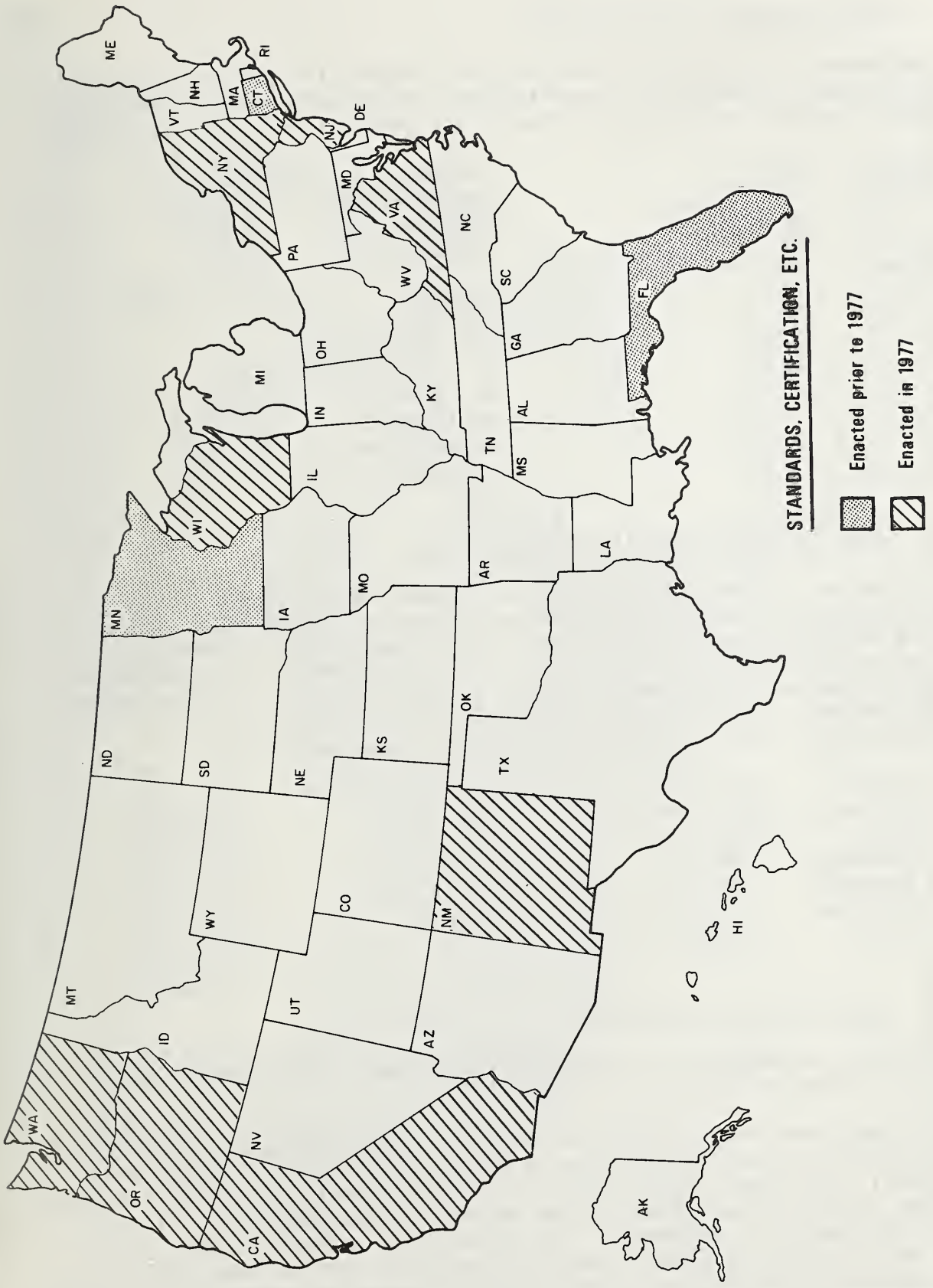


Figure 5 - STATES WITH ACTS PROVIDING FOR SOLAR STANDARDS, CERTIFICATION AND CODES

3.6 Solar Research and Development

Four States (Figure 6) provided for State support for solar research and development, promotion, or investigation. Ten others added to laws previously enacted in this area. These State Acts are:

Illinois	HB 1279	Arizona	HB 2062
Oregon	SJR 32	Arkansas	HB 809
	SJR 18	Colorado	HB 1055
	SB 572	Georgia	HR 378
Texas	HB 1799		HR 208-823
Utah	SCR 1	Hawaii	SCR 86 (SR62)
	SCR 2	Minnesota	SF 1467
	SJR 37		HF 875
			HF 552
		New Mexico	SB 160 & 387
		North Carolina	HB 654
		Rhode Island	SB 1232A
		Virginia	HB 1451

3.7 State Buildings and Life-Cycle Analysis

Nine States provided Acts or Resolutions relating to the use of solar energy in State funded buildings (Figure 7). Activities would range from studying costs and benefits to a mandate for supplemental solar water heating (California SB 150) on State owned new construction, unless exempted by the State Architect. Also, Iowa SF 155 appropriated \$200,000 for a solar demonstration unit for the statehouse complex. In addition to the California and Iowa Acts there were these:

Hawaii	HR 427
Illinois	HB 1749
Kansas	SCR 1601
Minnesota	HF 1631
Nebraska	LB 549
Oklahoma	HJR 1013
Texas	HSR 24

3.8 Loans, Utilities and Solar

Three State acts (Figure 8) addressed solar loans. These are Massachusetts HB 389, Minnesota HF 875, and Oregon SB 477.

Three additional States (Figure 8) provided Acts relating to utility rates and solar energy as follows: Hawaii SB 995, Illinois HB 747 and Oklahoma HB 1322. The Hawaii Act provides a role for the Public Utilities Commission in the sale of energy produced from non-fossil fuel to public utilities for distribution to consumers. The Illinois Act prohibits higher rates for public utility supplied electricity to solar users through 1982. The Oklahoma Act provides that a public utility cannot increase rates or enforce a surcharge on the basis of solar energy use or installation by a consumer.

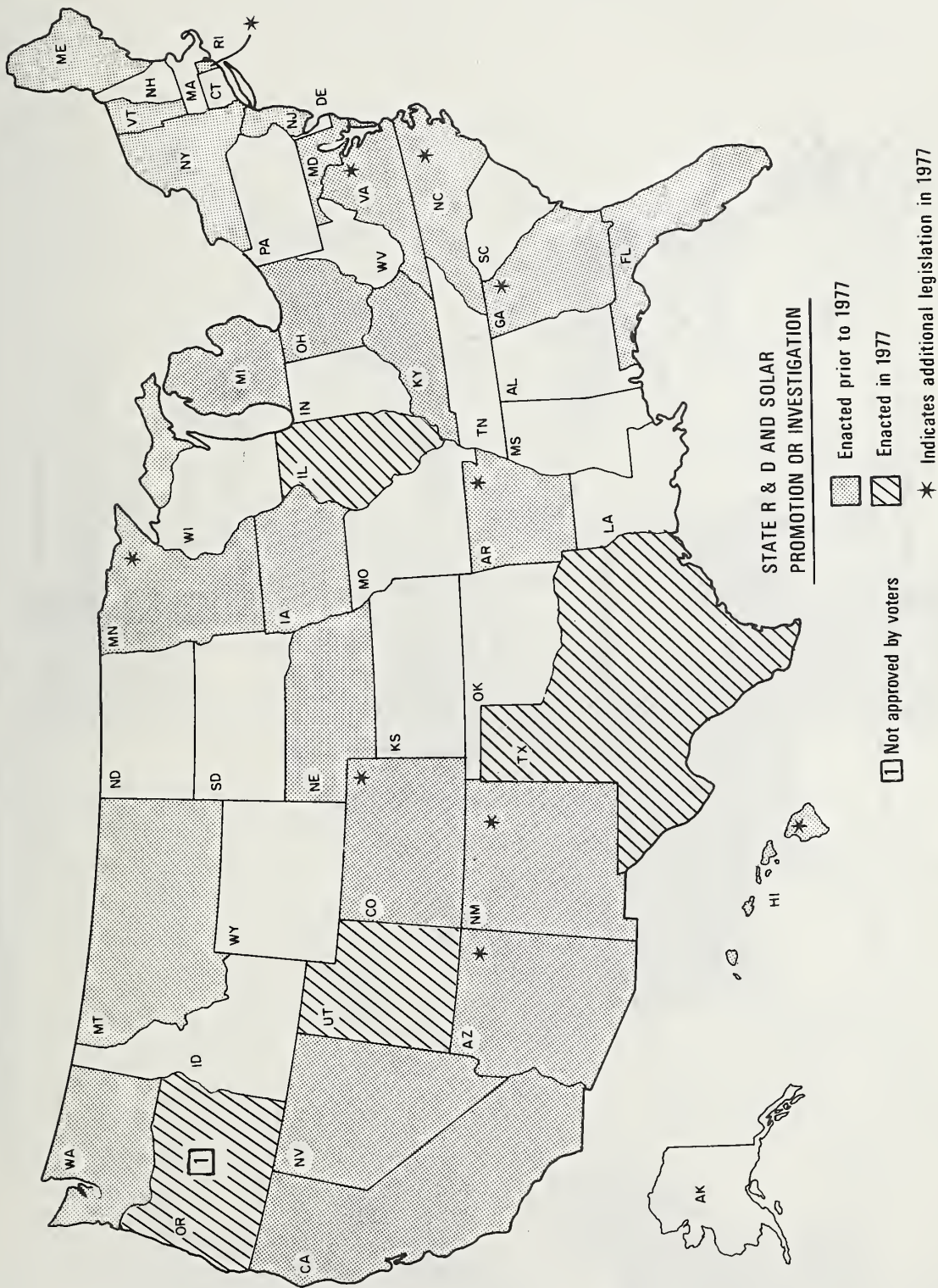




Figure 6 — STATES WITH ACTS PROVIDING SUPPORT OF RESEARCH, DEVELOPMENT, PROMOTION OR INVESTIGATION OF SOLAR ENERGY



LIFE CYCLE COST ANALYSES

-  Enacted prior to 1977
-  Enacted in 1977

STATE BUILDING TO USE SOLAR

-  Enacted in 1977

Figure 7 - STATES WITH ACTS PROVIDING FOR ANALYSES OF LIFE-CYCLE COST OF BUILDINGS INCLUDING SOLAR ENERGY AND FOR STATE BUILDINGS USING SOLAR ENERGY

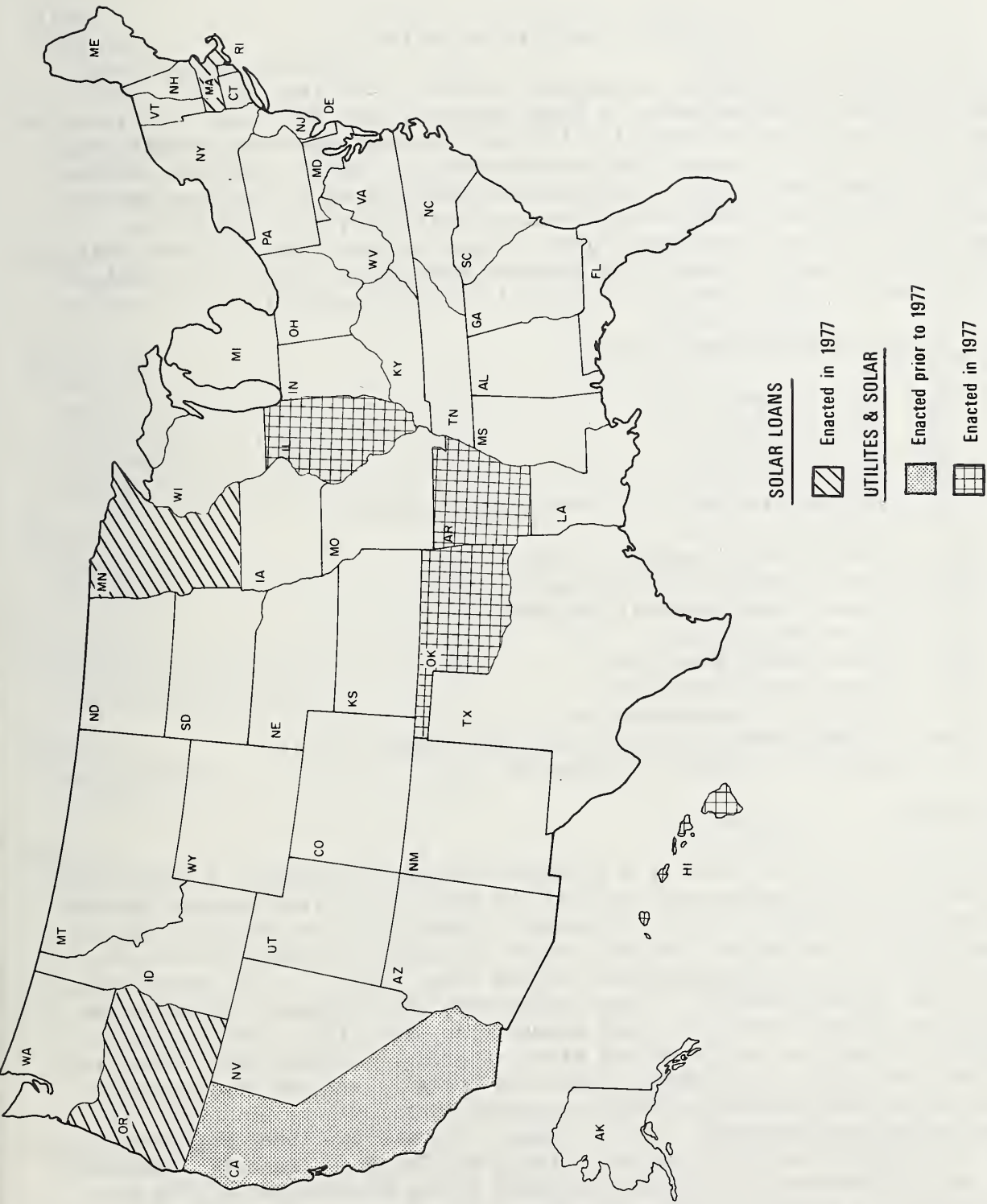


Figure 8 – STATES WITH ACTS PROVIDING LOANS FOR SOLAR INSTALLATIONS AND FOR REGULATIONS RELATING TO UTILITY RATES AND SOLAR ENERGY

In addition, Arkansas HB 809 allows the Public Service Commission wide authority in regard to utilities and the use of solar and other energy related technologies.

4. State Legislative Review

Data for each Act include the chapter number in the laws of 1977, the approval and effective dates, a brief abstract, and the legal citation. To facilitate access to detailed information on program development or legislative effectiveness, the responsible State agency and name of the State official are listed. Forms and documents used to implement the law and additional information, whenever available, also are listed. Appendix A includes many State forms, documents, and other informational State publications. Appendix B includes each State Act or the critical solar energy related portion of several of the larger Acts.

Key to Legislative Abbreviations

SB - Senate Bill
AB - Assembly Bill
HB - House Bill
HF - House File
LB - Legislative Bill (Unicameral legislature)
SR - Senate Resolution
SCR - Senate Concurrent Resolution
SJR or JRS - Senate Joint Resolution
SCA - Senate Constitutional Amendment
HR - House Resolution
HSR - House Simple Resolution
HJR - House Joint Resolution
AJR - Assembly Joint Resolution
LR - Legislative Resolution (Unicameral legislature)
ACR - Assembly Concurrent Resolution

Definitions

A bill is a form or draft of a proposed statute presented to a legislature. Bills may be proposed in any body of the legislature, such as the Senate, House, or Assembly. A bill is termed a "House Bill" or "Senate Bill" depending on the legislative body which originally proposed the statute. The term "Assembly" is equivalent to the term "House." Some states use the term "file" for bill. Joint resolutions are processed similarly to bills and become law in the same manner. As with bills, the House or Senate designation indicates the place of origin. Concurrent resolutions affect the operations of both Houses and normally are not legislative. Concurrent resolutions are used to express facts, principles, opinions, and purposes of the body. Upon passage, they are published but normally do not receive Executive action. Simple resolutions affect the operation of one legislative body and are preceded by the designation of the body involved. If passed, they are published in an appropriate document. Each State's use of the numerous terms may vary.

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ALASKA

Committee Substitute HB 329
Chapter 94
Approval Date: June 4, 1977
Effective Date: June 5, 1977

ABSTRACT

This Act provides in Section 43.20.039 that individuals are allowed an income tax credit in the amount of 10% of the expense of installation of non-fossil fuel sources of power generation including but not limited to wind, tidal, solar or geothermal sources and not to exceed \$200. This Act applies to personal residences in this State and the credit is provided according to the number of months during which the taxpayer resides in the State. These provisions are valid until December 31, 1982.

LEGAL CITATION

This Act amends the Alaska Statutes 43.20 by adding Section 43.20.039.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Sterling Gallagher, Commissioner
Department of Revenue
Pouch SA
Juneau, Alaska 99811
(907) 465-2300

FORMS OR OTHER DOCUMENTS

Form DR600 "Resident Alaska Individual Income Tax Return,"
1977 Alaska Tax Booklet, p 12, line 35
Form DR600PR, "Part Year or Non-Resident Alaska Individual Income
Tax Return," 1977 Alaska Tax Booklet, p 16, line 53
Line by Line Instructions for Form DR600, p 9.
Line by Line Instructions for Form DR600PR, p 17.

ARIZONA

HB 2062
Chapter 58
Approval Date: May 18, 1977
Effective Date: May 18, 1977

ABSTRACT

This Act sets the appointment terms for members of the Solar Energy Research Commission and provides for annual reports to the legislature and the governor. It also allows the Commission to enter into contracts which support the development of solar energy and aid the Commission in the execution of its duties.

LEGAL CITATION

This Act amends Section 41-572, Arizona Revised Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

James Warnock
Executive Director
Solar Energy Research Commission
Capitol Tower, Room 502
1700 W. Washington
Phoenix, Arizona 85007
(602) 271-3682

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

"Access-Energy," Cooperative Extension Service, The University of Arizona, June-July 1978.
Osborn, Donald, "Harvesting the Sun-Digest of Major Solar Legislation," Arizona Solar Energy Research Commission, November 1977.

ARIZONA

HB 2063
Chapter 42
Approval Date: May 10, 1977
Effective Date: August 27, 1977

ABSTRACT

This Act provides sales and use tax exemptions for solar energy devices designed primarily to provide heating or cooling or both, or, to produce electrical or mechanical power or both; or, to pump irrigation water by means of collecting and transferring solar generated energy, including solar energy storage devices. This Act expires December 31, 1984.

LEGAL CITATION

This Act amends Sections 42-1312.01 and 42-1409, Arizona Revised Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Neal Trasente, Director
Department of Revenue
Capitol Building, West Wing
1700 W. Washington
Phoenix, Arizona 85007
(602) 271-3393

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

"Arizona Solar Energy Directory - Products, Services and Information," Arizona Solar Energy Research Commission, October 1977.
"Solar Consumer Guide No. 1," Arizona Solar Energy Research Commission.
"Solar Energy," Arizona Public Services.

ARIZONA

HB 2068
Chapter 81
Approval Date: May 23, 1977
Effective Date: January 1, 1978

ABSTRACT

This Act, known as the Solar Tax Credit Act of 1977, provides a resident a tax credit of 35% of the cost of a solar heating and cooling device on his 1978 income taxes. The device must be installed on the taxpayers residence in Arizona and the credit cannot exceed \$1,000. The credit will decline 5% per year and end with the 1984 tax year. If the credit exceeds the resident's tax liability, it can be carried forward as a tax credit for a period not to exceed five years. The Act allows amortization of the cost of the solar energy equipment over 36 months for purposes of reporting income for state income taxes. This applies to residential, commercial, industrial or governmental installations or experimental or demonstration projects. This is in lieu of the income tax credit. The Act also removes the value of a solar energy device from the value of real property to be subject to taxation. The Act provides a credit for installation of residential insulation or ventilation devices not to exceed 25% of the cost of the insulation or the device, or a total of \$100.

LEGAL CITATION

This Act amends Sections 42-123.01 and 43-123.37, Arizona Revised Statutes, and amends Title 43, Chapter 1, Article 1, Arizona Revised Statutes by adding Sections 43-128.03 and 43-128.04.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Neal Trasente, Director
Department of Revenue
Capitol Building, West Wing
1700 W. Washington
Phoenix, Arizona 85007
(602) 271-3393

FORMS OR OTHER DOCUMENTS

Form 140-CR, "Tax Credits

ARKANSAS

SB 53
Act 535 of 1977
Approval Date: March 18, 1977
Effective Date: January 1, 1977

ABSTRACT

This Act provides that an individual homeowner taxpayer may deduct from gross income for tax purposes the entire cost of purchase and installation of energy-saving equipment in any structure which is located in Arkansas. This includes solar heating and cooling equipment as well as improved insulation, storm doors and windows, and proper vents. Interest and finance charges cannot be included. Deduction must be taken in the tax year of the installation.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Ed Hicks	A. Robert Fortney
Supervisor of Individual Taxes	Manager of State Income Tax Section
Department of Finance	Department of Finance
and Administration	and Administration
P.O. Box 3628	P.O. Box 3628
Little Rock, Arkansas 72203	Little Rock, Arkansas 72203
(501) 371-1007	(501) 371-2193

FORMS OR OTHER DOCUMENTS

"1977 Arkansas Individual Income Tax Return," p. 3, line 29.
"Instructions for Completion of p. 3. Itemized Deductions," p. 4.

ARKANSAS

HB 809
Act 748
Approval Date: March 24, 1977
Effective Date: July 6, 1977

ABSTRACT

This Act authorizes the Public Service Commission to propose, develop, solicit, approve, require, implement, and monitor measures by utility companies to engage in programs and activities which conserve energy as well as distribute energy. Such programs may include insulation of buildings, promotion of efficient load management, and encouragement of the use of renewable energy technologies or sources, including solar energy and energy derived from wind power, geothermal sources and waste products.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

John S. Choate, Director
Public Service Commission
Justice Building, 2nd Floor
Little Rock, Arkansas 72201
(501) 371-2051

FORMS OR OTHER DOCUMENTS

None

CALIFORNIA

SB 146
Chapter 103
Approval Date: June 15, 1977
Effective Date: Not effective. This Act was Proposal 3 on the June 1978 ballot and was defeated by the electorate.

ABSTRACT

This Act exempts solar energy systems which are attached to residential or non-residential buildings or swimming pools from property taxation. The exemption applies to fiscal years 1979 through 1983. The solar energy system must be in use for a period of 12 months to be eligible for the exemption. The Act becomes operative only if the Senate Constitutional Amendment No. 15 is approved by voters at the primary election in June 1978.

LEGAL CITATION

This Act adds Section 234 to the Revenue and Taxation Code.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Douglas D. Bell, Executive Secretary County Assessor
State Board of Equalization
1020 N. Street
Sacramento, California 95814
(916) 445-6464

FORMS OR OTHER DOCUMENTS

None

CALIFORNIA

SB 150
Chapter 773
Approval Date: September 13, 1977
Effective Date: January 1, 1978

ABSTRACT

This Act provides that after January 1, 1979, no governmental agency shall commence construction of any new structure unless the new structure complies with the California non-residential energy regulations. It also requires the Energy Resources Conservation and Development Commission to develop a life-cycle methodology manual outlining various building design alternatives for governmental as well as private use, and a manual of energy conserving options for consideration by governmental agencies. It also provides that the Commission provide lighting standards for optional use in existing buildings. In addition, no new State-owned building shall be constructed which is not equipped with a supplementary solar water heating system, unless exempted by the State Architect for reasons of economic or physical infeasibility.

LEGAL CITATION

This Act adds Chapter 5.9, Sections 25487-25498 to Division 15 of the Public Resources Code.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Richard L. Maullin, Chairman
Energy Resources Conservation and Development Commission
1111 Howe Avenue
Sacramento, California 95825
(916) 322-3690

FORMS OR OTHER DOCUMENTS

"Life Cycle Methodology Manual for Residential Buildings,"
Energy Resources Conservation and Development Commission.
"Life Cycle Methodology Manual for Non-Residential Buildings,"
Energy Resources Conservation and Development Commission.

ADDITIONAL INFORMATION

These documents are included in design manuals for new energy regulations. The Residential Manual is \$4, the non-residential manual is \$10 plus postage (\$1 each for U.P.S. or \$2 each for first class mail). These can be obtained from the Energy Resources Conservation and Development Commission's Publication Unit at the above address.

CALIFORNIA

AB 1512
Chapter 1081
Approval Date: September 26, 1977
Effective Date: January 1, 1978

FORMS AND OTHER DOCUMENTS

"Standards and Procedures - Accreditation of Testing Laboratories for Solar Components and Systems," California Energy Resources Conservation and Development Commission, May 31, 1978.
"Guidelines for Certification of Solar Energy Equipment," California Energy Resources Conservation and Development Commission, June 15, 1978.

ABSTRACT

This Act requires the Energy Resources Conservation and Development Commission to do the following:

- (1) develop and adopt on or before November 1, 1978, testing and certification regulations governing equipment associated with the collection, transfer, storage, and control of solar energy,
- (2) prepare, no later than December 31, 1978, for mass market development of passive or semi-passive solar energy systems by developing designs and specifications of prototype housing using such systems, and,
- (3) develop, on or before December 31, 1979, a manual of design types, costs, performance and evaluation procedures for passive and semi-passive solar systems and procedures, and gather thermal performance data from monitoring a number of passive and semi-passive existing systems in buildings in California.

LEGAL CITATION

This Act amends and rennumbers Sections 25600, 25601, 25602, 25603 and 25604 and adds Sections 25600, 25605, 25606, 25607, 25608, 25609 to the Public Resources Code.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Richard L. Maullin, Chairman
Energy Resources Conservation
and Development Commission
1111 Howe Avenue
Sacramento, California 95825
(916) 322-3690

CALIFORNIA

AB 1558

Chapter 1082

Approval Date: September 26, 1977

Effective Date: January 1, 1978

ABSTRACT

This Act allows an income tax credit against net tax of 55% of the cost of a solar energy system, including the system and installation costs. The system must be installed on premises in California owned and controlled by the taxpayer at the time of installation. The credit is limited to \$3,000. For owners of premises other than single-family dwellings where the costs exceed \$6,000, the credit allowed will be the greater of either \$3,000 or 25% of the cost. Energy conservation measures, when applied to reduce the total cost or backup energy requirements and in conjunction with the solar system, shall be considered part of the system. Measures such as ceiling, wall, and floor insulation, water heater insulation jackets, and faucet flow reducing devices shall be included. If a Federal income tax credit is enacted, the California credit shall be reduced so that the combined effective credit does not exceed 55%. If credit allowed by this Act exceeds net tax, the credit may be carried over into succeeding tax years. The authority for tax credit expires after the 1980 tax year except for any unused credit permitted under the law. The Energy Resources Conservation and Development Commission shall establish guidelines and criteria for solar energy systems and The Franchise Tax Board shall prescribe regulations to carry out the law and provide a report as to its effect.

LEGAL CITATION

This Act amends Section 44541.2 of the Health and Safety Code, amends Sections 17052.5 and 23601 of the Revenue and Taxation Code, and repeals Section 4 of Chapter 168 of the Statutes of 1976.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Martin Huff, Executive Director	Richard L. Maullin, Chairman
Franchise Tax Board	Energy Resources Conservation
Post Office Box 1468	and Development Commission
Sacramento, California 95867	1111 Howe Avenue
(916) 445-0408	Sacramento, California 95825
	(916) 322-3690

FORMS OR OTHER DOCUMENTS

FTB 3805L "Statement to Support Solar Energy Credit," (12-77),
"Solar Energy Credit," State of California Franchise Tax Board.
"Guidelines for Certification of Solar Energy Equipment,"
California Energy Resources Conservation and Development
Commission, June 15, 1978.
"California Solar Tax Credit."
"General Requirements and Tax Credit Form Instructions," Franchise
Tax Board.

CALIFORNIA

SCA 15
Resolution Chapter 29
Approval Date: June 16, 1977
Effective Date: Not effective. This Constitutional Amendment relates to Proposal 3 on the June 1978 ballot, which was not approved by the voters.

ABSTRACT

This Resolution, if passed by the people of the State of California, will become a constitutional amendment which will authorize the legislature to exempt from taxation all or any portion of property used as an alternate energy system which is not based on fossil fuel or nuclear fuels and includes solar energy systems.

LEGAL CITATION

This Resolution will amend the California Constitution by adding Section 38 to Article XIII.

RESPONSIBLE STATE AGENCY AND OFFICIAL

None

FORMS OR OTHER DOCUMENTS

None

COLORADO

HB 1055
Chapter 342
Approval Date: February 1, 1977
Effective Date: February 1, 1977

ABSTRACT

This Act, titled the "Solar Energy Research and Development Act of 1977," facilitates the acquisition and use of land or interests in land, which may be needed or desirable for a permanent site suitable for a federal facility to conduct solar energy research and development.

LEGAL CITATION

This Act adds Part 5 to Article 82 of Title 24 of the Colorado Revised Statutes of 1973.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Rowena Rogers, President
State Board of Land Commissioners
1313 Sherman Street, Room 620
Denver, Colorado 80203
(303) 839-3451

FORMS OR OTHER DOCUMENTS

None

COLORADO

HB 1519
Chapter 512
Approval Date: June 19, 1977
Effective Date: June 19, 1977

ABSTRACT

This Act provides for a deduction from gross taxable income by a resident individual of the cost of installation, construction, reconstruction, remodeling or acquisition of any system or mechanisms using solar radiation, wind or geothermal resources. For corporations, if itemized deductions for an alternate energy device is claimed for state income tax, then depreciation on the same alternate energy device shall not be allowed.

LEGAL CITATION

This Act amends 39-22-113(4)c by adding a new paragraph, and by repealing and reenacting with amendments 39-22-304(3) of the Colorado Revised Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Alan N. Charves, Director
Department of Revenue
Capitol Annex Building
1375 Sherman street, Room 432
Denver, Colorado 80203
(303) 839-3091

FORMS OR OTHER DOCUMENTS

"1977 Colorado State Corporation Income Tax Return," Form 112, p. 1, lines 2(d) and 4(d).
"Instructions for Form 112," pp. 1-2.

ADDITIONAL INFORMATION

For information contact Jim Davis, (303) 839-3048

CONNECTICUT

SB 175 (Substitute)
Public Act 77-490
Approval Date: June 20, 1977
Effective Date: October 1, 1977

ABSTRACT

This Act, upon passage in any State municipality, provides for a real property tax assessment exemption for equipment on new or existing buildings which provides for the collection, transfer, storage, and use of incident solar energy for water heating, and space heating or cooling which would require a traditional energy source. To claim this exemption, construction of new buildings must begin on or after October 1, 1976, and before October 1, 1991, and installation in existing buildings must also be during this time period. The exemption will be given for the amount by which the assessed valuation of the real property, equipped with the solar system, exceeds the assessed valuation of the real property equipped with the conventional portion of the heating or cooling system, exclusive of the solar system. This exemption will be valid for 15 assessment years following the new construction or addition of the system. Application for exemption must be filed with the assessor or Board of Assessors of the town in which the real property is located, as prescribed by the Tax Commissioner and within 30 days of the annual assessment date.

LEGAL CITATION

This Act amends Section 12-81 by adding Subsection 57 to the General Statutes of the State of Connecticut.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Jeral Hefferan
Ste Tax Commissioner
92 Farmington Avenue
Hartford, Connecticut 06115
(203) 566-7120

Local Assessor or Board of Assessors

FORMS OR OTHER DOCUMENTS

M-44, "Tax Exemption Application, Solar Energy Systems."

CONNECTICUT

HB 5266 (Substitute)
Public Act 77-457
Approval Date: June 20, 1977
Effective Date: October 1, 1977

ABSTRACT

This Act provides a sales tax exemption for solar energy system collectors purchased prior to September 30, 1982. These systems must convert solar radiation to thermal energy to be used for space heating or cooling or domestic water heating.

LEGAL CITATION

This Act amends Section 12-412 by adding Subsection (dd) to the General Statutes of the State of Connecticut.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Jerald Hefferan
State Tax Commissioner
92 Farmington Avenue
Hartford, Connecticut 06115
(203) 566-7120

FORMS OR OTHER DOCUMENTS

None

GEORGIA

HR 208-823
Resolution Act 29
Approval Date: March 30, 1977
Effective Date: July 1, 1977

ABSTRACT

This Resolution directs the Georgia Office of Energy Resources to establish an Energy Extension Service Program. The program is to provide technical assistance, advisory services, and public education and training workshops to the residential, commercial, industrial, and institutional energy consumers. The program will relate to energy conservation measures, energy efficient technologies, and available alternate energy technologies.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Mark Zwecker Director, Officer of Energy Resources 270 Washington Street, S.W. Room 615 Atlanta, Georgia 30334 (404) 656-5176	Robin Meyer Georgia Office of Energy Resources 270 Washington Street S.W. Room 615 Atlanta, Georgia 30334 (404) 656-5176
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FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

This extension service program was established conditional to obtaining State and federal funding which has not been forthcoming. A \$30,000 grant has been received with which to establish an office. This program is also waiting for federal guidelines.

GEORGIA

HR 378 House - March 7, 1977, Senate - March 8, 1977
Approval Date: March 8, 1977
Effective Date:

ABSTRACT

This Resolution urges the President and the Energy Research and Development Administration (ERDA) to locate the National Solar Energy Research Institute in the State of Georgia.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

None

FORMS OR OTHER DOCUMENTS

None

HAWAII

SB 995
Act 102
Approval Date: May 14, 1977
Effective Date: May 14, 1977

ABSTRACT

This Act provides that the Public Utilities Commission shall investigate and determine the extent to which electricity generated from non-fossil fuel sources is available to public utilities which supply electricity to the public, which electricity is in excess of that utilized or otherwise needed by the producers for their internal uses and which producers are willing to make available to public utilities. The Commission may direct these public utilities to arrange for the acquisition and to acquire non-fossil fuel generated electricity from the producers which these producers are willing and able to make available. The public utility will then be required to employ and dispatch this electricity in a manner consistent with its availability. The rate payable for this electricity will be directly negotiated between the public utility and the producer, and will be approved by the Public Utilities Commission. This Commission will intervene and set rates if the public utility and the supplier fail to reach an agreement.

LEGAL CITATION

This Act amends Chapter 269 of the Hawaii Revised Statutes amending Section 269-1 and adding a new section.

RESPONSIBLE STATE AGENCY AND OFFICIAL

L. Tom, Commissioner
Public Utilities Commission
1164 Bishop Street
Honolulu, Hawaii 96815
(808) 548-6590

FORM OR OTHER DOCUMENTS

None

HAWAII

SCR 86

Approval Date:

Senate; March 16, 1977
House; April 19, 1977
Effective Date: April 19, 1977

SR 62

Approval Date: March 16, 1977
Effective Date: March 16, 1977

Note: This Resolution is
identical to SCR 86

ABSTRACT

This Resolution calls for a study and report to the legislature relating to impediments to the development and widespread use of solar energy systems. Areas to be included are: (1) impediments encountered by solar energy companies relating to financing, marketing, and distribution of products; (2) obstacles due to land use laws, zoning codes, and building codes; (3) public resistance and reasons therefore; and (4) resistance on the part of designers and builders to incorporating solar systems in various projects. The study shall include recommendations for legislative action.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Hideto Kono
Energy Resources Coordinator
Department of Planning and Economic Development
250 South King Street
Honolulu Hawaii 96813
(808) 548-6914

FORMS OR OTHER DOCUMENTS

"Solar Energy - Hawaii and the U.S. Islands of the Pacific,"
Department of Planning and Economic Development, March 1978

HAWAII

HR 427

Approval Date: April 20, 1977
Effective Date: April 20, 1977

ABSTRACT

This Resolution requests the Department of Accounting and General Services to study the costs and benefits of installing solar energy devices in existing State buildings and facilities. The study is to include an assessment of the long-range benefit of such capital improvements in reducing the cost of power to run these public buildings and facilities.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Hideo Murakami, Comptroller
Department of Accounting and General Services
State Office Building
Honolulu, Hawaii 96813
(808) 548-2211

FORMS OR OTHER DOCUMENTS

No written report was developed

ILLINOIS

HB 747
Public Act 80-431
Chapter 111 2/3
Approval Date: August 30, 1977
Effective Date: October 1, 1977

ABSTRACT

This Act provides that no public utility shall consider the use of solar energy by a customer as a basis for establishing higher rates for any service or commodity sold, nor shall that customer be subject to any other prejudice or disadvantage on account of use of solar power. This Act shall not be effective after 1982.

LEGAL CITATION

This Act amends Section 38 of "An Act Concerning Public Utilities," Chapter 111-2/3, paragraph 38.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Charles P. Cocoras, Chairman
Illinois Commerce Commission
527 East Capitol Avenue
Springfield, Illinois 62706
(217) 782-5778

FORMS OR OTHER DOCUMENTS

None

SB 944
Public Act 80-430
Chapter 96 1/2
Approval Date: June 20, 1977
Effective Date: June 20, 1977

FORMS OR OTHER DOCUMENTS

"Application for Valuation under Section 20d-3 of the Revenue Act of 1939 Relative to Solar Heating or Cooling Systems."

ABSTRACT

This Act provides that the Division of Energy shall provide a number of solar related activities. Some of these activities follow: prepare a plan for instituting a variety of solar energy demonstration projects in public and private buildings; develop an incentive program for encouraging the construction and use of cost effective solar energy systems in the State; Prepare educational programs regarding use and impact of solar systems; study the economic and load impact on public energy suppliers of the use of solar energy systems; study laws, regulations, ordinances, rules, and plans to determine the extent they inhibit or encourage the use of solar energy systems and study the market penetration of solar systems; study solar sky-space protection; study the proper enforcement and regulatory mechanisms for use of joint solar energy systems and for public energy supplier provision of solar energy systems.

"The Illinois Program for Comprehensive Solar Energy Legislation," Illinois Department of Business and Economic Development, Department of Energy, June 1977.

This Act also provides some definitional amendments to the law establishing Public Act 79-943, 1975 relating to real property tax assessment exemption for solar devices. It also amends the "Capitol Development Board Act of 1972" to provide for research on solar energy systems, recommendations for establishing building, and construction codes including energy efficiency and economy, and the use of solar energy and of life-cycle cost estimating of energy systems for public buildings.

LEGAL CITATION

This Act amends Chapter 25, paragraph 11-13-1; Chapter 120, paragraphs 501d-1, 501d-2, 501d-3; Chapter 127 paragraphs 774.03, 774.04 and 780.02 of the Revenue Act of 1939 and the Capitol Development Board Act.

RESPONSIBLE STATE AGENCY AND OFFICIAL

David Fogarty, Manager
Solar Energy Program
Institute of Natural Resources
222 South College
Springfield, Illinois 62706
(217) 782-1999

Supervisor of Assessments, County Assessor or Board of Assessors of each municipality.

ILLINOIS

HB 1279
Public Act 80-432
Chapter 93
Approval Date: August 30, 1977
Effective Date: August 30, 1978

ABSTRACT

This Act amends Section 1,2,3, and 7 of "The Illinois Coal Development Bond Act" of 1974 and renames it "The Illinois Coal and Energy Development Bond Act." It provides for the inclusion of forms of energy other than coal, including solar energy, geothermal, wind generation, solid waste, or any other energy system excluding nuclear energy. It extends the powers and duties of the Department of Business and Economic Development to include being responsible for research and development of these other energy forms and allows it to enter into contracts with public and private organizations or individuals to promote the development of these other energy resources along with coal. This Act also authorizes the issuance of general obligation bonds of the State of Illinois in the amount of \$70,000,000; \$5,000,000 of which shall be used for research and development of alternate forms of energy.

LEGAL CITATION

This Act amends Chapter 93, paragraphs 401, 402, 403 and 407, Sections 1,2,3, and 7 of "The Illinois Coal Development Bond Act," of 1974.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Donald Duster, Director
Department of Business and Economic Development
222 South College
Springfield, Illinois 62706
(217) 782-7500

FORMS OR OTHER DOCUMENTS

None

ILLINOIS

HB 1749
Public Act 80-433
Approval Date: August 30, 1977
Effective Date: October 1, 1977

ABSTRACT

This Act provides for the design and establishment of a comprehensive energy plan by the Board of Higher Education, including research for the development of alternate sources of energy. This Board shall submit draft legislation, as developed from the energy plan, to the general assembly and the Governor by March 1, 1978, and shall be responsible for recommending modifications to the plan as necessary.

LEGAL CITATION

This Act adds Section 6.3 to the Act creating the Board of Higher Education.

RESPONSIBLE STATE AGENCY AND OFFICIAL

James Furman, Executive Director
State of Illinois Board of Higher Education
500 Reisch Building
4 West Old Capitol Square
Springfield, Illinois 62701
(217) 782-2551

FORMS AND OTHER DOCUMENTS

"An Energy Plan for Illinois Higher Education," The Illinois Board of Higher Education, March 1978.

INDIANA

SB 420
Public Law 68
Approved Date: April 29, 1977
Effective Date: January 1, 1978

ABSTRACT

This Act provides for a property tax assessment exemption for real property or a mobile home which is equipped with a solar energy heating or cooling system. An amount which is equal to the remainder of the assessed value of the real property of mobile home with the solar system included minus the assessed property value without the system will be subject to an annual deduction. The State Board of Tax Commissioners shall promulgate rules and regulations for determining the value of the system. The taxpayer must file for this exemption with the auditor of the county on a form prescribed by the tax board. For real property the exemption must be filed between March 1 and May 10 inclusive, and for mobile home exemptions the statement must be filed between March 1 and March 31 inclusive of each year the deduction is desired.

LEGAL CITATION

This Act amends Indiana Code 6-1-1.1-12.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Carleton L. Phillippi, Chairman
State Board of Tax Commissioners
201 State Office Building
Indianapolis, Indiana 46206
(317) 633-4747

County Auditor

FORMS OR OTHER DOCUMENTS

Form SES-1 Revised 1978 "Statement for Deduction of Assessed Valuation Attributed to Solar Energy System."

IOWA

SF 155
Chapter 16
Approval Date: May 18, 1977
Effective Date: May 26, 1977

ABSTRACT

This Act appropriates \$200,000 to the Department of General Services for the planning, preparation, and construction of a demonstration solar energy unit which will convert solar energy to steam for heating and cooling the statehouse complex. Any unencumbered or unobligated funds appropriated by this Act will be diverted to the State Treasury on September 30, 1981.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Stanley McCausan, Director
Department of General Services
Capitol Building
Des Moines, Iowa 50319
(515) 281-3196

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

"Iowa Energy Bulletin," Iowa Energy Policy Council, June 1978, Vol. 4, No. 6.
"Solar Legislative Priorities - Iowans Respond," Iowa Energy Policy Council, February 1978.
"Solar Business in Iowa," United States Department of Energy, February 1977.
"Solar Demonstration Grants," Iowa Energy Policy Council.
"Solar Energetics Technology Program," Scott Community College.
"What Makes Solar Energy Tick? The Principles of Solar Energy Conversion Simply Explained," Iowa Energy Policy Council.

KANSAS

SB 14
Chapter 346
Approval Date: April 15, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act amends HB 2969 (Chapter 434) of 1976 relating to amortization of solar equipped business property. It specifies that when ownership of property so equipped is transferred, the new owner may amortize the remaining unamortized expense.

LEGAL CITATION

This Act amends the Kansas Statutes Annotated, 1976 Supplement, 79-32, 168 and 79-32, 169, repealing the existing sections.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Kent Kalb, Secretary of Revenue
Division of Taxation
Second Floor
State Office Building
Topeka, Kansas 66625
(913) 296-3041

FORMS OR OTHER DOCUMENTS

K35 - "Kansas Solar Energy Credit Schedule."
K35a - "Kansas Certification of Solar Energy Transfer."

KANSAS

HB 2096
Chapter 227
Approval Date: April 5, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act provides for the creation of a solar easement in writing which must be recorded with the County Register of Deeds. Included in the contents of the easement are vertical and horizontal angles at which the easement extends over real property and any terms or conditions under which the easement is granted or will be terminated.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

County Register of Deeds

FORMS OR OTHER DOCUMENTS

Form will be drawn up on an individual basis by the taxpayer's lawyer. No standard form exists.

KANSAS

HB 2618
Chapter 345
Approval Date: May 13, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act provides a property tax reimbursement for buildings or building additions equipped with a solar energy system capable of providing 70% of the energy needed to heat or cool the structure on an average annual basis. The reimbursement will be equal to 35% of the tax paid on the property the first year and for four succeeding years after filing claim with the Department of Revenue by October 15 of the succeeding year. The forms for the claim may be obtained from the county clerks and county treasurers. This credit shall apply only to taxes levied on the structure, not including the site or any other improvements made to or located upon the site. A statement affirming payment by the claimant of all property taxes attributable to said structure shall be submitted to the Director of Taxations. Starting in January of 1978, under certification of the Secretary of Revenue, the Director of Accounts and Reports shall transfer refund funds from the State General Fund to the Solar Energy Property Tax Refund Fund which is hereby created. This portion of the Act will be valid for all taxable years 1978 through 1985.

LEGAL CITATION

This Act amends the Kansas Statutes Annotated, 1976 Supplement, 79-32, 117 and repeals the existing section.

RESPONSIBLE STATE AGENCY AND OFFICIAL

C. David Newbery Director of Taxation State Office Building Topeka, Kansas 66601 (913) 296-3051	County Clerk or County Treasurer Kent Kalb Secretary of Revenue Kansas Department of Revenue Second Floor, State Office Building Topeka, Kansas 66612 (913) 296-3041
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FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

Claim forms are at the printers.
Methods of evaluating 70% of energy need are also being developed.

KANSAS

SCR 1601
Chapter 375
Approval Date: May 28, 1977
Effective Date: May 28, 1977

ABSTRACT

This Resolution directs the Secretary of the State Department of Administration to consider the installation of solar energy heating or cooling systems in all new State-owned construction projects and to consider the feasibility of establishing demonstration projects utilizing such systems in State-owned facilities. He is also directed to provide for feasible energy conservation design procedures and construction in all new State construction.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

W. Keith Weltmer, Secretary Department of Administration Second Floor Capitol Building Topeka, Kansas 66612 (913) 296-3011	Karl Ossmann, Acting Director Division of Architectural Services State Office Building, 12th Floor Topeka, Kansas 66612 (913) 296-3811
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FORMS OR OTHER DOCUMENTS

Appendix B - Consideration of Solar Energy Utilization, from "Manual of Standards and Procedures," Division of Architectural Services.

MAINE

HP 1645/LD 1845
Public Law 542

Approval Date: July 22, 1977
Effective Date: October 24, 1977

ABSTRACT

This Act provides a property and sales tax exemption which rebates taxes paid on equipment that is used directly and exclusively for the conversion of solar energy for water heating and space heating and cooling and does not include walls, roof or equipment that would ordinarily be contained in a similar structure not designed or modified to use solar energy. The taxpayer must apply for certification to the Office of Energy Resources. Upon certification, the State Tax Assessor shall refund sales or use tax paid on solar energy equipment. The application for exemption from property taxation shall be filed with the local tax assessor or board of assessors within 30 days following the annual assessment date of that municipality. The provisions to provide property and sales tax exemptions are valid until January 1, 1983, and the property shall be exempted from taxation for a period of five years from the date of installation of the system.

LEGAL CITATION

This Act adds Section 5005, Subsection 1, paragraph M to Title 5, and Section 656, Subsection 1, paragraph H Section 1752, Subsection 14-A and Section 1760 Subsection 37 to Title 36 of the Maine Revised Statutes Annotated.

RESPONSIBLE STATE AGENCY AND OFFICIALS

Thomas Squires, Director Sales Tax Division State House Augusta, Maine 04330 (207) 289-2336	John Joseph, Director Office of Energy Resources 55 Capitol Street Augusta, Maine 04330 (207) 289-2196
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FORMS OR OTHER DOCUMENTS

"Application for Sales Tax Exemption for the Purchase of Solar Energy Equipment as Authorized by MRSA Section 1760, Subsection 37."

ADDITIONAL INFORMATION

No standards of performance are required which allows taxpayers with homemade collectors to make claim for exemption.

MARYLAND

HB 360
Chapter 934
Approval Date: May 26, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act allows a restriction to be placed on the use of real property for the purposes of preserving the exposure of solar energy devices.

LEGAL CITATIONS

This Act repeals and reenacts, with amendments, Section 2-118(b) of the Article Titled Real Property of the Annotated Code of Maryland (1974 Volume and 1976 Supplement).

RESPONSIBLE STATE AGENCY AND OFFICIAL

Donald E. Milsten, Director
Energy Policy Office
301 West Preston Street, Suite 1302
Baltimore, Maryland 21201
(301) 383-6810

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

Form will be drawn up on an individual basis by the taxpayer's lawyer, and once signed by both parties it is enforceable in a court of law. No standard form exists.

MASSACHUSETTS

HB 389
Chapter 28
Approval Date: March 8, 1977
Effective Date: March 8, 1977

ABSTRACT

This Act provides authorization for savings banks, cooperative banks, and trust companies to make real estate loans of up to \$7,000 if at least \$2,000 of the loan is to be used to finance the purchase and installation of solar or wind powered system or heat pump system. Credit unions may make loans of up to \$9,500 if at least \$2,000 of the loan is used as described above. These loans must not exceed 10 years and must be secured by a mortgage on the real estate in which the system is located.

LEGAL CITATION

This Act amends paragraph 10, Section 35 of Chapter 168; Subsection 6, Section 26 of Chapter 170; Subdivision (D), Section 24 of Chapter 171; and, Section 55 of Chapter 172 of the General Laws of the Commonwealth of Massachusetts.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Jeffrey Brauer
Solar Action Office
1 Ashburton Place, Room 1413
Boston, Massachusetts 02108
(617) 727-7297

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

"Why The Sun," Solar Action Plan Advisory Committee.

"The Use of Solar Energy for Space Heating and Hot Water: Technical Description, Economic Feasibility, Implications for the State," Energy Policy Office, April 1976.

"The Solar Energy Industry - A List of Solar Builders, Companies, Manufacturers, and Consulting Architectural, Engineering and Research Firms," April 1977.

"Solar Bibliography - A Review of Solar Energy Information and Literature," prepared by the Solar Action Plan.

MINNESOTA

SF 1467
Chapter 455
Approval Date: June 9, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act appropriates \$200,000 to the Energy Agency for fiscal years 1978 and 1979 for grants to implement research and demonstration projects on alternate energy sources particularly appropriate to Minnesota. At least one-fourth of the amount shall be allocated for projects with high potential for commercialization.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

John Millhone, Director
Minnesota Energy Agency
160 East Kellogg Boulevard
980 American Center Building
St. Paul, Minnesota 55101
(612) 296-6424

FORMS OR OTHER DOCUMENTS

None

MINNESOTA

HF 522
Chapter 381
Approval Date: June 2, 1977
Effective Date: June 3, 1977

ABSTRACT

Section 23 of this Act provides for the preparation by the Energy Agency of a comprehensive legislative proposal dealing with the legal, institutional, and financial issues surrounding solar energy use in Minnesota. To be included are the issues of sun rights, modification of building codes, and the provision of reliable backup heating systems. The proposal is to be completed by December 31, 1977. The Act also includes the requirement of statewide enforcement of the State Building Code, extends the life of the State Energy Agency, prohibits outdoor display lighting during non-business hours, sets EER ratings for air conditioning equipment, prohibits continuously burning pilots on new residential gas appliances, and requires numerous energy efficiency standards for existing residential buildings.

LEGAL CITATION

This Act adds Sections to Chapter 116H of the Minnesota Statutes, 1976 and adds and amends other subdivisions as noted in the bill.

RESPONSIBLE STATE AGENCY AND OFFICIAL

John Millhone, Director
Minnesota Energy Agency
160 East Kellogg Boulevard
980 American Center Building
St. Paul, Minnesota 55101
(611) 296-6424

FORMS OR OTHER DOCUMENTS

None

MINNESOTA

HF 875
Chapter 401
Approval Date: June 2, 1977
Effective Date: June 3, 1977

ABSTRACT

This Act provides in Section 8 that loans made to "non profit" sponsors to encourage innovation in the development or rehabilitation of single and multi-family residential housing may include the demonstration of techniques for energy efficient construction. It provides, in Section 27(a), up to \$490,000 to the Housing Finance Agency for construction of single-family homes which demonstrate new and innovative technologies for conserving energy, including solar heating and cooling systems. It also provides in Section 26, subsection 3, for \$10,000,000 for low interest rehabilitation loans for low and moderate income persons and families. (These loans include solar retrofit applications.)

LEGAL CITATION

This Act, as partially abstracted above, adds Subdivision 18 to Section 462A.05 and makes an appropriation to the Housing Development Fund created in Minnesota Statutes, Section 462A.20.

RESPONSIBLE AGENCY AND OFFICIAL

James Solem, Executive Director
Minnesota Housing Finance Agency
333 Sibley Street
Suite 200
St. Paul, Minnesota 55101
(612) 296-7608

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

The Housing Finance Agency is currently providing 2-year no interest loans for each earth sheltered single-family residence built as a demonstration unit. Ten units are planned. (Contact Mary Tingenthal (612) 296-8844.)

The rehabilitation loan rates are 1% to 8% depending on family income. Maximum income is \$16,000 (Contact Georgia Hall (612) 296-9814.)

MINNESOTA

HF 1631
Chapter 451
Approval Date: June 8, 1977
Effective Date: June 9, 1977

ABSTRACT

This Act deals with appropriations from the general fund for various projects. It appropriates up to \$50,000 for the Commissioner of Administration to study and make recommendations concerning the use at a proposed new high security detention facility of solar heating, heat from lighting, body heat, or heat derived from other sources not presently in widespread use.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Richard L. Brubacker
Commissioner of Administration
Administration Building, 2nd Floor
50 Sherburne Avenue
St. Paul, Minnesota 55155
(612) 296-3862

FORMS OR OTHER DOCUMENTS

None

MONTANA

SB 167
Chapter 574
Approval Date: May 13, 1977
Effective Date: January 1, 1977

ABSTRACT

This Act provides an income tax credit for the installation of an energy system in principal residences by December 31, 1982, using non-fossil forms of energy generation, including solar, wind, or methane from solid waste systems. The tax credit is allowed in the amount of 10% of the first \$1,000 and 5% of the next \$3,000 of the cost of the system including installation and excluding grants received. If the Federal government provides for a tax credit substantially similar in kind, then the credit will be 5% of the first \$1,000 and 2-1/2% of the next \$3,000, excluding grants received. The credit will be deducted from the taxpayer's income tax liability for the year the system was acquired. If the credit exceeds the amount of tax liability, the deduction may be carried over for four taxable years succeeding the taxable year in which the system was acquired. The Department of Revenue shall prescribe rules necessary to carry out the purposes of this Act.

LEGAL CITATION

This Act amends the Revised Code of Montana by adding Sections 84-7414 and 84-7415 and amends Section 84-4906, 1947.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Raymond Dore
Department of Revenue
Income Tax Audit Section
Mitchell Building
Helena, Montana 59601
(406) 449-2837

FORMS AND OTHER DOCUMENTS

Form-2B "Credit Allowed for Non-Fossil Energy System Installed In Taxpayer's Principal Dwelling."
"Credit for Installation of a Non-Fossil Energy System, General Instructions."
Form 2 "1977 Income Tax Forms," line 80, Schedule IV p. 3.
"Montana Income Tax Instructions for 1977 Returns," p. 7.
"Regulations for Tax Credit for Non-Fossil Energy Generation System."

NEBRASKA

LB 549
Approval Date: May 31, 1977
Effective Date: May 31, 1977

ABSTRACT

This Act requests, for various State funded projects, cost analysis of solar domestic hot water and alternative fuel usage, after findings and recommendations of the University of Nebraska-Lincoln pilot project for solar domestic hot water systems are available. These projects include swimming pool facilities for the Game and Parks Commission; Omaha Correctional Services Facility; indoor swimming pool at Geneva for the Department of Correctional Services; Peru State College's new health and physical education facility; and, the University of Nebraska at Omaha's health, physical education, and recreation facility.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Roger Eigenburg
Monitoring Construction Management Department
University of Nebraska
W 159 Nebraska Hall
Lincoln, Nebraska 68588
(402) 472-3471

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

The solar hot water system referenced in this Act started operation in March, 1978. Results of this project will not be available until the system has been tested during the heating season.

NEVADA

AB 277
Chapter 345
Approval Date: May 4, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act provides an allowance against property taxes accrued for residential buildings which are heated or cooled by using solar or wind energy, geothermal resources, energy derived from conservation of solid wastes, or water power. The allowance will be an amount equal to the difference between the tax on such property at its assessed value with the system and the tax on such property at its assessed value without the system. The tax allowance cannot exceed the amount of accrued property tax paid by the claimant or \$2,000, whichever is less. The Department of Taxation may prescribe forms and proof for claims submission.

LEGAL CITATION

This Act amends Chapter 361 by adding a new Section 361.795 to the Nevada Revised Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

John J. Sheehan, Executive Director
Department of Taxation
Capitol Complex
11000 E. Williams
Carson City, Nevada 89710
(702) 885-4892
County Assessor

FORMS OR OTHER DOCUMENTS

"Affidavit - Claim for Allowance Against Residential Buildings With Property Tax Renewable Resource Heating and/or Cooling Systems."

"(Proposed) Explanation of Processing the Property Tax Allowance for Residential Structures Equipped with Renewable Resource Heating and/or Cooling Systems."

NEVADA

AJR 7
File Number 129
Effective Date: 1979 and submitted to the voters for approval in 1980.

AJR 7 must be approved by the Nevada legislature in 1979 and submitted to the voters for approval in 1980.

ABSTRACT

This Resolution, if finally approved in 1980, will amend Section 1 of Article 10 of the Constitution of the State of Nevada to permit a property tax exemption for the conservation of energy by using non-fossil resources.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

None

FORMS OR OTHER DOCUMENTS

None

NEW HAMPSHIRE

HB 1064
Chapter 502
Approval Date: July 14, 1977
Effective Date: September 12, 1977 (subject to local adoption)

ABSTRACT

This Act amends the taxation exemption laws of New Hampshire and provides in Section 502:4 that to obtain the solar energy system property tax exemption, qualified persons must file a permanent exemption application by April 15 of the first year in which the exemption is claimed. This application must be filed with the selectmen or assessors who shall be responsible for preparing the application form.

LEGAL CITATION

Section 502:4 of the Act amends the Revised Statutes Annotated of New Hampshire by replacing 72:64, I (supp) as inserted by 1975, 391:1.

RESPONSIBLE STATE AGENCY AND OFFICIAL

County Assessors or Selectmen

FORMS OR OTHER DOCUMENTS

"Solar Energy Systems Exemption," Permanent Application for Tax Exemptions.

ADDITIONAL INFORMATION

The tax exemption noted must be adopted at the local level (see also HB 479, chapter 391 laws of 1975).
Notice "To All Selectmen and Assessors."
"Handbook of General Tax Information," Department of Revenue Administration, Revised January 1978.

NEW JERSEY

AB 1801

Chapter 256

Approved Date: October 11, 1977

Effective Date: January 1, 1978

ABSTRACT

This Act provides a real property tax exemption for any building in which solar energy is used to provide all or a portion of its heating and cooling needs through the use of, but not limited to, nocturnal heat radiation, evaporation cooling towers, flat plate or focusing solar collectors, and photovoltaic solar cells or windmills. The taxpayer may have exempted annually from the assessed valuation of real property a sum equal to the remainder of the assessed valuation of real property with the solar heating and cooling system included, minus the assessed valuation of the real property without the solar system. Application for exemption must be made on or before 30 days following the installation of the system and will be made to the Director, Division of Taxation, Department of the Treasury, as provided by the Commissioner of the local enforcing agency. The Commissioner has the right to inspect the premises and shall prescribe regulations. The Director of Taxation is authorized to adopt all rules and regulations necessary. The Administrator of the State Energy Office shall establish standards with respect to the technical sufficiency of solar energy systems for the purpose of qualification for exemption. This Act shall expire on December 31, 1982.

LEGAL CITATION

This act amends the New Jersey Statutes Annotated by Supplementing Chapter 4 of Title 54.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Sidney Glaser, Director	Charles Richmond
Division of Taxation	Division of Energy Planning and Conservation
West State and Willow Streets	101 Commerce Street
Trenton, New Jersey 08646	Newark, New Jersey 07102
(609) 292-5185	(201) 648-3290

FORMS OR OTHER DOCUMENTS

"Claim for Property Tax Exemption for Solar Heating and Cooling Systems."
"Department of Energy Proposed Solar Heating and/or Cooling System Tax Exemption Regulations."

ADDITIONAL INFORMATION

The application for and rules and regulation should be in final form by September 1978.
"Proposed rules on tax exemption for Solar Facilities," Community Affairs, New Jersey Register, June 8, 1978.
"Proposed rules on Property Tax Exemption for Solar Heating and Cooling System," Treasury, New Jersey Register, June 8, 1978
"Technical Sufficiency Standards for Solar Energy Heating and Cooling Systems," New Jersey Department of Energy.

NEW MEXICO

SB 160 and 387
Chapter 347

Approval Date: April 7, 1977
Effective Date: June 17, 1977

ABSTRACT

This Act provides that \$2,500,000 shall be appropriated from the Severence Tax Income Fund to the Energy Research and Development Fund and requires that the Energy Resources Board encumber not less than \$500,000 for expenditures by the Board of Regents of the New Mexico State University. With this money the university is to develop solar equipment performance standards; test solar heating and cooling systems; coordinate major research and development demonstration efforts; collect and disseminate information on solar research, development and demonstration and solar application and technologies; and, coordinate the development of Federal solar programs within the State.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Dr. Edward Lumsdaine, Director
New Mexico Solar Energy Institute
New Mexico State University
Box 3E1
Las Cruces, New Mexico 88003
(505) 646-1745

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

Personnel are now being hired at the University to implement the provisions of this Act.

NEW MEXICO

HB 294
Chapter 169

Approval Date: April 1, 1977
Effective Date: July 1, 1978

ABSTRACT

This Act provides the right to use the natural resource of solar energy as a property right which is to be encouraged and regulated by State law. In disputes involving solar rights, priority in time shall have the better right except that the State and its political subdivisions may legislate, or ordain, that a solar collector user has a solar right even though a structure or building located on neighborhood property blocks the sunshine from the proposed solar collector site. This Act makes applicable to regulation of disputes the concept of beneficial use, which is the measure and limit of the solar right, except as otherwise provided by written contract. This right is freely transferable and shall be recorded. Permit systems for the use and application of solar energy shall reside with county and municipal zoning authorities.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

County and Municipal Zoning Authorities

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

Pamphlets from the New Mexico Solar Energy Institute:
"New Mexico Solar Tax Credit,"
"Tapping New Mexico's Solar Resource,"
"Solar Energy Informational Services,"
"A Directory of New Mexico Solar Energy Businesses."

NEW YORK

SB 3629A (AB 5147A)

Chapter 322

Approval Date: March 1, 1977

Effective Date: March 1, 1977

also see SB 6869/AB 8995 which amends this bill

ABSTRACT

This Act amends the present property tax law to provide a real property tax assessment exemption for any system installed in a building which is designed to provide heating, cooling, hot water, or mechanical, chemical or electrical energy by the collection and storage of solar or wind energy. This excludes pipes, controls, or other equipment which are part of the normal heating or cooling system of a building. The owner may deduct the assessed valuation of the system from the assessed valuation of the property including the system for a period of 15 years. By January 1, 1978, the Commissioner of the Energy Office shall establish standards and performance criteria for the design, construction, installation, safety, and durability of solar or wind energy systems sold or installed on real property. This exemption applies only to those systems which are existing or constructed prior to July 1, 1988, and is effective as the first taxable status date after approval of the application by the assessor of the district or districts in which the system is located. The application for exemption will be submitted to the State Board of Equalization and Assesment in cooperation with the Energy Office, and will be filed with the assessor of the appropriate municipality on or before the taxable date of said municipality.

LEGAL CITATION

This Act amends the real property tax law to add Section 487.

RESPONSIBLE AGENCY AND OFFICIAL

Mario Como, Chairman	James Larocca, Commissioner
State Board of Equalization	Energy Office
and Assessment	Empire State Plaza
Agency Building #4	Agency Building #2 9th Floor
Albany, New York 12223	Albany, New York 12223
(518) 474-5711	(518) 474-5711

FORMS OR OTHER DOCUMENTS

"Application for Tax Exemption of Solar or Wind Energy System."
"Solar and Wind Energy Systems Definitions and Guidelines for Property Tax Exemptions."

NEW YORK

SB 6869/AB 8995

Chapter

Approval Date: July 6, 1977

Effective Date: January 1, 1978

ABSTRACT

This Act deletes the definition of "owner of real property" and "assessor" as defined in SB 3629A/AB 5147A, Chapter 322, Laws of 1977. It also changes the law to relate to the real property which includes a solar or wind energy system rather than the owner of real property who installs it, since the assessment exemption runs with the property regardless of ownership. It clarifies the extent of the exemption, provides for ending the exemption should the solar device no longer qualify, and makes the effective date January 1, 1978.

LEGAL CITATION

This Act repeals paragraphs (d) and (e) of subdivision one of Section 487 of the Real Property Tax Law. It also amends subdivisions, two, five, six and seven of the same Section, as added by Chapter 322 of the Laws of 1977.

RESPONSIBLE STATE AGENCY AND OFFICIAL

See SB 3629A/AB 5147A

FORMS OR OTHER DOCUMENTS

See SB 3629A/AB 5147A

NORTH CAROLINA

HB 607
Chapter 965
Approval Date: July 1, 1977
Effective Date: January 1, 1978

ABSTRACT

This Act provides for a real property tax assessment exemption for buildings equipped with a solar energy heating or cooling system which includes all equipment used directly and exclusively for those purposes and does not include any equipment, walls, or roofs ordinarily contained in the structure.

LEGAL CITATION

This Act amends the General Statutes 105-277 by adding a new subsection g.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Mark Lynch, Secretary
Department of Revenue and Return
Taxation Section
P.O. Box 25000
Raleigh, North Carolina 27640
(919) 733-7711 (Roger Ellis)

Local assessor or Board of Assessors

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

Provisions of this Act are not exempt from annual application; no standard from has been established to include the provisions of this Act. Application may be made by letter to the responsible municipal authority.

NORTH CAROLINA

HB 654
Chapter 971
Approval Date: July 1, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act appropriates, from the General Fund to the School of Engineering and the School of Design of the North Carolina State University, \$75,000 for fiscal year 1977-78, and \$50,000 for fiscal year 1978-79, for the purpose of development and research on the solar thermal conversion unit designed to produce a minimum of 1,000 kWh of electricity per month and to be reliable and relatively free of maintenance. These monies are also authorized to be used to design, construct, and display a solar thermal conversion unit at the State Fair for the purpose of demonstrating and encouraging the use of solar energy.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Dr. Frederick Smetana
2404 Broughton Hall
Department of Mechanical and Aerospace Engineering
North Carolina State University
Raleigh, North Carolina 27650
(919) 737-2374

FORMS OR OTHER DOCUMENTS

"Solar - Electric Power Generation for North Carolina,"
Department of Mechanical and Aerospace Engineering, North
Carolina State University.

NORTH CAROLINA

HB 1003
Chapter 792
Approval Date: June 29, 1977
Effective Date: January 1, 1977

ABSTRACT

This Act provides a credit against the personal and corporate income tax liability for the owner of a structure in which a solar hot water or solar heating and cooling system is installed in the amount of 25% of the installation and equipment costs or \$1,000, whichever is less. If credit exceeds taxes due, the excess shall be allowed against taxes due the next three succeeding years following claim of the credit and must be claimed by the taxpayer during the year in which partial or total payment of the system is made.

LEGAL CITATION

This Act amends Article 4 of Chapter 105 by adding Section 105-151.2 and Section 105-130.23 to the North Carolina Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Mark Lynch, Secretary
Department of Revenue
P.O. Box 25000
Raleigh, North Carolina 27640
(919) 733-4682 (Quintin Kelly)

FORMS OR OTHER DOCUMENTS

Form D-405 "Credits Against Individual Income Tax Part-IV."

NORTH DAKOTA

HB 1069
Chapter 425
Approval Date: March 12, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act provides for solar easements for the purpose of exposure to the direct rays of the sun of a solar energy device which receives and converts the sun's rays into heat, electrical or other forms of energy to provide heating, cooling, or electrical power. These must include vertical and horizontal angles at which the easement extends over real property, any terms or conditions under which it is granted or terminated, and any provisions for compensation of the property owner in the event of interference with the enjoyment of the easement, or for maintaining it. This agreement shall be in writing and shall be subject to the same conveyances and instrument recording requirements as other easements.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

County Register of Deeds

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

Form will be drawn up on an individual basis by the taxpayer's lawyer. No standard form exists.

NORTH DAKOTA

HB 1479
Chapter 537
Approval Date: March 31, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act provides an income tax credit for the installation of solar or wind energy devices which store or provide heating or cooling, electrical or mechanical power or any combination of these in a building owned by the taxpayer. If the device is a part of another energy using system, only that portion of the total system directly attributable to the cost of the solar or wind energy device shall be included in determining the amount of credit. This credit shall apply to the costs of acquisition, installation, redesigning, remodeling, or otherwise altering the structure or building. Five percent of the cost will be deducted per year from the taxpayer's tax liability for a two-year period.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Byron Dorgan, Tax Commissioner
State Tax Department
State Capitol
Bismarck, North Dakota 58505
(701) 224-3461

FORMS OR OTHER DOCUMENTS

"State of North Dakota 1977 Instructions for Filing Your Individual Income Tax Return," p. 5.
"North Dakota 1977 Individual Income Tax Return," Form 37, line 11.
"Information on Tax Incentives for Solar or Wind Energy Devices."

OKLAHOMA

HJR 1013
Approval Date: June 14, 1977
Effective Date: July 1, 1977

ABSTRACT

This resolution directs the State Department of Energy to prepare a study of the cost of converting the source of power for the agency's present facilities to solar energy, having solar energy as the source of power for any new facility of the agency that is built, and having solar energy as a supplemental source of power in conjunction with present sources of energy used by the agency. This study is to be completed by the end of the next fiscal year.

LEGAL CITATIONS

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Richard Hill, Director
State Department of Energy
4400 N. Lincoln Boulevard
Suite 251
Oklahoma City, Oklahoma 73105
(405) 521-2995

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

The study referenced in this Act has not been completed.

OKLAHOMA

HB 1322

Chapter 209

Approval Date: June 14, 1977

Effective Date: January 1, 1978

ABSTRACT

This Act provides for an income tax credit for installing solar energy devices in a private residence that are designed to provide heating or cooling, electrical or mechanical power, or any combination thereof by means of collecting, transferring or storing solar generated energy for such purposes. The credit is claimable once for residences on which homestead exemption is claimed and allowed in one taxable year and is not to exceed 25% of the cost of constructing, remodeling, installing, and acquiring the system, or \$2,000, whichever is less. If the allowable tax credit is not used for the first year of credit, the amount of claim may be offset as a credit against subsequent income tax liability for a period not to exceed five years. This tax credit shall expire for all taxable years after December 31, 1987. Field supervisors of the Corporation Commission may make on-site inspections of said devices before the credit is granted and they may make written certification to the Oklahoma Tax Commission that the costs of these devices are proper for such use and may be claimed. This Act also provides that no public utility shall increase rates or enforce a surcharge on the basis of solar energy use or installation by a consumer.

LEGAL CITATION

This Act adds Sections 2357.1 through 2357.3 and Title 68 and Section 156 of Title 17 to the Oklahoma Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

James E. Walker, Chairman	Rex Privett
Oklahoma Tax Commission	Corporation Commissioner
Income Tax Division	Jim Thorpe Office Building
N C Conners Building	2101 Lincoln Boulevard
2501 Lincoln Boulevard	Oklahoma City, Oklahoma 73105
Oklahoma City, Oklahoma 73194	(405) 521-2264
(405) 521-3115	
Charles Rice	
Assistant Director	
Income Tax Division	
N C Conners Building	
2501 Lincoln Boulevard	
Oklahoma City, Oklahoma 73194	
(405) 521-3128	

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

The credit forms are now being designed to be included in the 1978 tax package. (Form 508, "Solar Tax Credit.")

FORMS OR OTHER DOCUMENTS

Chapter 330 - Temporary Rule, "Performance Criteria for Residential
Alternative Energy Devices - Solar and Geothermal."

Oregon Solar Tax Credit Application Form.

"Something New: 1977 Weatherization Incentives for Oregon

Homeowners," Oregon Department of Energy, p 23.

"Tax Credit Eligibility Criteria on Residential Alternate Energy
Devices - Solar and Geothermal," Oregon Department of Energy.

OREGON

SB 339

Chapter 196

Approval Date: June 15, 1977

Effective Date: October 4, 1978

ABSTRACT

This Act provides a personal income tax credit to a taxpayer who installs an alternate energy device in a residence within the State which will use solar radiation, wind or geothermal resources a source for space heating, water heating, cooling, electrical energy or any combination thereof and which meets or exceeds 10% of the total requirements of the residence. This tax credit will be based on the cost of the alternate energy device and must be claimed the year that it is placed in service. This credit shall not exceed the lesser of the following: 25% of the actual cost of acquisition, construction and installation of said device or \$1,000 and must be claimed between January 1, 1978, and January 1, 1985. Any credit allowed as a result of this Act which is not used by the taxpayer in any particular year may be carried forward and offset against the taxpayer's liability for up to five succeeding years. The Department of Energy is responsible for adopting rules prescribing minimum performance criteria for alternate energy devices in dwellings and for reviewing applications for the exemption of such systems. In adopting these rules, the Department shall take into consideration applicable standards of federal performance criteria prescribed pursuant to Section 5506, Title 42, United States Code (Solar Heating and Cooling Act, 1974). This Act also extends the exemption from ad valorem taxation for property equipped with a solar system to January 1, 1978.

LEGAL CITATION

This Act adds to the Oregon Revised Statutes (ORS) Sections 2-6, are added to 469.010 to 469.140; Section 8 is added to Chapter 316; and it also amends Sections 1 and 2 of Chapter 460 of Oregon Laws 1975.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Dr. Fred Miller, Director
Oregon Department of Energy
111 Labor and Industries Building
Salem, Oregon 97310
(503) 378-4040

OREGON

SB 477
Chapter 315
Approval Date: July 11, 1977
Effective Date: October 4, 1977

ABSTRACT

This Act enables veterans with previous loans from the Oregon War Veterans' Fund to be eligible for subsequent loans of up to \$3,000 for the purpose of installing or connecting systems or mechanisms in a home which use solar radiation, wind or geothermal resources as a source for space heating, water heating, cooling, electrical energy or any combination thereof. This source must meet or exceed 10% of the home's total energy requirements. The Director of Veterans' Affairs, with advice and assistance from the Department of Energy, will establish rules prescribing minimum performance criteria for such devices and may contract with the Department of Energy for certification of those devices which comply with the rules.

LEGAL CITATION

This Act adds Section 240 Chapter 407 of the Oregon Revised Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Dr. Fred Miller
Director, Oregon Department of Energy
111 Labor and Industries Building
Salem, Oregon 97310
(503) 378-4040

H. C. Saalfeld
Director of Veterans' Affairs
1225 Ferry Street, SE
Salem, Oregon 97310
(503) 378-6851

FORMS OR OTHER DOCUMENTS

Chapter 30 - Temporary Rule, "Performance Criteria for Residential Alternative Energy Devices - Solar and Geothermal."

OREGON

SB 572
Approval Date: July 26, 1977
Effective Date: This Act did not become effective because it relied on the passage by the electorate of SJR 32, as an amendment to the Oregon Constitution. This was turned down on November 8, 1977.

ABSTRACT

This Act requires the Governor to designate projects for the development of non-nuclear energy resources for the purpose of generation, distribution, or transmission of electric energy to be undertaken by the utilities. Through a net energy analysis, these projects shall endeavor to provide maximum conservation of energy resources. Projects designated should also have the least adverse environmental impact, support cogeneration development, wherever possible, be small scale, be where the energy is needed and be of sufficient number to meet the needs of the State. Any utility may apply to the Director of the Department of Energy for a loan to undertake such development, alternate energy or conservation projects. This loan shall be made according to the terms and subject to the conditions imposed by the Director. The Director may adopt rules as necessary to administer this Act.

LEGAL CITATION

This Act adds Sections 1-21 to Chapter 469 of the Oregon Revised Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Dr. Fred Miller
Director, Oregon Department of Energy
111 Labor and Industries Building
Salem, Oregon 97310
(503) 378-4040

FORMS OR OTHER DOCUMENTS

None

OREGON

SJR 18

Approval Date: March 1, 1977
Effective Date: May 9, 1977

ABSTRACT

This Resolution directs the Director of Extension Services at Oregon State University, with assistance from the University of Oregon, to formulate information relating to the construction and use of solar energy heating and cooling systems and requires that county extension agents distribute this information to the public.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Henry A. Wadsworth, Director
Extension Service
Oregon State University
Corvallis, Oregon 97331
(503) 754-2711

FORMS OR OTHER DOCUMENTS

Extension Circular No. 870, "Solar Energy Facts for the Pacific Northwest."

ADDITIONAL INFORMATION

"Something New: 1977 Weatherization Incentives for Oregon Homeowners," Oregon Department of Energy, p. 23.

OREGON

SJR 32

Approval Date: July 21, 1977
Effective Date: This constitutional amendment was defeated by the electorate on November 8, 1977 (special election).

ABSTRACT

This Resolution provides for an amendment to the Oregon Constitution by directing the Legislative Assembly to provide by law for management, development, and conservation of non-nuclear natural energy resources including solar energy, hydroelectric, and geothermal energy. It requires priority to be given in distribution of state funds allocated and in the energy developed to the utilities or agencies in proportion to the share of the state energy demands supplied by them at time of enactment of this amendment. The credit of the state may be borrowed against and indebtedness incurred in an amount not to exceed 1-1/2% of the true cash value of all taxable property in the state. This Resolution also authorizes issuance of general obligation bonds and taxes for bond repayment.

LEGAL CITATION

This Resolution, upon voter approval at the next general election, will amend the Constitution of the State of Oregon by replacing Section 1-3, of Article XI-D.

RESPONSIBLE STATE AGENCY AND OFFICIAL

None

FORMS OR OTHER DOCUMENTS

None

RHODE ISLAND

SB 1232A

Resolution 287

Approval Date: May 13, 1977

Effective Date: May 13, 1977

ABSTRACT

This Act creates a special legislative commission consisting of members of the House and Senate to study and evaluate economically feasible energy conservation alternatives for the public, private, commercial and industrial consumer, including but not limited to the development of solar energy systems, and to evaluate the feasibility of financial and tax incentives. This commission shall receive full cooperation from all departments and agencies of the state and shall report its findings and recommendations to the general assembly on or before March 1, 1978.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

E. Peter Gallogly, Chairman
State Energy Technology Study Commission
1093 Elmwood Avenue
Providence, Rhode Island 02907
(401) 941-6482

FORMS OR OTHER DOCUMENTS

None

RHODE ISLAND

HB 5583

Chapter 202

Approval Date: May 11, 1977

Effective Date: May 11, 1977

ABSTRACT

This Act provides that an existing or newly constructed residential or non-residential building equipped with a solar heating or cooling system, or both, will not be assessed at a value greater than the value of the building with a conventional system necessary to serve the building. This provision shall expire April 1, 1977.

LEGAL CITATION

This Act amends Chapter 44-3 by adding Section 44-3-19 of the Rhode Island General Laws.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Local tax assessor

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

According to Rhode Island officials, these solar systems must meet the "HUD Intermediate Minimum Property Standards Supplement for Solar Heating and Domestic Hot Water Systems."

TEXAS

HB 858
Chapter 584
Approval Date: June 15, 1977
Effective Date: August 29, 1977

ABSTRACT

This Act extends the State franchise tax exemption to various types of organizations, among which are corporations engaged exclusively in the business of manufacturing, selling or installing solar energy devices which are designed primarily to provide heating or cooling, or to produce electrical or mechanical power, or both, by means of collecting and transferring solar-generated energy. (Previous language had "selling and installing." This change permits more solar firms to be eligible.)

LEGAL CITATION

This Act amends Section (1), Article 12.03, Title 122 A of the Revised Civil Statutes of Texas, 1925.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Kim Hale
Comptroller of Public Accounts
Business Tax Division
Capitol Station
Austin, Texas 78711
(512) 475-4771

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

No standard form exists. To claim this exemption the organization must send a type written letter requesting the exemption, including Articles of Incorporation and an outline of past and future activities relating to manufacture, sale or installation of solar systems.

TEXAS

HB 1799
Chapter 838
Approval Date: June 16, 1977
Effective Date: September 1, 1977

ABSTRACT

This Act creates the Energy Development Fund which will receive an amount not to exceed \$5 million from the legislature and may receive funds from private or public sources, for the purpose of supporting research and development of solar, geothermal, lignite, biomass, wind conservation, and other alternate abundant energy resource technologies. The Energy Development Fund Board, which is also created by the Act, shall administer the funds and shall promulgate a plan for the development of these technologies including all regulations necessary. Initial appropriation is \$1,500,000 from the General Fund.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Dr. Roy R. Ray
Administrator, Energy Development Fund
Texas Energy Advisory Council
7703 North Lamar
Austin, Texas 78752
(512) 475-5588

FORMS OR OTHER DOCUMENTS

"Energy Development Plan," Volume I & Volume II, Texas Energy Advisory Council, December 1977.
"Energy Development Fund Abstract," Texas Energy Advisory Council, August 1978.

TEXAS

SJR 53

Approval Date: filed without signature May 27, 1977
Effective Date: this constitutional amendment was passed by the voters on November 7, 1978. The State legislature now must take positive action to provide the tax exemptions.

ABSTRACT

This Resolution provides an amendment to the State Constitution to allow the State Legislature to exempt solar or wind-powered energy devices from property taxation. This amendment will be submitted to a vote of the qualified electors of the State at an election to be held on November 7, 1978. The amendment is known as "The Constitutional Amendment Authorizing the Legislature to Exempt from Taxation Solar and Wind-Power Energy Devices."

LEGAL CITATION

This Resolution will amend Article VIII, Section 2, Subsection (a) of the Texas Constitution.

RESPONSIBLE STATE AGENCY AND OFFICIAL

None

FORMS OR OTHER DOCUMENTS

None

TEXAS

HSR 24

Approval Date: March 31, 1977
Effective Date: March 31, 1977

ABSTRACT

This Resolution requests all State agencies, departments, colleges, and universities to encourage feasibility studies and demonstration projects that make use of alternate energy sources in the construction of new State buildings.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

None

FORMS OR OTHER DOCUMENTS

None

UTAH

SCR 1

Approval Date: March 22, 1977
Effective Date: May 1, 1977

ABSTRACT

This Resolution proposes a comprehensive energy policy which recognizes the desirability of developing all energy resources including solar, geothermal and wind. This resolution advises the State to help local governments assess the impacts of proposed development and provide technical and financial assistance to local communities. It notes that the State energy policy will need to be updated periodically and a standing Energy Policy Committee established to coordinate programs and recommend energy policy for submission to the Governor and legislature. In Section 36, the State is urged to support the development and use of solar energy as a resource that can make a contribution to the satisfaction of energy demands when used in optimum combination with traditional energy sources.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Senator Edward Beck
Chairman, Energy Conservation and Development Council
Reed Searie, Executive Secretary
Empire Building
231 East 400 South, Suite 101
Salt Lake City, Utah 84111
(801) 533-5424

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

The Energy Policy Committee has proposed various legislative bills, including property and income tax incentives, solar easements, and a bill requiring the Utah State Building Board to build residences which include solar systems.

UTAH

SCR 2

Approval Date: January 18, 1977
Effective Date: May 1, 1977

ABSTRACT

This resolution recommends the establishment of the Solar Energy Research Institute in the State of Utah. This Institute would support the Energy Research and Development Administration's (now DoE) solar energy program to foster the widespread use of solar technology.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

None

FORMS OR OTHER DOCUMENTS

None

UTAH

SJR 37
Approval Date: March 10, 1977
Effective Date: May 1, 1977

ABSTRACT

This Resolution directs the Legislative Management Committee to assign to the appropriate interim study committees the duty of studying and preparing a legislative program for the 43rd Legislature for a variety of items including Energy Policies (in Section 69.) The Committee is to study the development of legislation to implement the State Energy Policy as adopted by SCR 1 of the 1977 General Session.

LEGAL CITATION

None

RESPONSIBLE STATE AGENCY AND OFFICIAL

Edward Beck, Senate Chairman
Cary Petterson, House Chairman
Contact D. J. Sharp
Office of Legislative Research
326 State Capitol
Salt Lake City, Utah 84114
(801) 533-5481

FORMS OR OTHER DOCUMENTS

None

ADDITIONAL INFORMATION

The study committee referenced in this resolution monitors the activities of the Energy Office in relationship to these provisions.

VIRGINIA

HB 1404
Chapter 561
Approval Date: March 31, 1977
Effective Date: July 1, 1978

ABSTRACT

This Act enables municipalities to provide a partial or whole exemption from real property tax for equipment, facilities, or devices that are designed and used primarily for the purpose of providing for the collection and use of incident solar energy for water heating, space heating or cooling, or other applications which would otherwise require a conventional source of energy. The exemption will be determined by applying the local tax rate to the value of such equipment, facilities, or devices and will be deducted wholly or partially from the total real property tax due. The exemption shall be permitted for a term of not less than five years. The Act also provides that the applications for exemption will be made to the local building department and must then be certified by the State Office of Housing as meeting all requirements for qualification as set forth by that office.

LEGAL CITATION

This Act amends the Code of Virginia by adding Section 58-16.4

RESPONSIBLE STATE AGENCY AND OFFICIAL

As of July 1, 1978 the State Office of Housing is renamed the Department of Housing and Community Development.

Gene Dishner, Director
Department of Housing and Community Development
205 North 4th Street
Richmond, Virginia 23219
(804) 786-7891

Counties, cities, towns adopting an ordinance pursuant to this amendment to the Code of Virginia.

FORMS OR OTHER DOCUMENTS

"Solar Energy Criteria for Tax Exemption," Virginia Board of Housing, October 1977.

ADDITIONAL INFORMATION

The application forms are now being developed.

VIRGINIA

HB 1451
Chapter 601
Approval Date: March 31, 1977
Effective Date: July 1, 1977

ABSTRACT

This Act creates the Virginia Solar Energy Center as part of the Virginia Energy Office. Its purpose is to act as a clearinghouse for information on solar energy and its utilization; to coordinate solar efforts and programs with other state agencies and institutions, other states and Federal agencies; to promote cooperation between business, industry, agriculture, and the public related to solar energy use in schools and by the public; and, to provide assistance in formulating policies on the utilization of solar energy.

LEGAL CITATION

This Act adds Section 10-214 to Chapter 601 of the Code of Virginia and repeals Section 9-65.1.

RESPONSIBLE STATE AGENCY AND OFFICIAL

J. Boyd Spencer
Virginia Energy Office
823 East Main Street, Room 300
Richmond, Virginia 23219
(804) 786-8451

Richard Long, Marketing Branch Chief
Virginia Solar Energy Center
823 East Main Street
Richmond, Virginia 23219
(804) 786-8451

FORMS OR OTHER DOCUMENTS

"Virginia Energy Information Center Annotated Solar Bibliography,"
April 1978.
"The Virginia Energy Office Answers Some Important Questions About
Solar Energy."

ADDITIONAL INFORMATION

Federal funds have not been forthcoming for this project.
"Buying Solar," June 1976 (Virginia reprint of FEA publication).

WASHINGTON

HB 388 (2nd Substitute)
Chapter 364
Approval Date: July 14, 1977
Effective Date: September 22, 1977

ABSTRACT

This Act provides a real property tax assessment exemption for all solar related equipment which meets HUD's minimum standards and which provides for collection and use of incident solar energy for water heating, space heating or cooling, or other applications that would otherwise require a conventional source of energy. In systems which utilize solar energy only in a supplemental way, only those components which collect and transfer solar energy shall be included. This exemption must be filed by December 31, 1981. Once filed, it will be valid for a period of seven years and is not renewable. The Act also provides that the Department of Revenue shall establish rules and regulations as needed and it provides that claims for exemptions are to be filed with the county assessor.

LEGAL CITATION

This Act adds a new section to Chapter 84.36 of the Revised Code of Washington.

RESPONSIBLE STATE AGENCY AND OFFICIAL

Charles Hodde, Director
Department of Revenue
General Administration Building
Olympia, Washington 98504
(206) 753-5512

County Assessor

FORMS OR OTHER DOCUMENTS

"Application for Exemption on Solar Energy Systems," Real Property Form Rev 64 0013 (8-77).
"Information and Instructions for Application for Exemption of Solar Energy Systems."

WISCONSIN

AB 1019
Chapter 313
Approval Date: May 3, 1977
Effective Date: April 20, 1977

ABSTRACT

This Act allows a business or corporation to deduct all costs for the design and installation of an alternative energy system from taxable income in determining state taxes in the year paid, depreciate the costs over the life of the system, or amortize them over a period of five years. Expenses must have been incurred after April 20, 1977. Once the election of the tax benefit has been made it cannot be changed. An individual who installs an alternative energy device on his property in the State may receive a credit against personal income taxes due of a percentage of the total cost of the system, but the cost must exceed \$500 in a single year and the maximum credit is \$10,000. The percentage credit is determined by the following table:

	Costs Incurred During			
	1977-78	1979-80	1981-82	1983-84
Real Property appearing on the tax rolls prior to April 20, 1977	30%	24%	18%	12%
Real Property appearing on tax rolls after April 20, 1977	20%	16%	12%	8%

No expenses incurred after December 31, 1984, may be claimed. Claim forms will be prescribed by the Department of Revenue and the Department of Industry, Labor and Human Relations shall establish by rule, performance standards for the systems by January 1, 1979. If the taxpayers claim exceeds the income tax due, a payment will be made from State funds.

LEGAL CITATION

This Act creates Section 20,835 (2)(e), 71.04(16), 71.09(12), 73.03(14) and 70.25(8), of the Wisconsin Statutes.

RESPONSIBLE STATE AGENCY AND OFFICIAL

John Wanning, Administrator
Department of Industry, Labor and Human Relations
Safety and Building Division
P.O. Box 7969
Madison, Wisconsin 53707
(608) 226-1816
Staff Engineer, John Neville (608) 226-9291

Thomas Boykoff
Department of Revenue
201 E. Washington Avenue
Madison, Wisconsin 53707
(608) 226-1607

FORMS OR OTHER DOCUMENTS

"Proposed Rules, Alternate Energy Tax Credit," Wisconsin Department of Industry, Labor and Human Relations.

ADDITIONAL INFORMATION

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State Forms, Instructions, Additional Information

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WISCONSIN AB 1019

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PART I ALASKA ITEMIZED DEDUCTIONS

- 28. Enter the amount from schedule A, line 41, Form 1040. (If zero or less, do not complete this section) 28 _____
- 29. State income tax, from Federal schedule A, line 11 29 _____
- 30. Subtract line 29 from line 28. 30 _____
- 31. Medical expense adjustment 31 _____
- 32. Total lines 30 and 31. Enter here and on line 13. (If zero or less enter -0-). 32 _____

PART III CREDIT FOR INCOME TAX PAID TO ANOTHER STATE

- 38. Alaska income tax (from line 15) 38 _____
- 39. Taxable income from another state 39 _____
- 40. Alaska taxable income (from line 14) 40 _____
- 41. Compute tax credit by dividing amount on line 39 by amount on line 40. Then multiply the percentage by line 38

PART II TAX CREDITS

33. Alaska allows these Federal credits:

Enter amounts from Federal tax form

- a. Credit for the elderly a. _____
- b. Child care credit b. _____
- c. Investment tax credit c. _____
- d. Work incentive credit d. _____
- e. Total (Add a, b, c and d). e. _____ X 16% = 33 _____

34. Residential fuel credit. You are allowed a credit of at least \$10 (\$5 each if married filing separately) or 5% of home fuel costs paid or accrued during 1977 34 _____

35. Residential fuel conservation credit. You can apply 10% of expenses for residential fuel conservation improvements paid or accrued in 1977, up to a maximum of \$200 (\$100 each if married filing separately) 35 _____

36. Total from line 8 Political Contribution Credit form 36 _____

37. Add lines 33, 34, 35 and 36. Enter here and on line 16 if you do not use Part III 37 _____

Line 39 _____ = _____ % X Line 38 41 _____
Line 40

42. Income tax paid to other state(s) 42 _____

43. Enter smaller of line 41 or 42 43 _____

44. Add lines 37 and 43. Put total here and on line 16 44 _____

PART IV OTHER TAXES

45. Tax from recomputing prior year investment credit (Federal Form 4255) 45 _____

46. Tax from recomputing prior year WIN credit (attach schedule) 46 _____

47. Minimum tax (Federal Form 4625) 47 _____

48. Enter total of lines 45, 46 and 47 48 _____

49. Enter 16% of line 48 here, and on line 18 49 _____

LINE-BY-LINE INSTRUCTIONS FOR FORM DR 600 (Continued)

ALASKA ITEMIZED DEDUCTIONS

Line 28. Enter the total of Federal itemized deductions after adjustment from line 41, of the Federal Schedule A. If you did not itemize deductions on the Federal return or the amount on line 41 of your Federal Schedule A is zero or less, do not make an entry on this line, and do not complete the remainder of the section on itemized deductions.

Line 29. Enter the State income tax deductions from your Federal Schedule A, line 11.

ALASKA TAX CREDITS

Line 33a. Enter the dollar amount of your credit for the elderly shown on your Federal Schedule 1040 R, line 7.

Line 33b. Enter the dollar amount of your child care credit as shown on Federal Form 2441, line 10.

Line 33c. Enter the dollar amount of your allowable investment tax credits shown on Federal Form 3468. You may claim investment tax credit upon only the first \$500,000 of qualified investment put into use for each taxable year.

Line 33d. Enter the dollar amount of your work incentive (WIN) credit as shown on Federal Form 4874, line 18.

Line 33e. Total Federal credits as shown on lines 33a through 33d are multiplied at this point by 16% to determine your total Alaska credits from these sources.

Line 34. In 1977, the Alaska Legislature passed into law two residential fuel credit bills, which will reduce the tax liability of those persons filing a 1977 Alaska Indi-

vidual Income Tax Return. To calculate your Residential Fuel Credit, enter on line 34 the greater of \$10 (\$5 each for married taxpayers filing separately) or 5% of your home fuel costs. Your home fuel costs are the actual or accrued payments for wood, coal, heating oil, gas, electricity or other fuel consumed in the State for a residential housing unit.

Line 35. To calculate your Residential Fuel Conservation Credit, multiply 10% times the cost for additional insulation or insulating materials, including the cost of insulating windows, the cost of labor to install insulating materials, and the expense of installing an alternate source of power not dependent on fossil fuels for energy supply which you paid or accrued during 1977. The maximum credit allowable is \$200 (\$100 for those married taxpayers filing on a separate basis). Your tax liability may not be decreased below zero.

CREDIT FOR TAX PAID TO ANOTHER STATE

In addition to the credits allowed on lines 33-37, Alaska resident taxpayers are allowed a direct credit against their tax for income taxes paid to another state. See lines 38 through 44 and complete the section in its entirety.

OTHER TAXES

Line 45. Enter the dollar amount of tax from recomputing prior year investment credit as shown on Federal Form 4255.

Line 46. Enter the dollar amount of tax from recomputing prior year WIN credit (attach a schedule).

Line 47. Enter the dollar amount of your minimum tax as shown on Federal Form 4625, line 19.

PART I ADJUSTMENTS TO INCOME

- ADJUSTMENTS TO INCOME** (If none, skip lines 28 through 34 and enter zero on line 6.)
- 28. Moving expense (attach Federal Form 3903) 28 _____
 - 29. Employee business expense (attach Federal Form 2106) 29 _____
 - 30. Payments to an individual retirement arrangement (from Federal Form 5329, Part III) 30 _____
 - 31. Payments to a Keogh (H.R. 10) retirement plan 31 _____
 - 32. Forfeited interest penalty for premature withdrawal 32 _____
 - 33. Alimony paid 33 _____
 - 34. Total adjustments. Add lines 28 through 33. Enter here and on line 6 34 _____

PART III TAX CREDITS

46. Alaska allows these Federal credits:
Enter amount from Federal schedules
- a. Credit for the elderly a. _____
 - b. Child care credit b. _____
 - c. Investment tax credit c. _____
 - d. Work incentive credit d. _____
47. Total (Add a, b, c and d). X 16% = 47 _____
- Residential Fuel Credit**
- 48. Enter the number of months you resided in Alaska 48 _____
 - 49. Divide the number on line 48 by 12 and enter % here. 49 _____
 - 50. Enter the greater of \$10 (\$5 each if married filing separately) or 5% of your home fuel costs paid or accrued during 1977 50 _____
 - 51. Multiply the amount on line 50 by the % on line 49 and enter here. 51 _____

PART II ITEMIZED DEDUCTIONS

- | | |
|---|---------------------------------|
| A Federal Deductions Claimed | B Alaska Deductions Only |
| 35. Total medical and dental. 35 _____ | 35. _____ |
| 36. Total taxes. 36 _____ | 36. _____ |
| 37. Total interest 37 _____ | 37. _____ |
| 38. Total contributions 38 _____ | 38. _____ |
| 39. Casualty or theft loss(es). 39 _____ | 39. _____ |
| 40. Total miscellaneous 40 _____ | 40. _____ |
| 41. Total deductions (Add lines 35 through 40) 41 _____ | 41. _____ |

- Residential Fuel Conservation Credit**
- 52. Enter the % calculated at line 47 above 52 _____
 - 53. Enter 10% of the expenses for residential fuel conservation improvements paid or accrued in 1977, up to a maximum of \$200 (100 each if married filing separately) 53 _____
 - 54. Multiply the amount on line 53 by the % on line 52. 54 _____
 - 55. Total from line 8 Political Contribution Credit form 55 _____
 - 56. Add lines 47, 51, 54 and 55. Enter here and on line 16. 56 _____

PART IV OTHER TAXES

- 57. Tax from recomputing prior year investment credit (Federal Form 4255) 57 _____
- 58. Tax from recomputing prior year WIN credit (attach schedule) 58 _____
- 59. Minimum tax (Federal Form 4625) (from sources in Alaska) 59 _____
- 60. Enter total of lines 57, 58 and 59 60 _____
- 61. Enter 16% of line 60 here, and on line 18. 61 _____

LINE-BY-LINE INSTRUCTIONS FORM DR 600 PR (PART-YEAR RESIDENTS AND NON-RESIDENTS)

Adjustments to Income

Line 28. Enter expenses paid or incurred when moving into Alaska. Remember that expenses of moving out of Alaska are not deductible and should not be included on this line. Attach Federal Form 3903 which itemizes only those expenses incurred moving into Alaska.

Line 29. Enter deductible employee business expenses. Include those ordinary and necessary expenditures connected with, and incurred while conducting, your trade, business or occupation within Alaska. More specifically, those expenses claimed on Federal Form 2106 which were incurred or paid while you engaged in business or worked for a salary in Alaska are to be entered on this line.

Line 30. Enter those deductible contributions paid from Alaska income to an individual retirement arrangement during the year. Attach Federal Form 5329 showing your computation.

Line 31. Enter those deductible payments you made to a qualifying self-employed retirement plan during the year.

Line 33. Enter total alimony payments you made which qualify for deduction on your Federal return.

Itemized Deductions

To calculate your 1977 Alaska itemized deductions you must make certain adjustments to your Federal itemized deductions. Please read and comply with the following general guidelines when determining your itemized deductions for the Alaska return.

Alaska Itemized Deductions ARE:

- (1) those Federal itemized deductions which were paid from income earned from Alaska sources, or
- (2) those Federal itemized deductions which were paid while you resided in Alaska.

Alaska Itemized Deductions ARE NOT:

- (1) those Federal itemized deductions directly connected to earning income in a state other than Alaska (for example, union dues paid to secure employment in California), or
- (2) those Federal itemized deductions not related to earning Alaska income and paid prior to your arrival to Alaska or after your departure from Alaska (for example, property taxes, interest paid on out-of-Alaska property).

Line 35. In column A, include the total medical and dental expenses as shown on your Federal Schedule A, line 33.

In column B, enter only those medical and dental expenses paid from income earned from Alaska sources, and paid while you resided in Alaska.

Line 36. In column A, enter the total taxes deducted on your Federal Schedule A, line 34.

In column B, include those taxes paid from income earned from Alaska sources while you resided in Alaska. Be sure to include the amount of Alaska State Income Taxes deducted on line 11, Federal Schedule A, but do not include any income taxes paid to another state.

Line 37. In column A, enter the total interest deducted on your Federal Schedule A, line 35.

In column B, enter only that amount of interest which was paid from income earned from Alaska sources and paid while you resided in Alaska.

Line 38. In column A, enter the total contributions deducted on your Federal Schedule A, line 36.

In column B, enter only those contributions made while you resided in Alaska and paid from income earned from Alaska sources.

Line 39. In column A, enter the total amount of casualty or theft losses as shown on your Federal Schedule A, line 37.

In column B, enter only those casualty or theft losses incurred in Alaska.

Line 40. In column A, enter the total miscellaneous deductions taken on your Federal Schedule A, line 38.

In column B, enter only those miscellaneous deductions paid from income earned from Alaska sources, or which were directly connected to earning income in this state, and were paid while you resided in Alaska.

Line 41. Add the amounts shown in column B for lines 35 through 40 and enter the total here.

Line 42. In column B, enter the total amount of state income taxes deducted on Federal Schedule A, line 11.

Line 43. Subtract line 42 from line 41 and enter here.

Line 44. Enter one of the following amounts on this line, depending on your particular filing status:

- (1) If you are married, filing jointly, or a qualifying widow(er) and you checked box B or E on page 1, enter \$3,200;
- (2) If you are a single taxpayer, or head of household, and checked box A or D on page 1, enter \$2,200;
- (3) If you are married, filing separately, and checked box C, enter \$1,600.

Line 45. Subtract line 44 from line 43 and enter here. However, if the difference is zero or less, enter —0— here. Carry the amount on this line over to line 13.

Tax Credits

Line 46a-d. Enter the appropriate amounts of Federal credits allowed in part by Alaska. Please attach the appropriate Federal schedules when claiming these credits.

Line 47. Multiply the total Federal credits claimed on lines 46a-d by 16% and enter the result here.

Residential Fuel Credit

Line 48. Enter the number of months you resided in Alaska during 1977 on this line. Round off to the nearest month using the 15th of the month as the cutoff.

Line 49. Divide the number of months you resided in Alaska during 1977 by 12 months to determine the percent of time you were in this state. Enter the result rounded to the nearest percentage.

Line 50. Enter the greater of \$10 (\$5 if married, filing separately) or 5% of your home fuel costs paid or accrued during 1977. Home fuel costs are defined as the actual or accrued payments by the individual taxpayer for wood, coal, heating oil, gas, electricity, or other fuel consumed in the State for a residential housing unit.

Line 51. Multiply the amount on line 50 by the percentage calculated on line 49 and enter here.

Line 53. To calculate your residential fuel conservation improvements subject to the credit, multiply 10% times the cost for additional insulation or insulating materials, including the cost of insulating windows, the cost of labor to install insulating materials, and the expense of installing an alternate source of power not dependent on fossil fuels for energy which you paid for or accrued during 1977. The maximum credit allowable is \$200 (\$100 for married filing separately).

Line 56. Enter the totals from lines 47, 51, 54 and 55 on this line and carry this amount over to line 16.

Line 57. Enter the dollar amount of tax from recomputing prior year Alaska investment credit. Attach Federal Form 4255 showing your computation.

Line 58. Enter the dollar amount of tax from recomputing prior year WIN credits. Attach a schedule showing your computation.

Line 59. Enter the minimum tax on tax preference items from Federal Form 4625.

Line 61. Multiply the amount on line 60 by 16%. Enter here and on line 18.

TAX CREDITS
for

ARIZONA HB 2068

TAX YEAR
1978

Solar energy devices, installation of insulation and Renters
or fiscal year beginning 19__ and ending 19__

ATTACH THIS CLAIM TO INDIVIDUAL INCOME TAX RETURN FORM 140

Name(s) as shown on Form 140

Your Social Security Number

PART I

SOLAR ENERGY DEVICES TAX CREDIT

1. Total cost of solar energy devices (Attach copy of invoices) ----- \$ _____
2. Multiply line 1 by 35% ----- \$ _____
3. Maximum amount of credit allowed ----- \$ 1,000.00
4. Tax credit claimed-Enter here and line 38 of Form 140, the amount shown on line 2, or line 3, whichever is smaller ----- \$ _____
5. Income tax from line 37 Form 140 ----- \$ _____
6. Carry over of unused credit-Enter here the excess of line 4 over line 5; otherwise enter zero. (Note: the excess tax credit may be used as a carryover for 5 subsequent years until exhausted) ----- \$ _____

(see reverse side for instructions)

INSTRUCTIONS

Solar Energy Devices Tax Credit — Homeowners have the option of amortizing the cost of solar energy devices over 36 months or claiming a tax credit against their Arizona income tax liability, by the use of this Form 140CR.

The allowable credit is equal to 35% of the cost of a solar energy device up to \$1,000.00 whichever is the lesser. The credit may be used to reduce the Homeowners income tax but will not create a refund. Any unused credit may be carried forward for 5 years.

This credit may be claimed only once for a tax year and only once for a given residence. Each year the amount of percentage allowed is reduced by 5% until the credit expires in 1984.

You are required to attach a copy of a Paid invoice to the Form 140CR.

(Example of Solar Energy Devices Which Qualify)

Solar domestic hot water system.
Heat transportation systems.
Thermal storage device.
Drum Walls.
Rock beds, water tanks for thermal storage.
Trombe walls.
Solar pool heating systems including pool cover incorporated into active system.

Batteries used for storage of solar produced electricity.
Metal hydride system equipment.
Thermal insulation.
Thermal transportation systems for domestic hot water systems.
imperial parts for any of the above devices.

Nocturnal radiation devices.
Photovoltaic devices which provide electrical power to the residence.
Solar ovens permanently affixed to the residence.

(Example of items that do not Qualify)

Reflective screen for air conditioners.
Masonry walls.
Subterranean retaining walls.
Auxiliary heating systems.

Electrolysis of water.
Organic waste piles.
Evaporative coolers.

Cooling towers.
Vegetation.
Swimming pool blankets or covers.

Cooperative Extension Service The University of Arizona

ACCESS -ENERGY

VOLUME 3 NUMBER 1

JUNE-JULY 1978

REPORTS IN BRIEF

FEDERAL REGISTER HIGHLIGHTS

Public Contracts and Property Management: Federal Procurement Regulations: Energy Conservation. General Services Administration establishes final rule requiring consideration of energy conservation and efficiency in government purchase of property and services. 1 page (FR 43 14315) 5 Apr 78.

Fuel Economy of Motor Vehicles: Fuel Economy Labeling Procedures for 1979 and Later Model Year Automobiles. The Environmental Protection Agency issues final rules changing requirements for format and contents of fuel economy labels for new cars and light trucks, to provide only value previously labeled "city" estimate, for more accurate indication and to reduce consumer misunderstanding. 10 pages (43 FR 21412) 17 May 78.

National Energy Extension Service: Proposed Regulation for Comprehensive Program. Department of Energy (DOE) proposes establishment of comprehensive Energy Extension Service program to provide assistance and direct personalized information on conservation to small energy users. Requirements for preparation, submission, and review of state plans and annual applications are provided, in order to obtain grant funding. EPA requests comments by August 4, 1978, to Public Hearing Management Office, DOE, Box TN, Rm 2313, 2000 M St NW, Washington DC 20461. (See story on Arizona Energy Extension Service in this issue.) 8 pages (43 FR 24316) 5 Jun 78.

RECENT PUBLICATIONS

Annual Report to the President and the Congress on the State Energy Conservation Program, December 1977, reviews individual state energy conservation plans and goals for 1980. State Energy Conservation Program, as established December 1975 under Energy Policy and Conservation Act (PL 94-385) provided federal technical assistance and funding for state energy management plans. Program goal was to reduce overall energy consumption by 5% of the 83 quadrillion Btu's anticipated 1980 usage (projected historically); savings under all state plans are expected to equal 6.7%, or 1.7% higher than original target. Arizona's plan projects 7.2% savings for the state. 122 pages, includes state energy office directory and tables of individual program measures. Lib #E1.27:977; prepared by Office of State and Local Programs, Conservation and Solar Applications, DOE, Washington DC 20461.

DOE Facilities Solar Design Handbook provides guidelines for consideration, specification, and implementation of solar heating/cooling systems, such as proper collector size, storage capacity, and other design factors. Intended to serve both as introduction to solar energy technology for the novice and overview for the experienced engineer, sections include objectives and application; technology of solar energy use; solar heating and cooling system design fundamentals; system performance, sizing, and economics; subsystem design guidelines; references, bibliography, appendices, symbol key, and glossary. 169 pages, January 1978; order DOE/AD-0006-1 from NTIS, US Dept of Commerce, 5285 Pt Royal Rd, Springfield VA 22161; hard copy \$9, microfiche \$3.

MEETINGS AND EVENTS

Energy Management Workshop Series will offer information for various groups on reducing energy consumption and increasing efficiency of use:

Energy Management Update is for schools, hospitals, local governments, and public care institutions; agenda includes federal funding, energy

audits, areas for saving, and energy management. July 13, Tucson; July 18, Flagstaff; July 26, Phoenix.

Identifying Energy Savings is for managers, administrators, and building owners; covers energy management, audit, incorporating measures, and financing. July 11, Tucson; July 19, Flagstaff; July 27, Aug 3, 8, Phoenix.

Energy Conservation Systems is for individuals responsible for building operation and maintenance;

(cont'd)

College of Agriculture Council for Environmental Studies

includes operating savings, incorporating opportunities, building systems, and financing. July 12, Tucson; July 20, Flagstaff; July 28, August 4, 9, Phoenix.

For further information and registration, call Energy Programs Office, 271-3303 in Phoenix, or toll free 1-800-352-5499.

COUNCIL ACTIVITIES

ENERGY ENVIRONMENT SIMULATOR AVAILABILITY

Energy Environment Simulator schedule for the next six months is as follows: July, Oct, Nov, Dec, Flagstaff (Mogollon Rim) area - contact Ray Tamppari, Dept of Biological Sciences, NAU, Flagstaff, 86001, (602) 523-2007. Aug-Sept, Southern Arizona area - contact Roger Caldwell, Council for Environmental Studies, Coll of Agriculture, UA, Tucson 85721, (602) 884-3576.

NEWSLETTER QUESTIONNAIRE

The last issue of ACCES-Energy contained a printed card for a mailing list update, which also asked readers to designate areas of interest. While many returns did not supply this information, a total of 1,096 respondents (31% of original list) provided this breakdown: education, 346 (32%); business/industry, 262 (24%); government, 168 (15%); farmer/rancher, 137 (13%); concerned citizen, 180 (16% total - 11% urban, 5% rural). This information is appreciated and will be useful in planning future articles and issues.

LEGISLATIVE INFORMATION

RECENT ARIZONA ENERGY LEGISLATION

During the last legislative session, the following energy-related bills became law:

SB1411 extends income tax credits to include rigid and foam insulation, insulating screen, reflective glass or film, insulating windows, thermal insulating doors, and waste heat water heaters; credit is 25% of total cost, up to \$100. (Credits formerly covered only loose fill and roll insulation, and wind and mechanically driven turbine ventilators.) Available only to homeowners who either install themselves or use licensed contractor (check State Registrar of Contractors, 1818 W Adams, Phoenix 85007, 602-252-5874 for information).

The same bill made minor wording changes for clarification of solar tax credits; actual provisions for 35% tax credit, sales tax exemption, and property tax exemption remain the same; see ACCES-Energy Oct-Nov 1977 issue or request copy of rules/regulations from State Energy Information Center (see box for address and phone).

HB2334 authorizes Arizona Atomic Energy Commission to control and maintain radioactive tailings dumps, lease property to firms to operate radioactive waste

storage programs, and license companies that conduct radioactive material processing operations, and also establishes special fund for regulation.

SB1296 establishes a review board to set minimum standards for state purchase of products that use energy. Members, appointed by Governor to one-year terms, include businessmen, state/local purchase office representatives, and public. Also sets up Standards Advisory Committee to help develop guidelines for energy conservation in public and private buildings (although standards cannot be implemented without further legislation).

For further information, contact State Energy Information Center (see box for address and phone).

REGULATORY POLICY

DOE ENERGY CONSERVATION PROGRAM FOR APPLIANCES

Two recent actions were undertaken by the Department of Energy (DOE) as part of the appliance efficiency program required by the Energy Policy and Conservation Act. The program is responsible for encouraging manufacturers to produce and consumers to purchase significantly more efficient appliances by 1980, through 1) establishing voluntary targets and systems to monitor progress, 2) developing a labeling program to permit easy comparison, and 3) enhancing consumer awareness through an education program.

On April 11, energy efficiency targets were established for nine types of major appliances (percent shows 1980 reduction over 1972 energy use): refrigerators and refrigerator-freezers - 39%; freezers - 28%; dishwashers - 25%; clothes dryers - 8%; room air conditioners - 28%; television sets - 79%; humidifiers - 0%; dehumidifiers - 19%; and central air conditioners - 21%. (See Federal Register 11 Apr 78, pp 14138-14147.)

On May 10, DOE established final energy conservation test procedures for conventional ranges, cooking tops, ovens, microwave ovens, microwave/conventional ranges, furnaces, and vented and unvented home heating equipment. Comments received on proposed procedures were considered, and necessary changes made, before final adoption. Definitions, specific test procedures for measuring energy consumption, answers to comments, appendices, and tables are included in Federal Register notice (May 10, 1978, pp 20108-20205).

CASE HISTORIES

BURNING SOLID WASTE TO CREATE ENERGY by Charles Dixon, Architectural Engineer, Tucson Unified School District

In 1976, Tucson Unified School District took a hard look at possible alternatives for disposing of the 28,000 lbs of trash generated each day by activities for its 60,000 students. At a time when all expenses, including energy requirements, were in-

creasing, the costs for getting rid of solid waste were rising as well.

Two compactor trucks were hauling an average of 15,000 lbs of trash a day to landfills, at a cost of \$15,600 per month. About another 13,000 lbs were burned each day in 40 gas-fired incinerators, at a cost of \$6,000 a month.

The first alternative would be to buy 60 additional gas-fired incinerators to burn all the trash, at a cost of \$710,000. This plan was not feasible, even apart from the expense, because gas to operate these incinerators would not be available.

Another possibility would be to purchase one more compactor truck to haul all the trash to landfills; this truck would cost \$60,000 and require another two-man crew.

The third and most attractive proposal was to construct a heat recovery system, coupled to a controlled air incinerator and connected to an existing mechanical plant. This would take care of 14,000 lbs of trash a day, as well as producing energy.

Since the third choice was the most practical and economical, a heat recovery system was installed at Rincon High School. This system now is the primary energy source for the school and provides all the steam required for space heating and domestic hot water, as well as 75% of steam required for air conditioning in the summer.

Once the heat recovery system was operational, the 40 incinerators were shut down. This represented an additional savings of \$4,500 a month in natural gas costs, as well as \$4,500 a year in Air Quality Control fees.

The heat recovery system cost \$268,000. At present prices for the natural gas formerly required to burn the trash and provide energy, this will amortize in seven and a half years. The costs of additional trucks, personnel, and incinerators for the other possible plans were also eliminated.

The district is still hauling half of its trash to landfills. A second heat recovery system is planned for a westside location; this will burn the trash now being disposed of in landfills and provide an energy source for another school.

ARIZONA ACTIVITIES

ARIZONA ENERGY EXTENSION SERVICE: ENERGY OUTREACH PROGRAM by Donald E Osborn, Associate Director, Arizona Solar Energy Research Commission

In April 1979, the Arizona Energy Extension Service (AEES) will begin providing a wide range of public information on energy conservation and renewable energy sources. AEES will be part of a national Department of Energy (DOE) effort; Arizona programs, however, will be developed through the Governor's office to meet the special needs and conditions in the state.

The AEES will touch a number of public "outreach" areas: education, consumer affairs, federal/state relations, and community efforts. Specific objectives are to 1) encourage individuals and small establishments to reduce energy use and convert to renewable energy sources; 2) provide feedback to the state, DOE, and other decisionmakers on institutional and technological barriers; and 3) help reduce impact of fuel shortages and price increases on small consumers, by developing a credible assistance and information program and facilitating adoption of energy-saving measures.

The national Energy Extension Service will provide the individual states with funding, technical support, coordination, and evaluation. The program will focus on small energy consumers, such as individual homes, small business, agriculture, schools, hospitals, and state/local governments, which collectively account for about 40% of annual US energy use.

The program will also address groups influencing energy use, such as architects, engineers, builders, trade and professional associations, and financial institutions. Direct, personalized assistance will include building energy audits, publications, specialized training, workshops, and toll free telephone ("hotline") services.

A 10-state pilot program, initiated in August 1977, will end in March 1979, and the national program will begin. Funding will be about \$25 million nationwide; Arizona should be eligible for \$305,829 for the first six months of operation.

The Governor has designated the Arizona Solar Energy Research Commission (ASERC) to develop and submit the state proposal by January 1, 1979. ASERC was created by the State Legislature in May 1975 to represent a broad community of energy interest and serve as the focal point for renewable energy resources.

ASERC's Program Manager and staff will be assisted in developing the proposal by an Advisory Committee, composed of 15-20 individuals from groups and organizations most involved with or affected by the AEES. Actual outreach programs will be managed by ASERC, with the cooperation of various state agencies and groups.

For further information, contact Don Osborn, AEES Program Manager, Capitol Tower, Rm 502, 1700 W Washington, Phoenix 85007; call tollfree, 1-800-352-5499, or in Phoenix, 271-3682.

INFORMATION SOURCES

SOLAR ENERGY: PROGRESS AND PROMISE

By the year 2000, solar energy could supply a quarter of our total energy needs, according to a recent report from the Council on Environmental Quality (CEQ). Meeting this goal, however, calls for serious public and private commitment to solar resources, coupled with strong energy conservation efforts.

The transition to primary reliance on solar energy is based on a wide variety of solar approaches: heat from solar collectors and passive designs for new structures; electricity from small dams, wind turbines, photovoltaic cells, and high-temperature collectors; and gaseous and liquid fuels from biomass.

The report, Solar Energy: Progress and Promise, includes an overview of solar energy prospects and progress, as well as suggested federal actions for making solar energy economically feasible. April 1978, 57 pages; order #041-011-00036-0 from Supt of Documents, US Govt Printing Office, Washington DC 20402; \$2.30. Lib #PrEx 14.2 So8.

READING LIST FOR SOLAR ENERGY

This comprehensive six-page guide includes more than 70 non-technical, technical, architectural, and general energy references, directories, and government publications on solar energy; available free from State Energy Information Center (see box for address and phone).

STATE ENERGY INFORMATION CENTER HOTLINE

The State Energy Information Center, Capitol Tower, Rm 502, 1700 W Washington, Phoenix 85007, provides a toll free "hotline" for solar energy information and energy conservation tips:

Call 800-352-5499 and ask for either solar or conservation information. In Phoenix, call 271-3303 for energy conservation, 271-3682 for solar energy.

yes -- 94% of the respondents do conserve energy in some way. What is more, consumers say conservation is worthwhile - 80% to save dwindling resources, 60% to cut oil imports. In addition, because water conservation means energy savings through lowered pumping costs, 20-25% had cut water use by low-water landscaping, toilet water savers, and shower flow-restrictors.

The survey was part of a recent program funded by a \$7,100 grant from the Department of Energy, in which the LWV offered practical energy-saving information over a 5-month period to 2,300 people in club meetings and another 500-700 people at community exhibits. Information covered water conservation devices, weatherstripping and caulking, energy-efficient appliance care, summer cooling measures (such as window shielding, reflective coatings, turbines), solar cookers, effective fireplace use, energy-efficient cooking, and insulation (including consumer cautions). All income, education, and age levels were represented, and audience reaction was appreciative and favorable.

For further information, contact LWV, 4560 E Bway, Rm 17, Tucson 85711; (602) 327-7652.

ACCES-Energy is a free bimonthly publication of the Cooperative Extension Service, in collaboration with the College of Agriculture Council for Environmental Studies and the University of Arizona Office of the Vice-President for Research. The Council coordinates environmentally related programs within the College and publishes newsletters on pesticides and general environmental topics as well. Please send comments and/or requests to Helen Mastrodonato, Editor.

COUNCIL FOR ENVIRONMENTAL STUDIES
COLLEGE OF AGRICULTURE
UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

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CURRENT SITUATIONS

LEAGUE OF WOMEN VOTERS ENERGY CONSERVATION PROJECT

Do Tucson consumers care about saving energy? According to a recent survey by the Tucson League of Women Voters (LWV), the answer is a resounding

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Darrel S. Metcalfe, Acting Director, Cooperative Extension Service, College of Agriculture, The University of Arizona, Tucson, Arizona

COOPERATIVE EXTENSION SERVICE
U. S. DEPARTMENT OF AGRICULTURE
THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721



PRODUCTS, SERVICES, AND INFORMATION
OCTOBER 1977

ARIZONA SOLAR ENERGY RESEARCH COMMISSION

ARIZONA SOLAR ENERGY DIRECTORY

OCTOBER 1977

Published by
Arizona Solar Energy Research Commission
Capitol Tower, Room 502
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Phoenix, Arizona 85007

Compiled by:

Donald Osborn, Associate Director
Herbert Wade, Deputy Director

Typing and Layout by:

Pamela J. Johnson
Mabel J. Brown

The State of Arizona and the Solar Energy Research Commission do not endorse any of the firms listed nor their products. Information contained was supplied by the companies involved, and the Commission does not guarantee the accuracy of that information.

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ARIZONA SOLAR ENERGY RESEARCH COMMISSION

"Harvesting the sun"

DIGEST OF MAJOR SOLAR LEGISLATION
STATE OF ARIZONA
NOVEMBER, 1977

Compiled by:
Donald E. Osborn
Associate Director

Solar Energy

Here comes the sun.

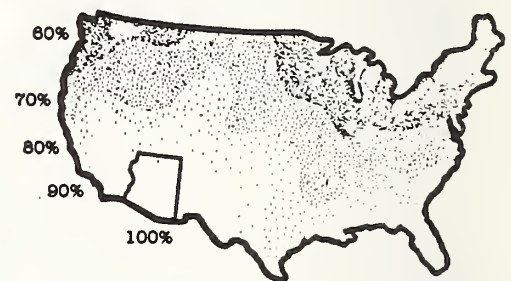
The sun sends 34,000 times more energy to the earth every day than we need in the U.S. alone. Not bad for a slightly less than medium size star. The problem, very simply, is this. How do we capture this energy and how do we hang on to it until we need it?

Right now, there are economical, practical ways to use solar energy. Dwindling natural gas supplies, increasingly stringent pollution controls and rising electricity costs mean that these practical uses of solar energy will become even more important.

There are also a number of currently uneconomical, unpractical solar energy applications that may not be ready for wide use until after the turn of the century. This booklet will concentrate on the here and now. Specifically, here in Arizona.

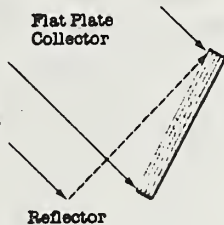
Arizona receives enough solar energy in about a month and a half to last a century. That's 4,000 hours of sunshine a year, a record matched only by the Sahara Desert and the high plateaus of Peru.

Once again, the problem is this. How do we convert solar energy to a more useful form and how do we store it in that form for later use?

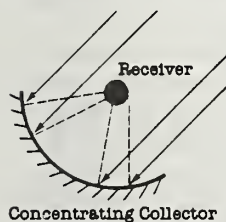


A basic solar system.

Solar energy systems all start with a basic collector that absorbs or collects the sun's light. That light is converted into heat to use immediately or to supply the storage system for later use.



A flat plate collector, in its simplest form, is an insulated box with a sealed plastic or glass cover. A metal absorber plate mounted inside the box gets hot, similar to the way a car with the windows rolled up gets hot. Water or air is then passed through the collector, picking up the trapped heat and transferring it to where it is needed.



Concentrating Collector

There are also concentrating collectors. They work on a principle comparable to the old "start a flame with a magnifying glass" trick.

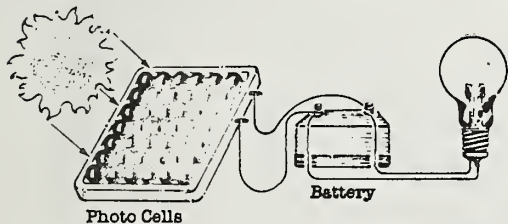


Photo Cells

A third type collector is a sophisticated electronic semiconductor or solar cell, which converts sunlight directly into electricity. At the current price of about \$13,000 per kilowatt, solar cells are pretty far down the economic line.

Let's get back to today's practical applications. The simplest type of collector is the flat plate. It is the basic part of a solar water heating system.

Solar water heating.

Solar water heating systems are currently on the verge of large scale commercial production. Depending upon your actual hot water usage, a solar hot water system can compare competitively with an electric water heating system.

In its simplest form, a solar water heater consists of the following:

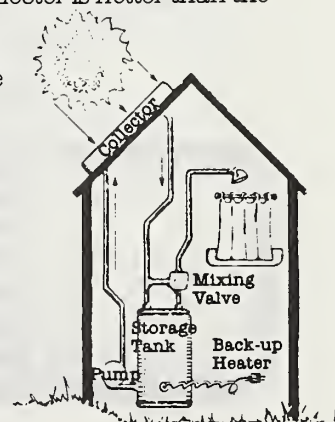
Flat plate collectors. These are usually installed on the roof and tilted toward the south at 30-45 degrees in order to catch more of the sun's energy in the winter. The collector panels should be mounted securely to prevent wind damage.

Insulated storage tank. An 80 gallon tank is usually sufficient for an average installation. Water is stored at 140° or hotter and an automatic mixing valve is usually installed to prevent scalding water from reaching the faucet.

Backup electric heater. This is usually installed in the storage tank. Depending on the season, you can expect a solar water heating system to meet a big percentage of your hot water needs.

Circulating pump. This is installed to circulate the water from the storage tank to the collectors for heating. A control unit tells the circulating pump to turn on whenever the collector is hotter than the storage tank.

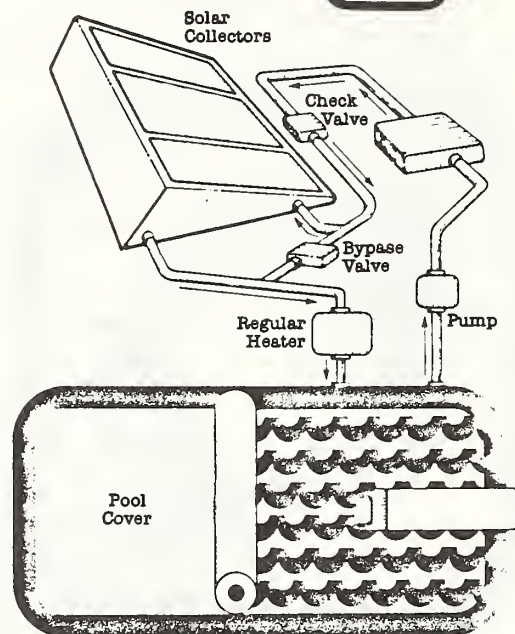
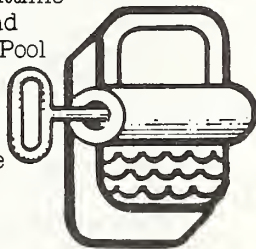
Piping and valves. Just like any other water heating system.



Solar swimming pool heaters.

This is another here and now solar energy use. In Arizona, a solar pool heating system can add up to four months of pool activity during spring and fall without any additional heating system. You would need a collector surface equal to about 60% of the pool's surface.

A pool cover is a good idea for any swimming pool, and a real must with a solar pool heating system. It can cut evaporation and nighttime heat losses in half, and that's half the battle. Pool covers range from inexpensive vinyl floating blankets to more expensive dome type covers.

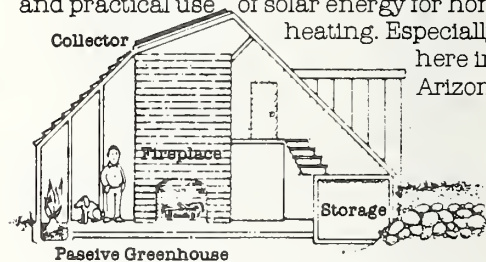


Solar home heating.

Many of us already use solar energy to heat our homes, without even realizing it. South facing windows, greenhouse windows, and skylights, for example. Insulation, weatherstripping and caulking also help keep the heat in during the winter and out during the summer.

Everyday habits like opening drapes, shutters or louvered blinds in the day and closing them at night also take advantage of solar energy. All of these act as part of a passive solar energy system. Some are features that must be built into a home right from the start. Others can be added as a home improvement project.

Today, they are the most economical and practical use of solar energy for home heating. Especially here in Arizona.



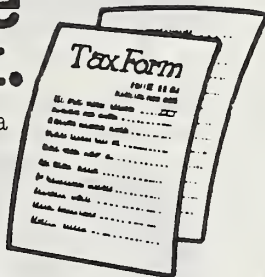
Because of storage limitations and whimsical weather patterns, there is not a practical solar system that can completely heat and cool a home here in Arizona without some sort of backup. The costs of an active solar home heating system are generally quite high. For the southern half of Arizona where heating requirements are minimal, these costs are generally unwarranted.

Can solar energy be used to air condition a home? In the testing stage, yes. However, in terms of a practical and economic system, we're still a long way off. But Arizona's combined heavy air conditioning needs and abundant sunshine, makes its development worth working on and it is something we'll all look forward to seeing in the future.

Give me a break.

The state of Arizona has enacted new tax incentive legislation to encourage the installation of solar energy devices.

Effective January 1978, one bill allows homeowners income tax incentives for installing solar heating and cooling equipment. A tax credit of 35% of the system costs or not more than \$1,000 is available. The credit decreases 5% each succeeding year. Another bill exempts all solar equipment from the state sales taxes.



What is APS doing about solar energy?

APS formally began investigating solar energy applications in 1954, when we became a charter member of the Association for Applied Solar Energy. That organization is now called the International Solar Energy Society. Since that time we have become involved in a variety of solar programs. Here are just a few. If you would like further information on any of these programs, we'd be happy to send it to you. Check the "APS Involvement in Solar Energy" box on the order blank at the end.

Solar Energy for Buildings

Today:

- Solar swimming pool heater study.
- Solar absorption cooling experiment.
- Solar domestic hot water experiment.
- Electric Power Research Institute (EPRI) optimum residential solar heating and cooling project.

Tomorrow:

- EPRI optimum commercial solar heating and cooling demonstrations.
- APS Holbrook customer service office solar heating demonstrations.
- Palo Verde Nuclear Generating Station Visitors Center total solar cooling demonstration.

Solar Cell Electricity

Today:

- Solar cells power VHF relay stations.
- EPRI assessment of photovoltaic power on APS system.
- 500 KW solar cell power plant at Phoenix Sky Harbor International Airport.

Tomorrow:

- Flat plate solar cell power demonstrations.

Solar Power Plants

Today:

- Energy Research & Development Administration (ERDA), 10MW pilot plant proposal.
- Southwest Project.
- EPRI analysis of solar thermal electric power plants on APS system.
- Martin Marietta/APS advanced power tower design.

Tomorrow:

- EPRI 10MW hybrid solar thermal electric pilot plant.
- EPRI thermophotovoltaic project.
- Power plant repowering project.
- Department of Energy (DOE) solar thermal hybrid project.

More solar facts.

Where can you go for more information on solar energy? How do you go about having a solar system installed or installing one yourself? APS has a variety of solar energy information available. Book lists, lists of contractors, technical information, research papers and more. All you have to do is ask for these items. There's an order blank included with this booklet. Or you can call us. In Phoenix, dial C-L-I-M-A-T-E. In other areas of the state, dial 1-800-352-4032 toll free.

Here are a few other information sources you might check into.

ISES. The International Solar Energy Society maintains a comprehensive library at Arizona State University in Tempe.

ASERC. Arizona Solar Energy Research Commission. They're the state commission created in 1976. Write, visit or call. They're located in the Capitol Tower, Room 502, 1700 W. Washington, Phoenix, AZ 85007. Their phone number is (602) 271-3682.

Office of Consumer Affairs. A booklet offering homeowners guidelines for selecting and buying solar equipment is yours for the asking. Write Office of Consumer Affairs, Department of Health, Education and Welfare, 330 Independence Avenue, S.W., Washington, D.C. 20201.

State of Arizona. Information on all kinds of solar systems can be obtained by phoning the toll free Arizona Energy Hotline, 1-800-352-5499. Or if you live in the Phoenix area, phone 271-3303.

National Solar Heating and Cooling Information Center. A toll free number has been set up by the U.S. Department of Energy. For information, call 1-800-523-2929.



Yes. I'm interested in more solar energy information. I am specifically interested in the following:

- Solar swimming pool heating.
- Solar home water heating.
- List of Arizona solar contractors, equipment suppliers and engineers.
- Basic principles of solar energy and design.
- APS solar energy involvement.
- Please send me your complete packet of solar energy information.

Name _____

Phone _____

Address _____

City/State _____ Zip _____

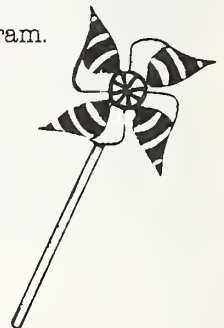
Other APS Solar Energy Involvements

Today:

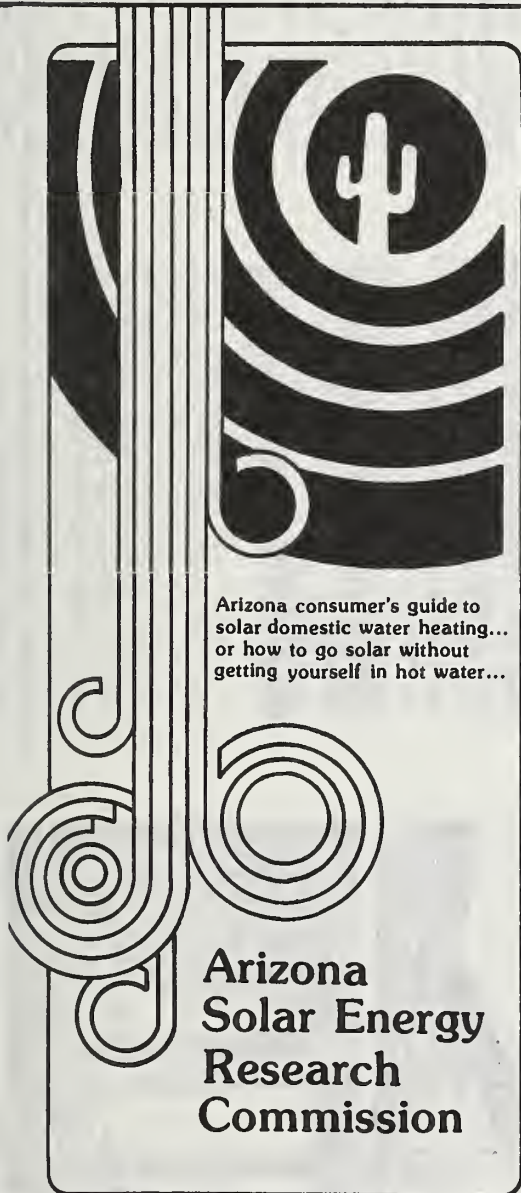
- Selective thin films study.
- Fixed cylindrical mirror solar concentrating collector.
- Solar radiation monitoring stations.
- Solar information dissemination.
- Projections on the impact of solar energy.
- Arizona Solar Energy Research Commission.
- DOE solar total energy program review.

Tomorrow:

- Wind energy program.



Solar Consumer Guide No. 1



If you're looking for a way to reduce your energy costs, a solar water heater may be one answer.

Solar water heating is now practical and economic for new homes in Arizona. For many older homes, solar water heaters can be installed at a reasonable cost. With new state and proposed federal tax incentives, solar water heating, if purchased wisely, can be a real consumer bargain. It can also be a burden if the consumer rushes into a decision without the proper knowledge.

To buy an effective solar heating system, you must deal with three main problems:

1. Your own lack of knowledge and experience in this new field.
2. Manufacturers or distributors who unintentionally supply ineffective products or who are over-enthusiastic about their products.
3. Deliberate fraud and misrepresentation.

By correcting the first problem the consumer can often avoid the other two. In this booklet, we give the basic information you need to make an informed decision when buying a solar water heating system for your home.

SOLAR WATER HEATING SYSTEMS

Heating water is one of the simplest and best developed uses of solar energy. It is safe, practical, and the most cost-effective type of solar energy today. Solar water heating can be a sensible choice for either a new home or as an addition to an existing house which does not have gas water heating. If you are fortunate enough to have gas heating, you may still wish to consider solar as it becomes necessary to replace old equipment. Gas customers may also consider solar to express environmental concern, to achieve a degree of energy independence, or as a hedge against increasing gas prices.

Arizona Solar Energy Research Commission

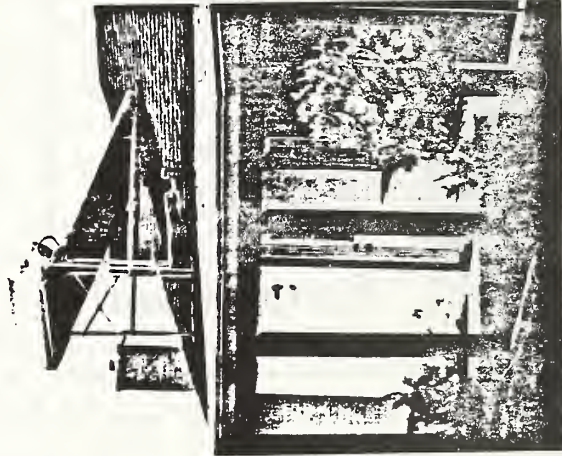


SHOULD YOU SWITCH TO SOLAR?

You should consider installing a solar water heater if:

1. Your present water heater is electric; or
2. You are building a new home; or
3. You wish to be more self sufficient and conserve resources.

An electric water heater can account for as much as one-fourth of the energy bill in all electric homes in Arizona. Installing a solar water heater in your home could significantly decrease your energy costs. With Arizona's abundant sunshine, solar is often the most economic choice for water heating. Tax incentives and increased gas costs may also provide impetus to switch from gas to solar.



"Thermosiphon" solar water heaters like this one have the storage tank mounted above the collector and require no pump to circulate the water.

ARIZONA SOLAR TAX INCENTIVES

The State of Arizona provides for an income tax credit for the installation of residential solar devices. The credit is thirty-five percent of the total cost of the solar system if the installation occurs during 1978. The percentage allowed as a credit decreases by five percent each year until the end of 1984. The maximum allowable credit is \$1,000. Solar energy devices are also exempt from the state retail sales and use tax and are exempt from the assessed value of property for purposes of the property tax. These tax incentives can greatly enhance the desirability of going solar. Additional Federal incentives may make solar even more attractive.

CONSUMER CONSIDERATIONS

Solar domestic water heating systems in Arizona can be obtained in a variety of types and for a range of prices. With Arizona's tax credit many solar water heaters can pay for themselves in electric bill savings in three or four years. The proposed Federal tax credit could reduce this by another year. Naturally price can greatly fluctuate depending on installation and features. Installation costs will vary based on the design of the house. Costs will increase when structural modifications are required.

Two other factors which should be considered when you purchase a solar water heater are performance and warranty.

Performance

An inexpensive system with low efficiency may seem to be a good economic choice when compared to a more expensive system with better performance. On the other hand, it may pay to invest more in a system that captures and delivers the solar energy more efficiently. The important factor is how much useful heat energy the unit delivers for each dollar invested (BTU per \$).

You should consider the following performance features when choosing a solar hot water system:

Energy Savings - What are the expected energy savings throughout the year that can be expected? Under what

conditions are these savings based? What are the minimum energy savings that are guaranteed? There should be some way for the buyer to see that the system performs as claimed.

Durability - How long must it last to pay for itself in reduced utility bills? How long is it expected to last? Is it weatherproof? Does it have protection against temperature extremes, both boiling and freezing? In the colder parts of Arizona freeze protection must be well designed, even in the southern part of the state some form of freeze protection is necessary. Does the system also have protection against corrosion and leakage? This is important to the long life of the system.

Test - You should require that the system undergo a complete operating test before you make final payment and accept the system. Are all of the controls working and all leaks fixed? Some mechanism should be provided to bleed the system of air that can get into even watertight liquid systems. Controls and valves should protect the system from freezing or boiling. They should also prevent undue losses when the sun is not shining.

Installation - All installations should be done in a thoroughly professional manner. Are all holes made in the building well caulked to prevent leaks? Are the collectors properly anchored to prevent being blown away. Are the pipes, ducts, collectors, and storage tank well insulated to prevent heat losses? All plumbing joints should be correctly made. Remember, the system has to last for many years. Unless the workmanship is of high quality, leaks and malfunctions can develop. These items often do not appear in the first year.

Standards - Does the system meet local building code requirements and the Intermediate Minimum Property Standards for Solar Heating and Domestic Hot Water Systems (HUD)? The manufacturer should put in writing what standards are met such as HUD standards, ASHARE 93-77 or the National Bureau of Standards interim standard. Such standards provide independent assurance of the system's performance. If a seller claims in writing that such standards are met, he is legally accountable for that claim. Also, require proof that the product will perform as advertised. Test results performed by an independent testing laboratory are the best indication of performance. Ask for the report itself, not what the manufacturer states the report claims.

Professional Qualifications - What are the qualifications of the designer, dealer and installer? What are their backgrounds? Are they members of the Arizona Solar Energy Industries Association (ARISEIA) or other industry or professional solar organizations? Is the installer a licensed contractor as required by state law? To check, call the State Registrar of Contractors at 252-5531.

WARRANTIES

Even the best performance claims will provide the consumer with little benefit if the system fails to operate correctly and is not guaranteed to be correctable under warranty. The question of warranties can be one of the most important factors to the consumer in buying a solar system. Make sure you understand the terms of the warranty before you buy. You should consider the following warranty features when choosing a solar hot water system

Coverage - What is covered by the warranty? A good warranty will include the collector, piping, tank, pump, and the other components that make up the system. Know specifically what is and is not covered

Extent - For what period of time is the warranty valid? Is the warranty limited or full? Are only certain features and repairs covered or is the entire system under warranty? Are parts, service, and labor covered? The warranty should provide full coverage for both the operation and the performance of the system for at least a long enough period to assure the proper working of the new system.

Service - If something goes wrong who will repair it? How long will it take to repair? Are parts easily obtainable? Who will supply the service? Find out the cost of service calls for out-of-warranty repairs and regular service. Know what your responsibilities are to keep the warranty current. Have in writing what you must do to obtain warranty service.

Backing - Who is responsible for honoring the warranty, the installer, the dealer, or the manufacturer? What are the financial arrangements, such as contractor's bonds, to assure that the warranty will be honored? Be sure

all terms and conditions of the warranty are written and examine the warranty carefully. Knowing what the warranty covers and who will back it can make a big difference to your pocketbook should problems arise.



Water is pumped to this "flat-plate" collector on the roof and returned to the storage tank in the utility room to supply the domestic hot water.

In summary, the most important points in buying a solar hot water system are:

1. Total costs, including installation;
2. Performance and energy savings capacity of the system throughout the year;
3. The expected lifetime and maintenance of the system and the quality of service and warranty.

Additional steps the consumer should take include:

Don't try a do-it-yourself kit, unless you really have a solid background as a handyman. One or two mistakes could make a system inoperable and you will have no one to blame but yourself.

Comparison shop for the solar system. Contact several solar dealers for estimates. Compare system designs, cost, warranties, and professionalism. The time spent in comparison shopping will be time well spent. The "Arizona Solar Energy Directory" is a 150 page information source describing various Arizona suppliers of solar products and services, tax incentives, and sources of further information. It can be obtained for \$1.50 from the Arizona Solar Energy Research Commission (ASERC) by sending a check or money

order to ASERC: Capitol Tower, Room 502; 1700 W. Washington; Phoenix, AZ 85007. The Commission can also supply general information on solar energy, help you determine the validity of claims made by the seller, and offer other advice.

Compare what the seller said with what is written in your contract. All promises, claims, warranties, and costs should be in writing. If the seller makes verbal claims that are not written on your contract, ask him to write those claims down on your contract before you sign it.

If you have a complaint that cannot be resolved with the seller, notify the consumer affairs office of the local city or county attorney's office, the Arizona Attorney General's office, the Better Business Bureau, the Arizona Solar Energy Industries Association, or the Arizona Solar Energy Research Commission. Be specific in your complaint. Attach copies of all documents to your complaint.



"Concentrating" type solar collectors use a trough shaped mirror to collect solar energy and tracks the sun as it moves across the sky.

More information on solar systems can be obtained by phoning the National Solar Heating and Cooling Information Center at 1-800-523-2929 or the Arizona Energy Hotline at 1-800-352-5499, both are toll free numbers, (271-3303 in the Phoenix area). For the informed consumer, the purchase of a solar water heater can be a wise investment that will save increasing amounts of money year after year.

DO NOT STAPLE OR WRITE IN THIS AREA
STATE OF ARKANSAS
INDIVIDUAL INCOME TAX RETURN

Form AR 1000-L (1977)

Page 3

Name(s) as shown on Form AR-1000-L

Your social security number

Medical and Dental Expenses (not compensated by insurance or otherwise) (See instructions reverse side)	Contributions (See instructions reverse side)
1 One half (but not more than \$150) of insurance premiums for medical care. (Be sure to include in line 10 below)	21 a Cash contributions for which you have receipts, cancelled checks, etc.
2 Medicine and drugs	b Other cash contributions. List donees and amounts. ▶
3 Enter 1% of total of line 14a & b, page 1	
4 Subtract line 3 from line 2. Enter difference (if less than zero, enter zero)	
5 Enter balance of insurance premiums for medical care not entered on line 1	
6 Enter other medical and dental expenses:	22 Other than cash (see instructions reverse side for required statement)
a Doctors, dentists, nurses, etc.	
b Hospitals	23 Total contributions (add lines 21a, b, and 22). Enter here and on line 35. ▶
c Other (Itemize—include hearing aids, dentures, eyeglasses, transportation, etc.) ▶	
	Casualty or Theft Loss(es) See instructions reverse side <i>Note: If you had more than one loss, omit lines 24 through 27 and see instructions on reverse side for guidance.</i>
	24 Loss before insurance reimbursement
	25 Insurance reimbursement
	26 Subtract line 25 from line 24. Enter difference (if less than zero, enter zero)
7 Total (add lines 4, 5, 6a, b, and c)	27 Casualty or theft loss Total . . . Enter here and on line 36 ▶
8 Enter 3% of total of line 14a & b, page 1	
9 Subtract line 8 from line 7 (if less than zero, enter zero)	Miscellaneous Deductions (See instructions reverse side)
10 Total (add lines 1 and 9). Enter here and on line 32 ▶	28 Union dues
Taxes (See instructions reverse side)	29 Energy Saving Equipment
11 State auto and drivers license	30 Other (Itemize) ▶
12 Real estate	
13 State and local gasoline (see gas tax tables)	
14 General sales (see sales tax tables)	
15 Personal property	
16 Other (Itemize) ▶	
	31 Total (add lines 28, 29, and 30). Enter here and on line 37. ▶
17 Total (add lines 11, 12, 13, 14, 15, and 16). Enter here and on line 33 ▶	Summary of Itemized Deductions
Interest Expense (See instructions reverse side)	32 Total medical and dental—line 10
18 Home mortgage	33 Total taxes—line 17
19 Other (Itemize) ▶	34 Total interest—line 20
	35 Total contributions—line 23
	36 Casualty or theft loss(es)—line 27
	37 Total miscellaneous—line 31
20 Total (add lines 18 and 19). Enter here and on line 34 ▶	38 Total deductions (add lines 32, 33, 34, 35, 36, and 37). Enter here and on Form 1000, line 15 ▶

NOTE: IF YOU AND SPOUSE USE FILING STATUS (4) OR STATUS (5) YOUR ITEMIZED DEDUCTIONS MUST BE *prorated* (DISTRIBUTED) BETWEEN YOU AND SPOUSE ON THE BASIS THAT EACH INCOME BEARS TO THE TOTAL OF BOTH.

PERCENTAGE of Deductions Allocated to You=	% SPOUSE=	%
ENTER DOLLAR AMOUNT(S) ON FORM AR-1000-L LINE 15		

INSTRUCTIONS FOR COMPLETION OF PAGE 3.

ITEMIZED DEDUCTIONS:

NOTE: If you checked Line 4. or 5. Page 1 of the Tax Return - AR-1000-L, you must list all of your deductions in the columns provided and pro-rate or (distribute) the total (Line 38) in the same percentage that the separate incomes are to total income.

Enter amount on Line 15 Page 1.

MEDICAL AND DENTAL EXPENSES

Lines 1. - 10. The method of determining State Medical and Dental Expense is exactly the same as reported by the individual on Federal Form 1040, but may differ in amount because of difference in total income reported on Line 14 a & b, Page 1. If you itemize deductions you can deduct, within the limits described, the amount you paid during the year (not compensated by hospital, health or accident insurance, or otherwise) for medical or dental expenses for yourself, your wife, or any dependent who received over one-half of his support from you. **NOTE:** \$150.00 is the maximum total medical insurance premium deduction for both YOU And SPOUSE. The State of Arkansas only allows 5¢ per mile on medical mileage.

TAXES

Lines 11. - 17. If deductions are itemized, you can deduct the following taxes paid: (a) Personal property taxes, (b) Real estate taxes, and (c) Arkansas sales tax (actual or, use Federal Table), (d) Regular auto license fees (not additional \$10.00 for personalized license plates,) and (e) Arkansas gasoline taxes (8.5¢ per gallon, use Federal Table). (f) Income taxes paid to a foreign country on the same income as reported on this return. You cannot deduct Arkansas Income Taxes, Federal Income Taxes, Arkansas Estate Taxes, Improvement Taxes, Federal Social Security Taxes, Hunting and Fishing Licenses, Dog Licenses, Cigarette and Beverage Taxes, Federal Excise Taxes on personal expenditures can be deducted if imposed directly on the taxpayer. Any excise tax paid at the source cannot be deducted. **NOTE:** You cannot deduct taxes on utility services, license fees on motorcycles, boats, and trailers.

INTEREST EXPENSE

Lines 18. - 20. If deductions are itemized you can deduct interest paid on personal debts such as bank loans or home mortgages, and so much of the payment made on an installment contract for goods for personal use as represents interest.

CONTRIBUTIONS

Lines 21. - 23. An individual taxpayer determines his state contributions in the same manner that he determines his Federal contributions, omitting the carryover provisions. Generally, the deduction for contributions may not exceed 20% of Line 14. Page 1. However, an additional 10% is allowable for contributions to churches, a convention or association of churches, tax exempt educational institutions, tax exempt hospitals, and certain medical research organizations. If the husband and wife make a joint return, the deduction for contributions is the total of the contributions made by the spouses, and the limitation is on the total income reported on Line 14, Page 1. Other tax deductible contributions are (a) Contributions of \$25.00 or less per taxpayer made to political campaigns in this State; (b) Unreimbursed amounts spent to maintain an elementary or high school student (other than a dependent or relative), in a taxpayer's home under a program sponsored by a charitable organization. (This deduction is limited to \$50.00 per month.) The law does not allow deductions for gifts to individuals, foreign organizations, or to organizations that attempt to influence legislation. A contribution may be made in cash, checks, money order, or property (not services). If in property, attach a description of the property, date of gift and method of valuation. In addition, for each gift valued at more than \$200.00, set forth any conditions attached to gift, manner of acquisition and cost of other basis if owned by you less than 5 years, and attach a signed copy of appraisal, if any. A copy of the Federal Schedule is acceptable. (c) You may deduct \$25.00 for each pint of blood donated to the Red Cross, or any other non-profit blood collecting organization or agency. (Attach receipt showing proof of donation). Contributions are deductible only in the year of payment, whether the taxpayer is on a cash or accrual basis. Contributions in excess of the limitation cannot be used as a deduction in any other year. **NOTE:** Payments to private academies or other schools for the education of dependents are not deductible as contributions.

CASUALTY OR THEFT LOSS(ES)

Lines 24. - 27. The method of computing casualty or theft losses is the same as Federal without the \$100.00 exclusion. Attach Federal Form 4684 or comparable statement.

MISCELLANEOUS DEDUCTIONS

Lines 28. - 31. If deductions are itemized, you can deduct authorized expenses for which no place is provided elsewhere on the Tax Return such as (a) expenses for safety equipment, dues to unions or professional societies, entertaining customers, tools and supplies, or fees to employment agencies. (b) Individual homeowner taxpayers may deduct from gross income the entire cost of the purchase and installation of energy-saving equipment in any structure located in Arkansas. Energy-saving equipment is defined as follows. Improved insulation, storm doors & windows, motor driven power vents, and solar heating and cooling equipment. This deduction may not be claimed for "energy-saving equipment" purchased for installation in a structure initially being constructed (new home). Please call or write for determination of the deductibility of questionable expenditures for energy-saving equipment. (c) Educational expenses if they meet the same guidelines as imposed by the Internal Revenue Service.

YOU CANNOT DEDUCT: (a) The cost of travel to and from work, entertaining friends, bribes, or illegal payments; (b) Sick pay; (c) Gambling losses except to the extent of gambling winnings; (d) Moving expenses; unless reimbursed by employer; contact our office for proper procedure; and (e) Alimony, child support, or separate maintenance; and (f) Personal bad debts, Hobby Losses or Expenses.

Line 38. Add all itemized deductions and enter total on Line 38. Carry total forward to Line 15, Page 1 of AR-1000-L. If you filed under status 4 or 5 be sure to prorate your deductions.

AD-44A:01

CALIFORNIA ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION
ALTERNATIVES DIVISION

GUIDELINE FOR CERTIFICATION
OF SOLAR ENERGY EQUIPMENT

June 15, 1978

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AD-26:A:1

CALIFORNIA ENERGY COMMISSION
ALTERNATIVES DIVISION
STANDARDS AND PROCEDURES
ACCREDITATION OF TESTING LABORATORIES
FOR
SOLAR COMPONENTS AND SYSTEMS
May 31, 1978

State of California
Energy Commission
Alternatives Division, Solar Energy Office
TIPSE, M.S. 42
1111 Howe Avenue
Sacramento, California 95825

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STATE OF CALIFORNIA
FRANCHISE TAX BOARD

STATEMENT TO SUPPORT SOLAR ENERGY CREDIT
FOR USE BY INDIVIDUALS AND CORPORATIONS

Attach this schedule to your Tax return

TAXABLE YEAR
19__

Year beginning _____ 19__ ending _____ 19__	FOR PRIVACY NOTIFICATION SEE REVERSE SIDE
---	--

NAME OF TAXPAYER	INSTALLATION DATE
------------------	-------------------

Corporate No., Social Security No., Employer No. or
Federal Employees Identification Number (FEIN) :

ADDRESS OF PROPERTY ON WHICH A SYSTEM WAS INSTALLED

DESCRIPTION AND FUNCTION OF SOLAR ENERGY SYSTEM AND CONSERVATION MEASURES (attach detailed statement if necessary)

PURCHASED FROM	INSTALLED BY

Forms should be completed for each system when more than one system is installed.
This system was installed on: Single Family Dwelling Other Than Single Family Dwelling

1. Cost of solar energy system including installation cost	
2. Cost of eligible conservation measures	
3. Total cost (add line 1 and 2)	
4. Computation - Complete (a) or (b)	
(a) Enter 55% of line 3 but not in excess of \$3,000, or	
(b) If the system is installed in "Other Than a Single Family Dwelling" and line 3 exceeds \$6,000, enter greater amount of \$3,000 or 25% of line 3	
5. Part-year residents and nonresidents - Complete (a) and (b)	
(a) Enter percent from line 16(b) Form 540NR	
(b) Multiply amount on line 4(a) or (b) times percent on line 5(a) and enter amount	
6. Enter federal solar energy credit allowed (part-year residents and nonresidents reduce the federal credit to the percent shown on line 16(b) Form 540NR X _____ %)	
7. Tentative solar energy credit (line 4(a) or (b) less line 6) (Part-year residents and nonresidents line 5(b) less line 6)	

8. Solar Energy System Credit - Compute in accordance with specific instruction, then:

(a) **INDIVIDUALS** (other than condominium owner or partner) - Transfer the amount from line 7 to Form 540 or 540NR, page 2, line 62

(b) **CORPORATION** (other than (c) below) - Transfer the amount to Form 100, page 1, line 47(a)

(c) **TWO OR MORE CORPORATIONS** commonly owned or controlled enter:

(1) Ratio $\frac{\text{Total cost (line 3)}}{\text{Total cost of all systems installed in California by this group of corporations (attach schedule)}}$

(2) Multiply ratio times tentative solar energy credit (line 7), enter amount here and transfer amount to Form 100, page 1, line 47(a)

(d) **CONDOMINIUM and PARTNERSHIP** - Determine amount on line 7 applicable to each owner or partner and show the allocation below. Enter this amount on Form 540 or 540NR, page 2, line 62 or Form 100, page 1, line 47(a).

	A	B	C	D
Name				
Social Security No.				
Amount				
	\$	\$	\$	\$

SECTION I. GENERAL REQUIREMENTS

- A.** The solar energy credit may be claimed by individuals, corporations, and partnerships, but not by estates or trusts.
- B.** A solar energy system means equipment which uses solar energy to heat or cool or produce electricity and has a useful life of at least three years.
- C.** To qualify for the credit, a solar energy system must be installed on premises in California that are owned and controlled by the taxpayer at the time of installation. It must be installed between January 1, 1977, and December 31, 1980, and meet the eligibility requirements as determined by the Energy Resources Conservation and Development Commission, 1111 Howe Avenue, Sacramento, CA 95825, telephone (800) 852-7516.
- D.** Energy conservation measures, as defined by the Energy Resources Conservation and Development Commission, shall be eligible for the credit when applied in conjunction with a solar energy system. Conservation measures relating to a solar water heating system shall include, but not be limited to, water heater insulation and shower and faucet flow-reducing devices. Conservation measures relating to solar space heating systems shall include, but not be limited to, ceiling, wall, and floor insulation above that required at the time of original construction.
- E.** The credit is computed on a per system basis. For instance, a taxpayer may receive maximum credit for a system on a single-family dwelling and also another credit for a system on a swimming pool located at that dwelling.
- F.** Condominium owners who install system(s) on premises owned cooperatively by them shall receive the credit in proportion to the number of households served by the system.
- G.** The basic credit is 55 percent of the cost (including installation charges but excluding interest charges) incurred by the taxpayer up to a maximum of \$3,000. This is the maximum credit for a system installed on single-family premises. If, however, a system is installed on other than single-family dwelling premises at a cost exceeding \$6,000, the credit shall be the greater of \$3,000 or 25 percent of the cost (including installation charges but excluding interest charges).
- H.** The credit can only be claimed in the taxable year in which the system is fully installed. Payments made in a prior taxable year may be included as part of the system cost eligible for the credit.
- I.** The credit for the cost of these systems shall be in lieu of any other deduction. The basis of any system for which a credit is allowed shall immediately be reduced by the amount of the credit or reduced to its salvage value at the end of its useful life, whichever results in the lesser basis.
- J.** If a federal income tax credit is enacted for costs of solar energy systems, then the maximum amount allowable for state purposes shall be reduced by the amount of the allowed federal credit.
- K.** To claim the credit, form FTB 3805L must be completed and attached to your California tax return for the income or taxable year of the installation. If more than one system is installed, a separate form must be prepared for each system.

SECTION II ELIGIBILITY LISTS

The Energy Resources Conservation and Development Commission is developing eligibility lists but they are not available at press time. Please contact the Commission at 1111 Howe Avenue, Sacramento, CA 95825, telephone (800)852-7516 for technical system information or other requirements in the guidelines.

SECTION III. TAX CREDIT FORM INSTRUCTIONS

GENERAL INSTRUCTIONS

To qualify, the type of system installed must meet specified criteria (See Section II.) Copies of the completed FTB 3805L must be attached to all returns claiming a solar energy credit. A copy of the same form must also be attached to the returns for partnerships and condominiums that are allocating the credit to other taxpayers. Complete a separate form for each solar energy system.

SPECIFIC INSTRUCTIONS

- Line 1.** Enter cost of solar energy system including installation cost (do not include interest) incurred on premises in California which are owned and controlled by you at the time of installation.
- Line 2.** Enter cost of energy conservation measures applied in conjunction with a solar energy system to reduce the total cost of backup energy requirements. Eligible conservation measures installed with solar space heating shall include, but not be limited to, ceiling, wall, and floor insulation above that required by law at the time of original construction. Eligible conservation measures installed with solar water heating shall include, but not be limited to, water heater insulation jackets, and shower and faucet flow-reducing devices.
- Line 4.** Compute and enter (a) or (b):
- (a) Complete this line if you installed a solar energy system in your residence, residence swimming pool or if installed in "other than a single-family dwelling" and the total cost does not exceed \$6,000.
 - (b) Complete this line if you installed a solar energy system in "other than a single-family dwelling" such as an office, warehouse, car wash, etc., and the cost exceeded \$6,000.
- Line 5.** Part-year residents and nonresidents must reduce the amount on line 4(a) or (b) to the same ratio that California income bears to total income. Enter the amounts as requested in 5(a) and (b).
- Line 6.** If a federal solar energy income tax credit is enacted, enter the amount on line 6. The federal credit (if enacted) shall reduce the State credit so that the combined credit does not exceed the dollar limitations explained at Item G Section I. Part-year residents and nonresidents must reduce the federal credit to the same ratio that California income bears to total income.
- Line 8.** Complete as follows:
- (a) **INDIVIDUALS** (other than condominium owners or partners) complete line 8(a) subject to the general limitation that the maximum allowable tax credit for solar energy systems cannot exceed the tax (540 or 540NR, line 19) less the sum of the credit for personal exemption (\$25 or \$50), the credit for taxes paid to other states (540 or 540NR, line 63), and the credit for child and dependent care expense (540 or 540NR), line 64). Excess solar tax credit may be carried over to succeeding years.
 - (b) **CORPORATIONS** complete as instructed subject to the general limitation that the solar energy credit does not apply against the minimum franchise tax plus the tax on preference income.
 - (c) **TWO or MORE CORPORATIONS** commonly owned or controlled must prorate the amount of the credit in the ratio to which the cost of such system bears to the total cost of such systems for all commonly owned corporations.

- (d) CONDOMINIUM and PARTNERSHIP – Individuals are allowed credit for the proportion their household bears to the total number of households; for example, if your household is one included in a total of 40 households served by the solar energy system, you should enter 1/40 of line 7.

Partners are allowed credit for their distributive share from the partnership.

Condominiums and partnerships must file a separate form FTB 3805L with their returns and disclose the distribution to each affected taxpayer. Each partner or owner must file a copy of the FTB 3805L with their tax return and their total credit is subject to the general limitations stated at lines 8 (a), (b), (c).

- NOTE:**
- (1) The credit for such cost shall be in lieu of any deduction to which the taxpayer otherwise may be entitled, if any.
 - (2) The basis of any system for which a credit is allowed shall either be reduced to its salvage value at the end of its useful life, or reduced by the amount of the credit, whichever results in the lesser basis.
 - (3) Records must be retained in accordance with appropriate statutes to substantiate the credit, credit carryover, and basis.

LOCATION OF FRANCHISE TAX BOARD OFFICES

	Address	Zip Code
Bakersfield	1300 Seventeenth Street	93301
El Monte	9660 Flair Drive	91731
Fresno	2550 Mariposa Street	93721
Long Beach	3530 Atlantic Avenue	90807
Los Angeles	3200 Wilshire Boulevard	90010
Oakland	1916 Broadway	94612
Sacramento	1912 I Street	95814
San Bernardino	330 North D Street	92401
San Diego	1350 Front Street	92101
San Francisco	345 Larkin Street	94102
San Jose	1570 The Alameda	95126
Santa Ana	28 Civic Center Plaza	92701
Santa Barbara	41 Hitchcock Way	93105
Santa Rosa	447 College Avenue	95402
Stockton	31 E. Channel Street	95202
Van Nuys	8155 Van Nuys Boulevard	91402

TELEPHONE CALLS FROM WITHIN CALIFORNIA ARE TOLL FREE
Use Only the Corresponding Number Listed Below:

Sacramento Metropolitan Area *	Information	(916) 355-0370
	Farms	(916) 322-8932
Area Codes 209, 408, 415, 707, and 916 (except Sacramento)	Information	(800) 852-7050
	Farms	(800) 852-7700
Area Codes 213, 714, and 805	Information	(800) 852-5711
	Farms	(800) 852-7700

* Also from outside California, but calls are not toll free.

OUT OF STATE OFFICES:

Chicago, IL	150 N. Wacker Drive	60606	(312) 332-4025
New York, NY	1271 Avenue of the Americas	10020	(212) 581-0100

California Solar Tax Credit



What Solar Systems Qualify?

The three most common ways to use solar energy are domestic water heating, swimming pool or hot tub heating, and space conditioning (heating and cooling). Solar electricity generation systems also qualify for the solar tax credit. Wind energy systems presently do not qualify but may in the future.

The tax credit applies to both active solar systems and passive solar design. In an active solar system, the collectors and other equipment are isolated from the living or working space of the structure. A swimming pool solar heater is an example of an active system. The solar collectors are usually located on the roof of the house or garage, and the filter pump circulates the pool water through the collectors for heating and back to the pool. Another type of active solar system provides a house with hot water by carrying cool water to rooftop collectors for heating, then back to a storage tank, and finally to a back-up conventional water heater which kicks on only if the water is not hot enough for domestic use.

There are some specific requirements for the placement of solar collectors. To qualify for the tax credit, collectors for space heating must face within 45° of true south if mounted on a wall, or 60° of true south if mounted on the roof. A third option is to mount the collectors horizontally. Under certain circumstances, collectors for domestic or pool water heating can face east or west instead of south.

In passive solar design, architectural elements that are part of the living and working space act as solar collectors and storage themselves, rather than relying on external equipment. Three important components of passive design are solar collection, such as large areas of south-facing glass to let in the warmth of the winter sun; storage, such as a concrete floor or wall in line with the windows to absorb the heat and radiate it back into the building when needed; and solar control, such as shading the windows from the intense heat of the summer

sun. Passive design also provides effective cooling in hot summer climates.

Swimming pool covers also qualify for the solar tax credit. "Solar" pool covers are clear and allow more solar energy to heat the depths of the pool. "Thermal" pool covers are opaque and transfer less solar energy. Both covers reduce evaporation, which is the major cause of heat loss in swimming pools.

Of course, any solar installation must comply with local building codes to be eligible for the credit.

What About Conservation Measures?

Conservation measures such as insulation, weatherstripping, and water flow restrictors are eligible for the solar tax credit only when installed in conjunction with a solar system to improve the system's performance. Conservation measures must be consistent with system usage. For example, if you install a solar space heating system, and you insulate the walls of your home at the same time, then the insulation is eligible for the tax credit. But if you insulate your walls when installing a solar swimming pool heater, the insulation does not qualify for the tax credit.

To qualify for the solar tax credit, a domestic solar water heating system must include an insulated jacket for a back-up water heater that does not have an insulation value of at least R-12, and water flow restrictors in shower heads and hot water faucets in new buildings. Rooms heated or cooled with an active solar space conditioning system must have weatherstripping and attic insulation in accessible attic spaces above heated rooms. These are required conservation measures, but additional conservation measures installed with a solar system also are eligible for the tax credit.

How Does It Work?

The solar tax credit is subtracted from the state income taxes you owe. It is **not** merely a deduction used in computing the total amount of income tax. If your tax credit is greater than your total state tax bill, the unused credit is carried over to following years, until you've received the full credit due.

For example, if you install a solar water heating system that costs \$2,000, you will be entitled to a tax credit of \$1,100. If you owe a state income tax of \$400 that year, your credit would offset your tax liability, and you would still have the remaining credit of \$700 to apply in later years.

$$\begin{array}{r} \$2,000 = \text{cost of solar water heating system} \\ \times 55\% \\ \hline \$1,100 = \text{tax credit} \end{array}$$

$$\begin{array}{r} \$1,100 = \text{state tax credit} \\ - 400 = \text{state income tax owed} \\ \hline \$700 = \text{credit for next year!} \end{array}$$

If the federal government also allows a federal income tax credit for solar devices, your combined federal and state tax credit cannot exceed the credit allowed by the state. You must use the federal tax credit first, then take the state credit until you reach the allowable total.

Are Warranties Required?

The guidelines and criteria for the solar tax credit mandate warranties for solar installations. Every active solar energy system installed after April 1, 1978 must be covered by a one-year parts and labor warranty by the installer to qualify for the solar tax credit. If you build your own system, you do not need an installer's warranty. The guidelines also require that every solar collector and storage unit sold after April 1, 1978 be covered by a full three-year manufacturer's warranty to repair defects at no charge. Corrosion is covered by a limited warranty. Pool covers must have a three-year manufacturer's warranty; for the first two years, defects must be repaired at no charge.

Jump on the California solar bandwagon, and save yourself up to \$3,000!

In September, 1977, Governor Brown signed into law landmark legislation allowing a state income tax credit of 55 percent of the cost, up to \$3,000, to purchase and install solar energy systems in a single family home.

If a solar system is installed in a building other than a single family residence, and the cost is greater than \$6,000, the tax credit is 25 percent or \$3,000, whichever is greater.

The tax credit is the largest financial incentive in the country to encourage the use of solar energy. But if you take advantage of the tax credit, you will benefit in other ways. Your monthly utility bills will be lower because sunlight is free, and you will be doing your part to conserve our limited energy resources.

Who Can Take It?

To receive the solar tax credit, you must own the property at the time the solar system is installed. The credit applies to any system installed between January 1, 1977, and December 31, 1980.

The tax credit is available to builders as well as homeowners, to encourage developers to include the benefits of solar systems in new homes.

Condominium owners who install a solar system on cooperatively owned property are entitled to the tax credit in proportion to the number of households served by the system.

How Do I Apply For The Credit?

Form 3805L is available from the Franchise Tax Board for filing for the solar tax credit. The completed form should be attached to your standard state income tax return (Form 540), which also contains a line for entering the tax credit.

The California Energy Commission has developed guidelines for the solar tax credit. These criteria apply to all systems installed after January 1, 1977.

For more detailed technical information on solar systems, how they work, and how to qualify for the tax credit, write the California Energy Commission, 1111 Howe Avenue, Sacramento CA 95825, or call toll free (800) 852-7516. Specific tax information is available from the nearest office of the Franchise Tax Board.



1977

COLORADO STATE CORPORATION INCOME TAX RETURN FORM 112

(DOC CODE 23)

or other taxable year beginning _____, 1977, ending _____

Name	FOR REVENUE DEPARTMENT USE ONLY
Number and street	
City or town, State and ZIP code	
← PLACE LABEL ON FORM YOU FILE ← MAKE ANY NECESSARY CORRECTIONS	

A. This return is being filed for:

(42) A corporation not apportioning income;

(43) A corporation doing an interstate business apportioning income under the Colorado Income Tax Act (Schedule A, Page 2);

(44) A corporation doing an interstate business apportioning income under the multistate compact (Schedule AS-4);

(45) A corporation electing to pay a tax on its gross Colorado sales under the multistate compact;

(46) A "Subchapter S" corporation;

(47) A "DISC" corporation.

B. Kind of business in detail _____

C. The corporation's books are in care of (name and address):

D. Has the Internal Revenue Service made any adjustments in the corporation income or tax or have you filed amended federal income tax returns at any time during the last four years? _____

E. If so, which years? _____

F. Did you file amended Colorado returns to reflect such change or submit copies of the Federal Agent's Report? _____

G. Is this a consolidated return? _____

H. Is this corporation a member of an affiliated group as defined on form 112-AS? If so, attach form 112-AS.

Acct. No. (Colo. I.D. No.)	1. Federal taxable income (line 30, form 1120; line 28, form 1120-S) (921)(922) \$
Federal employer I. D. No.	2. Modifications increasing federal taxable income:
Business code number per federal return	(a) State or municipal bond interest \$
Give year corporation began doing business in Colorado	(b) The federal net operating loss deduction
<input type="checkbox"/> CHECK THIS BLOCK IF THIS RETURN IS UNDER EXTENSION. GIVE EXTENDED DUE DATE.	(c) Colorado income tax deduction
MAKE CHECKS PAYABLE TO THE COLORADO DEPARTMENT OF REVENUE	(d) Depreciation on alternative energy device
MAIL TO THE COLORADO DEPARTMENT OF REVENUE 1375 SHERMAN STREET DENVER, COLORADO 80261	(e) Total of lines 2(a) through 2(d) (923) \$
Checks or money orders for amount due should not include payment for tax on any other document or return. Use separate checks for other documents.	3. Total of lines 1 and 2(e) \$
DO NOT WRITE IN THIS SPACE	4. Modifications decreasing federal taxable income:
CNOT (908) _____	(a) Federal bond interest \$
COGT (918) _____	(b) Colorado income tax refund
	(c) I.R.C. section 78 dividends
	(d) Alternative energy device deduction
	(e) Other—attach explanation
	(f) Total of lines 4(a) through 4(e) (924) \$
	5. Modified federal taxable income—line 3 less line 4(f) (925)(926) \$
	6. Colorado taxable income before net operating loss deduction (927)(928) \$
	7. Less: Colorado net operating loss deduction (929) \$
	8. Colorado taxable income—line 6 less line 7 (930)(931) \$
	9. Tax: Check proper rate: <input type="checkbox"/> 0% for a "Subchapter S" Corporation or for A "DISC" corporation: <input type="checkbox"/> 1/2% Gross Receipts: <input type="checkbox"/> 5% Normal Tax (906) \$
	10. Oil and Gas Production Tax, line 4, Form 104-G (917) \$
	11. Total tax \$
	12. Oil and gas tax withheld (902) \$
	13. Payments and credits on estimated tax (903) \$
	14. Payments on extension (903) \$
	15. Total credits \$
	16. Balance of tax due \$
	17. Penalty (901) \$ Interest (911) \$ \$
	18. Total due—\$5.00 penalty for any check returned for insufficient funds \$
	19. Overpayment \$
	20. Overpayment to be credited to 1978 estimated tax (914) \$
	21. Overpayment to be refunded (904) \$

Under penalties of perjury in the second degree, I declare that I have examined this return (including accompanying schedules and statements) and to the best of my knowledge it is true, correct, and complete. If prepared by a person other than the taxpayer, his declaration is based on all information of which he has any knowledge

(Date)

(Signature of officer)

(Title)

(Date)

(Name of individual or firm preparing return)

(Address)

CORPORATION INCOME TAX RETURN

Preadressed Label. If your income tax booklet has a preaddressed label on the front cover, please peel off that label and attach it to the income tax return that will be filed. Make any necessary correction to the label.

Litter Assessment. Beginning with fiscal years ending in 1978, businesses with gross Colorado sales of, or rental income from, tangible personal property, or service income, of more than \$50,000 will be subject to an annual litter assessment. The assessment will be due and payable eight months after the close of the taxable year.

Present plans are not to collect this assessment through the income tax return. This is merely a notice to the taxpayers affected that the assessment exists.

Declaration of Estimated Tax. Every corporation subject to the Colorado income tax must file a declaration of estimated income tax if its tax liability is expected to exceed \$1000 plus estimated credits. Estimate Form 112-ES and instructions will be furnished upon request.

Oil and Gas Production Tax. Gross income, including royalties, from oil and gas produced in Colorado (but not from oil and gas produced from oil shale) during the taxable year is specially taxed in addition to the normal tax due thereon. A separate schedule, Form 104-G, must be filed and specific instructions are available upon request to aid in filing this schedule. Oil and gas produced on and after January 1, 1978, will not be subject to the oil and gas gross production tax but will instead be subject to the Colorado severance tax on oil and gas.

"Subchapter S" Corporations. A small business corporation under Subchapter S of the Internal Revenue Code which has a "Subchapter S" election in effect shall not be subject to taxation under this article.

A "Subchapter S" corporation doing business in Colorado must, however, file a Colorado corporation income tax return, Form 112, filing in all schedules insofar as they are applicable. It should not complete Schedule A or Schedule AS-4, the apportionment of income schedules, as the Colorado resident shareholders must report their entire income from or with respect to the "Subchapter S" corporation as subject to the Colorado income tax, and the shareholders who are nonresidents of Colorado would not report any of the "Subchapter S" income to Colorado as such income is in the nature of dividend income.

A shareholder's Colorado basis in "Subchapter S" stock shall be his Colorado basis as of January 1, 1965 (or the first day of his fiscal year beginning in 1965) adjusted thereafter in the same manner and in the same amount as is his federal basis.

Filing Requirements. Every corporation, including "Subchapter S" corporations, doing business in Colorado or deriving income from Colorado sources must file a corporation income tax return with Colorado. Any corporation that is exempt from filing a federal income tax return shall be exempt from filing a Colorado income tax return except that it shall not be so exempt if it must file a federal return of unrelated business income. Any corporation that is required to obtain a Federal tax exemption determination letter must file a copy of such letter with the Department of Revenue. Any insurance company subject to the tax imposed on gross premiums by section 10-3-209, C.R.S. is specifically exempt from the Colorado income tax and from filing Colorado income tax returns.

Rate of Tax. Corporations are taxable at the rate of 5% of their Colorado taxable income.

See Page 3 of these instructions for the gross receipts tax.

Time and Place. Returns are due on the 15th day of the fourth month following the close of the taxable year. Extension of time for filing (not to exceed three months for any one extension) will be granted by the Director upon submission of an application therefor tendered upon the proper form (Form DR-158C, available upon request), giving sufficient reasons for the extensions, and accompanied by payment of the estimated balance of income tax due at that time. An approved federal extension of time for filing will not be accepted in lieu of an approved Colorado extension. Filing of the return terminates the extension.

Returns must be filed with the office of the Colorado Department of Revenue, 1375 Sherman Street, Denver, Colorado 80261.

Accounting Period and Method. The corporation's accounting period and method for Colorado income tax purposed must be the same as for federal income tax purposes.

Consolidated Returns. An affiliated group of corporations as defined in section 1504 of the U.S. Internal Revenue Code may elect to make a consolidated Colorado corporation income tax return. The making of a consolidated return shall be upon the condition that all corporations which at any time during the taxable year have been members of the affiliated group consent to be included in such return. The making of a consolidated return shall be considered as such consent. Such election may not be revoked in less than four years unless approved by the executive director.

INSTRUCTIONS FOR PAGE 1

Enter on line 1 of page 1 the federal taxable income (or loss) from Federal Form 1120 or 1120-S.

MODIFICATIONS

Enter on line 2(a) all interest income (less bond premium amortization) of the corporation from state or municipal obligations that is not included in the federal taxable income except such interest which is specifically exempt from Colorado income tax by the Colorado statute authorizing the issuance of such obligations.

Such interest to be added back shall be net of any expenses required to be allocated to such interest income by the Internal Revenue Code for federal income tax purposes.

Enter on line 2(b) the total amount of any federal net operating loss deduction claimed in the computation of the federal taxable income.

Enter on line 2(c) the total amount of any Colorado income tax, except the Colorado oil and gas gross production tax, to the extent it was claimed as a deduction in the computation of the federal taxable income.

Enter on line 2(d) any depreciation claimed as a deduction in determining taxable income in respect to an alternative energy device claimed as a modification for Colorado income tax purposes. See modification item 4(d).

Enter the total of lines 2(a) through 2(d) on line 2(e), and enter the total of lines 1 and 2(e) on line 3.

Enter on line 4(a), to the extent included in federal taxable income, any interest or dividend income on obligations or securities of any authority, commission, or instrumentality of the United States.

Enter on line 4(b), to the extent included in federal taxable income, any refund of Colorado income tax except the refund of Colorado oil and gas production tax.

Enter on line 4(c) any amount included in federal taxable income by reason of the gross-up provisions of Section 78 of the Internal Revenue Code.

Enter on line 4(d) an amount equal to the cost that is properly attributable to the installation, construction, reconstruction, remodeling, or acquisition of an alternative energy device for use any building owned by the corporation, to the extent such device is completed or acquired and is placed in service during the taxable year. The alternative energy device is not deemed to be placed in service until the premises are occupied by the owner or tenant.

Alternative energy device means any system or mechanism or series of systems or mechanisms using solar radiation, wind or geothermal resources and includes the use of a fluid-to-air heat pump operating on a fluid reservoir heated by solar radiation or a geothermal resource.

In the case of joint ownership of property in which an alternative energy device has been installed, the deduction shall be apportioned between the qualifying owners thereof in the ratio of their ownerships of the property. Attach a reasonable comprehensive explanation of any alternative energy device modification claimed.

Enter on line 4(e), to the extent included in federal taxable income, the excess of the Colorado basis in any asset sold or otherwise disposed of, over the federal basis in the asset.

Enter on line 4(e), to the extent included in federal taxable income, any income or gain previously reported to Colorado as taxable income.

Enter on line 4(e) any additional depletion that would be allowable if the allowable federal percentage depletion on oil shale were 27½% and the crushing, retorting, condensing, and other processes by which oil, gas, or both oil and gas are removed from oil shale were deemed to be treatment processes considered as mining.

Enter the total of lines 4(a) through 4(e) on line 4(f).

Enter on line 5 the net of line 3 less line 4(f). The resulting figure is the modified federal taxable income that will be the Colorado taxable income to be entered on line 6 for those corporations that are not permitted to apportion income away from Colorado. For those corporations that do apportion income enter the amount from line 5, page 1, on line 1 of Schedule A, page 2, or on line 6 of separate schedule, Form AS-4.

APPORTIONMENT OF INCOME

Every corporation doing business in more than one state, including Colorado, has an annual election to apportion income by use of Schedule A, page 2, Form 112, which is the method prescribed by the Colorado Income Tax Act; or by use of Form AS-4, the Multistate Compact Apportionment Schedule. The election for any given year may not be changed after the due date of the return or the date the return is filed, whichever is later.

Income may not be apportioned in any other manner unless prior permission in writing has been obtained from the Director of Revenue.

Instructions for Form AS-4 are on the reverse of that form. The instructions immediately following are for the preparation of Schedule A.

For purposes of apportioning income under the Colorado Income Tax Act, "doing business" in a state has been defined as having income arising from the activity of one or more employees located in that state; or arising from the fact that real or tangible personal property is located in that state for business purposes, and that such property is actually used for such purposes; or both. This definition applies equally in determining when a foreign corporation is doing business in Colorado or when a Colorado corporation is doing business outside of Colorado.

If the corporation qualifies to apportion income and the income is to be apportioned under the Colorado Income Tax Act of 1964, enter on line 1 of

Schedule A the modified federal taxable income from line 5, page 1 of the return.

Enter on line 2 of Schedule A, the designated items of nonbusiness income, less related expenses, that are to be directly allocated.

The items to be directly allocated are as follows:

1. Interest, which shall not include service or carrying charges or discount earning, received from intangible personal property not used in connection with the business of the corporation and not properly included in the inventory thereof, less related expenses, shall be allocated to the state in which the principal place of business is located.

2. Dividends received, and gains and losses realized, from the sale of corporate stocks, less related expenses, shall be allocated to the state in which the principal place of business of the corporation is located.

3. Royalties or similar income received from the use of patents, trademarks, copyrights, secret processes, and other similar intangible rights, less related expenses, shall be allocated to the state in which the principal place of business of the corporation is located.

Royalties from gas, oil, mining, timber and other similar interests, to the extent such royalties do not constitute one of the principal business incomes of the corporation, shall be construed to be rents and may be directly allocated under paragraph 4 immediately following.

4. Rents received from the lease or rental of real property or tangible personal property, less related expenses, shall be allocated to the state in which the property is located during the period for which the rent is earned.

5. Gains or losses realized from the sale of capital assets, such as shall consist of real property or tangible personal property, less related expenses, shall be allocated to the state in which such assets are located.

The term capital assets, as here used, shall be limited to the definition of capital assets as given in Sec. 1221 of the Internal Revenue Code. Thus the gain or loss from the sale of tangible personal or real property used in the trade or business of the corporation will not be subject to direct allocation.

Related Expenses. Related expenses include both directly related and indirectly related expenses. When any income, gain or loss is directly allocated, any expenses directly connected with such income, gain or loss shall also be directly allocated. There shall also be directly allocated indirectly related expenses in an amount to be determined from the books and records of the taxpayer. If indirectly related expenses are not directly allocated, or if such books and records do not properly reflect such indirectly related expenses, then the Director of Revenue will make a determination of the amount of the indirectly related expenses to be allocated.

Enter on line 3 of Schedule A the net of line 1 less 2(g). This amount will represent that portion of the modified federal taxable income subject to apportionment to Colorado by formula. Enter one-half of line 3 on line 4(f) and one-half on line 5(g).

This method of apportioning income provides for a two-factor formula: a revenue factor and an average property factor.

The revenue factor (to be determined on lines 4(a) through (f) and applied on line 4(f)) shall be determined by including in Colorado sales all sales where the goods, merchandise and property are ultimately delivered in Colorado, and, in the case of a Colorado corporation, all sales where the goods, merchandise and property are ultimately delivered in a state where, according to the Colorado Income Tax Regulations, the corporation is not doing business. The place where the order is taken or approved or the place where the title to property passes shall be disregarded for the purpose of determining sales. There also shall be included in Colorado sales, revenue from all personal services rendered in Colorado, rents from tangible personal property used in connection with the business, and interest and service or carrying charges received from intangible personal property used in connection with business.

**TAX EXEMPTION APPLICATION
SOLAR ENERGY SYSTEMS**
M-44 REV. 1-78

MUNICIPALITY OF

Prescribed by
The State Tax Commissioner
9-76

INSTRUCTIONS

1. Prepare in duplicate — Original to Assessor, Duplicate to Taxpayer.
2. Timely filing — Failure to file within 30 days following the annual assessment date automatically waives the right to this exemption
3. The Solar system described herein must meet standards established by regulation by the Commissioner of the Planning and Energy Policy in order to qualify for this exemption.
4. Only the assessed value of the Solar System described herein may be claimed.
5. See reverse for complete act governing this application.

**IMPORTANT!
READ THIS BEFORE FILING OUT THIS FORM**

TO: The Assessor, Municipality of

I hereby apply for property tax exemption for the installation of a Solar Energy system as authorized by the provisions of Section 12-81 (56) of the 1977 Revision of the Conn. General Statutes.

APPLICANT'S NAME	POST OFFICE SERVING APPLICANT
------------------	-------------------------------

APPLICANT'S MAIL ADDRESS (No. and Street)	(City or Town)	(State)	(Zip)
---	----------------	---------	-------

PHYSICAL LOCATION (No. and Street) OF SOLAR SYSTEM DESCRIBED BELOW.	(City or Town)	(State)	(Zip)
---	----------------	---------	-------

DOES THIS SYSTEM MEET THE STANDARDS ESTABLISHED BY THE COMMISSIONER OF PLANNING AND ENERGY POLICY? <input type="checkbox"/> YES <input type="checkbox"/> NO	DATE CONSTRUCTION OF THIS BUILDING WAS COMMENCED. mo. / day / yr.
--	--

DETAILED DESCRIPTION OF THE SOLAR SYSTEM FOR WHICH THIS APPLICATION IS FILED

EXEMPTION CLAIMED	As defined in 12-81 (56) of The Connecticut General Statutes, on reverse.	VALUE \$	
CERTIFICATION	I hereby certify that the statements made herein, have been examined by me, and, to the best of my knowledge and belief, are true and correct.		
	OWNER OR OWNERS		
ASSESSOR'S USE	OWNER OR OWNERS		
	DATED AT _____ (Municipality) THIS _____ (Calendar date) DAY OF _____ 19 _____ (Year)	AUTHORIZED SIGNATURE _____ MO / DAY / YR	
	<input type="checkbox"/> APPROVED <input type="checkbox"/> DIS-APPROVED		

APPLICATION FOR VALUATION UNDER SECTION 20d-3
OF THE REVENUE ACT OF 1939 RELATIVE TO SOLAR
ENERGY HEATING OR COOLING SYSTEMS

TO: Supervisor of Assessments, County Assessor, or Board of Assessors
_____ County _____ Township

1. The undersigned _____, being the person liable for taxes on certain real property hereinafter described, hereby requests that the said real property be valued for the assessment year January 1, 19____, as provided in Section 20d-3 of the Revenue Act of 1939, as amended.
2. Legal Description and Index Number as shown on tax bill. (Use reverse side if necessary)
3. The undersigned states that he (she) _____ is the owner of the above described property; that improvement(s) thereon are equipped with a solar energy system used for _____; and that the total (Heating) (Cooling) (Heating and Cooling) cost of installing such system was \$_____.
4. The undersigned understands that when the solar heating or cooling system so valued ceases to be used as a means of heating or cooling the improvement(s), the owner of the real property must, within 30 days, notify the Supervisor of Assessments, County Assessor or Board of Assessors, as the case may be of that fact; and that it is a Class B misdemeanor to fail to submit such information or to knowingly submit any false information in or relating to this application.

Applicant _____

Applicant's Address _____

Date: _____, 19____, A.D.

Subscribed and sworn to before me this

_____ day of _____, 19____, A.D.

Notary Public

**Illinois
Department of
Business and Economic
Development**

Division of Energy



The Illinois Program For Comprehensive Solar Energy Legislation

June 1977

Printed by Authority of the State of Illinois

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IOWA ENERGY BULLETIN

June, 1978 Vol. 4, No. 6

Published by Iowa Energy Policy Council

Home Solar Energy Grants

The Iowa Energy Policy Council (EPC) is making a total of \$24,500 available to fund seven or more residential solar projects in Iowa. Governor Robert D. Ray announced the program on May 22.

The cost sharing solar demonstration grants are for single family dwellings. Up to \$3,500 will be awarded as a 50 percent match for the cost of each project.

"These solar grants will help

demonstrate the feasibility and economics of using solar energy," said Ray. "They will provide valuable data on the energy that solar installations can provide for Iowa residents. That information isn't available now to the EPC."

Applications are being accepted for active, passive and hybrid solar energy systems for both new construction and retrofitting homes. Projects for space heating and cooling may also include domestic hot water heating, swimming pool heating

and other solar applications.

Each grant recipient must own and occupy the dwelling and agree to furnish monthly energy data from the residence for three years.

Judges will consider solar system design, cost effectiveness and energy conservation features. Geographic distribution and variety of solar systems will also be considered. For applications, write or call the EPC.

INSULATION HEARINGS

June 20-21

"Ripe for exploitation" is how Julian Garrett describes the area of energy saving products. Garrett is director of the Consumer Protection Division of the Iowa Attorney General's Office, Department of Justice.

His office and the Iowa Energy Policy Council (EPC) will sponsor public hearings on insulation problems and possible corrective measures in Iowa. The hearing will be held June 20 and 21, 1978, from 9 a.m. to 5 p.m. at the Old Main Auditorium at Drake University in Des Moines.

"We've been made aware of companies allegedly

overstating product claims, of difficulties during and following the installation process, and of insulation materials which may not be properly treated with fire retardant," said Douglas Carlson, assistant attorney general in the Consumer Protection Division.

"If consumers don't have confidence in insulation products and in the workmanship of the installers, they will shy away from this important way to cut home energy consumption," said EPC Director Rodson L. Riggs. "It's essential that we clear the air on these problems as soon as possible."

(continued, page 8)

SOLAR BUSINESSES IN IOWA



United States Department of Energy

November 1977

IOWA

SOLAR EQUIPMENT BRANDS NOW AVAILABLE IN THE STATE

COLLECTORS AND SUBSYSTEMS:

AIR AND/OR LIQUID

<u>Brands</u>	<u>Cities</u>	<u>See Page</u>
ALCOA	Coralville	5
ARKLA	Des Moines	11
CHAMBERLAN	Waterloo	22
DELTA	West Branch	26
ENERGY KING	Creston, North Liberty & Rock Valley	6, 7, 16 18
FLO-THRU	Denver	3
GARDINER	North Liberty	15
HAWTHORNE	North Liberty	15
HELIOTROPE	North Liberty	15
HONEYWELL	Rock Valley	18
LARGO	Denver	8
LENNOX	Marshalltown	14
NORTHRUP	Des Moines	11
NRG	Coralville	5
PPG	Des Moines	9
PURGE COIL	Marshalltown	14
SEMI-SERPENT	Denver	8
SINGER	Des Moines	11
SOLAIRE	Des Moines	11
SOLAR-AIRE	Cedar Falls, Denver, North Liberty, Oskaloosa, Spillville, Waterloo	3, 8 15, 16, 17 21, 24
SOLAR INC.	Ankeny	2
SOLARMATE	Marshalltown	14
SOLARON	Des Moines, Sioux City, Waterloo	12, 19 23
SUNCEIVER	Denver	8
VACU-FLOW	West Branch	25
WINDOW-PAK	Coralville	5

* NOTE: Not all pages in this survey are listed on the above index.

This listing was compiled by Gene Wenzl, Department of Energy, Region VII.

SOLAR DEMONSTRATION GRANTS...

FOR IOWA RESIDENTS

The Iowa Energy Policy Council is seeking Iowa residents to participate in cost sharing solar demonstration projects.

Up to \$3,500 will be provided in a 50 percent match of funds for single family dwelling solar projects. Each grant recipient must own or occupy the dwelling and agree to furnish monthly energy data from the residence for three years.

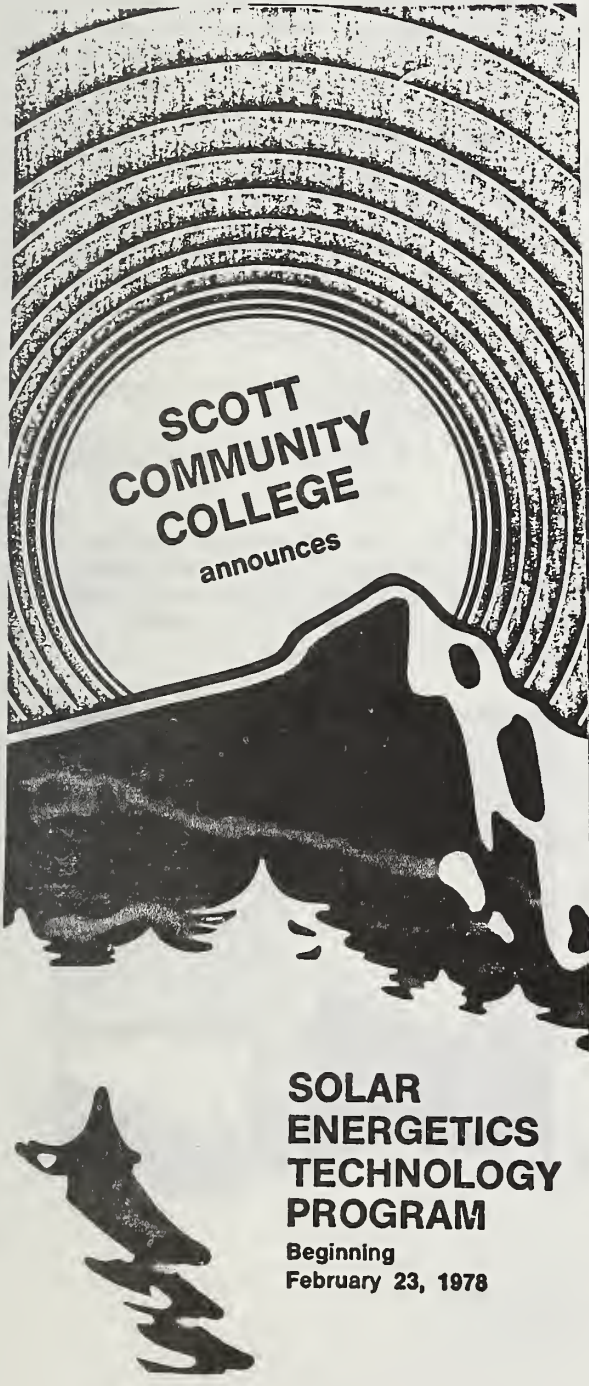
Applications are being accepted for active, passive and hybrid solar energy systems for both new construction and retrofitting homes. Projects for space heating and cooling may also include domestic hot water heating, swimming pool heating and other solar applications.

A total of \$24,500 is available to fund seven or more projects in Iowa. Judges will consider grant applicants on the basis of solar system design, cost effectiveness and energy conservation features. Geographic distribution and variety of solar systems will also be considerations.

For applications, write or call the Iowa Energy Policy Council, Solar Demonstrations, 215 E. Seventh, Des Moines, Iowa 50319 (515) 281-4420.

**SCOTT COMMUNITY
COLLEGE**

BELMONT ROAD
BETTENDORF, IOWA 52722
(319) 359-7531



The two year Solar Energetics Technology Program has been designed to prepare students for employment as technicians in:

1. Research Laboratories
2. Solar Energy Systems Installations
3. Assistants to Designers and Architects
4. Systems Maintenance
5. Other Occupations Related to the Energy Industry

After completion of this program, students will have the necessary background and skills to enter into the solar industry as a technician. The student will be prepared to perform installation and service functions to support architects and engineers designing and developing solar energy systems, maintenance of installed units, sizing, designing, and installing specific solar units with the proper storage. Also, the student upon completion of this total 8-quarter (2 year) program, will be proficient in heating and air conditioning, sheet metal work and all installation of domestic and industrial units. However, the student will be able to "spin-out" with proficiency in specific areas any time after the 4th quarter. The Solar Energetics Technician Program is designed to train individuals to properly install, service, repair, and maintain UNITARY heating, ventilating, and air conditioning equipment and accessory items common to this equipment. Examples of accessories would include such items as humidifiers, air cleaners, air purifiers, exhaust systems, etc.

**SOLAR
ENERGETICS
TECHNOLOGY
PROGRAM**

Beginning
February 23, 1978

The component Solar Energetics Technician is trained to be familiar with and understand terminology and functions of all unitary equipment, component parts and related accessories. This includes the solar heat collection and transfer cycles and the refrigeration (cooling) cycle. To read, understand and interpret heating, ventilating and air conditioning plans and specifications. To read, understand and interpret the various types of electrical wiring diagrams used in this industry. To trace out and test electrical circuits used on all equipment included in this category. To understand and interpret piping diagrams, hydronic properties and chemistry. To understand the fluidics of air and hydronic cycles. To understand the functions and principles unique to solar hydronic and air systems. To systematically check and be capable of servicing, maintaining, and repairing (including changing of or replacing) component parts of all unitary equipment and accessories common to this equipment.

* Unitary equipment consists of one or more factory made assemblies or packages.

The 8 quarter (2 year) Solar Energetics Technologist Program has three spin-off entry level employment opportunities within the industries:

1. Heating-Air Conditioning Program — 4 quarters
2. Domestic Heat and Air Conditioning Program with Solar emphasis — 5 quarters
3. Industrial Heating and Air Conditioning with Solar emphasis — 6 quarters

Applicants for the Solar Energetics Technician Program will be selected on the basis of their mental and physical skills, which will indicate their ability to profit from the Program and succeed as Solar Technologists. Applicants for the Program are tested, interviewed and counseled by the members of the Solar Program Staff assisted by the Office of Student Personnel. Student Personnel Services offer counseling services to aid the student in his personal exploration and development of self. Appointments may be made to see the counselors.

TUITION \$150 per quarter for in-state students

\$225 per quarter for out-of-state students

Return the enclosed application with a \$15 non-refundable fee. For any further information, contact the Admissions Office at Scott Community College (319) 359-7531.



SOLAR LEGISLATIVE PRIORITIES

— IOWANS RESPOND —

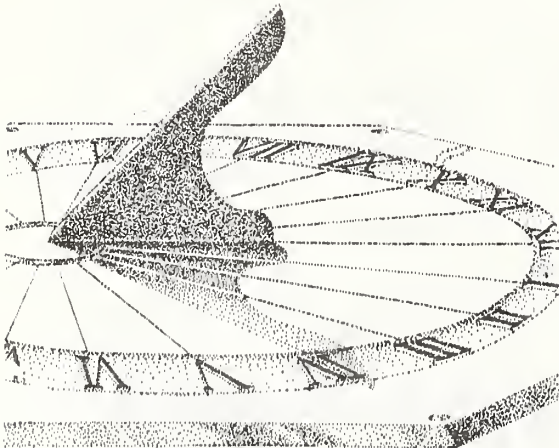


Prepared
by the Iowa Energy Policy Council

February, 1978

WHAT MAKES SOLAR ENERGY TICK?

the principles of solar energy
conversion simply explained



WHAT MAKES SOLAR ENERGY TICK?

Solar energy has received much attention recently. But its true nature is still an enigma to most people. This pamphlet explains the mechanical principles and devices which make solar collection and conversion possible.

Solar energy can be understood either in a broad sense or in an obvious, limited one. We will deal mostly with the second one, but the first should be explained:

Most of our present energy comes from the sun, although using the sun's ray directly is new (to Americans, at least). Coal is a product that is made of petrified plant material and plants get their energy for food production—"photosynthesis"—from the sun. Even human labor is an indirect result of solar energy, because humans eat animals that eat plants.

The changing of plant matter back into raw energy before the plants reach the petrified coal stage is called "biomass conversion" or, more simply, "bioconversion."

The sun also causes air movement, so wind energy is a form of solar energy, one which is being increasingly exploited.

The following paragraphs discuss methods for collection and utilization of the sun's energy. All of them are **active** methods of collection. Better and cheaper than active methods are **passive** ways to catch sunlight. An example is having windows in the south wall of your house and using heat-retaining materials in construction.

FLAT-PLATE COLLECTOR

Flat-plate collectors comprise four parts: absorber, heat transfer fluid, cover plate, and insulation. The absorber is a blackened metal sheet that catches sunlight; the fluid is either gas or liquid (usually air or water) and conducts heat; the cover plate is glass or plastic—it allows sunlight to enter while preventing heat escape; and the insulation, variable in type, prevents heat loss through the back of the absorber.

The heated fluid is conducted to a storage tank which contains baseball-sized rocks or certain types of heat-absorbing salts, or just water. The heat is transferred by means of a heat exchanger, such as coiled metal tubing. The tank stores enough surplus heat to last a few cloudy days.

The delivery subsystem must take hot water from the collector to the storage tank and from the tank to the building heating system. An auxiliary heater is necessary for prolonged cold spells. The subsystem can be connected, in most cases, to existing heating facilities.

Flat-plates are expensive. Eventual mass production will reduce costs, however. Solar collectors can be used for space heating in winter, hot water heating, air conditioning and grain drying.

Such solar devices will, as presently designed, reduce home electricity needs by 50-80%. Electric machines will be used so supplements collection; an electric heat pump performs well in removing heat from stored water.

Several problems prevent solar collectors from becoming widely used. Among them are:

- high initial cost
- uncertainty about operation and maintenance
- reluctance of builders to approve and install a relatively unknown system
- absence of legal safeguards

The state of Wisconsin is considering leasing solar heaters and collectors. This is one method of dealing with the above difficulties.

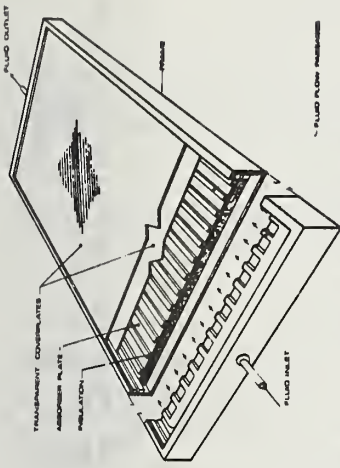


Figure 1. Detailed View of a Typical Solar Collector.

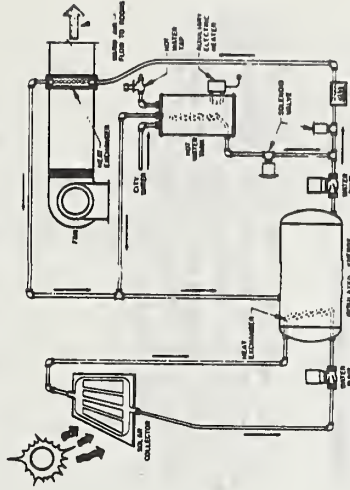


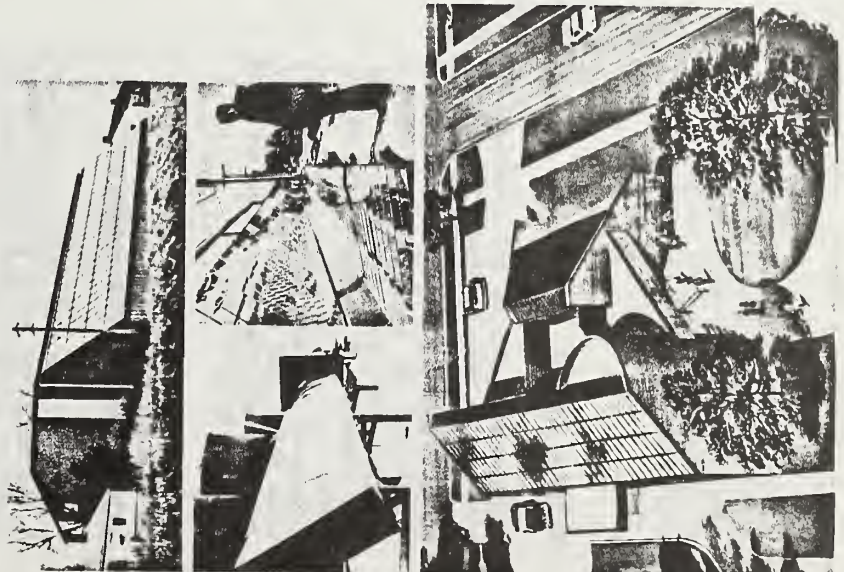
Figure 2. Schematic Diagram of a Solar Heating and Hot Water System.

SOLAR POWER PLANT

A solar power plant would involve the following things:

- heat source (sun)
- turbine
- generators
- cooling system

Concentrators can be used to create a higher temperature. This involves building a central receiver on a high tower and placing hundreds of revolving mirrors on the ground around it to reflect light at it. Absorbing fluid at the central receiver carries heat to a storage tank.



OTEC

OTEC (Ocean Thermal Energy Conversion) is a method of energy production based on the fact that current can be generated utilizing the small difference in temperature between varying layers of the ocean.

SOLAR CELLS

Photovoltaic or solar cell conversion involves single cells of silicon which convert solar energy directly to electricity, at a ten-percent efficiency.

Presently too expensive for homes--storage batteries are particularly high--solar cells expected to be competitive by the 1980's.

Research indicates that reflectors can be used, rather than making the cells larger. And materials other than silicon are being evaluated for solar cells.

IS SOLAR ENERGY ECONOMICALLY FEASIBLE?

It appears that solar energy may already be economic for certain purposes in Iowa. In Iowa's climate the cost of collectors and storage for a 100 percent solar system would be prohibitively expensive. The most reasonable system is probably one in which the solar energy is used for only a portion (perhaps 50 to 80 percent) of the heating needs and supplemented by an auxiliary system using a conventional furnace. There has been particular interest in solar-assisted heat pumps, which would use an electric heat pump in connection with a solar collector and storage system. A heat pump, which is just an air conditioner run in reverse, extracts heat from outside air but becomes very inefficient at low temperatures (e.g., below freezing) when the most heat is needed. A heat pump which extracts heat from solar heated water would be much more efficient,

Illowa Solar, Inc.
1301 Camanche Ave.
Clinton, Iowa 52732
Mr. Dan David

Solar Energy Service, Inc.
P.O. Box 75
Ankeny, Iowa 50021
Mr. Brad Davies

Solar-Thermics Enterprises, Lt.
110 North Walnut
Box 248
Creston, Iowa 50701

Winco Division of Dyna Technology, Inc.
East 7th at Division Street
P.O. Box 3263
Stoux City, Iowa 51102

Windpower Corporation
Newton, Iowa 50207

A brief summary of the products, services and functions of the above companies can be found on pp. 59-62 of **Solar Energy: 1976** by Laurent Hodges and John Neff, available from the Iowa Energy Policy Council, 707 E. Locust, Des Moines, Iowa 50319.

even if the water were cooled to near the freezing point. The heat pump could also serve as the back-up unit in case of failure of the solar system.

Solar thermal energy for heating and cooling will be the first major use of solar energy in the U.S. It appears that it can be successfully used in Iowa, and several projects in the near future will be carefully watched to see how they work out in practice (including the Raccoon Valley State Bank at Adel and the Scattergood School in West Branch). There is also opportunity for Iowans to participate in the federal solar heating and cooling demonstration programs.

There are a number of Iowa firms engaged in the solar energy business. They are listed alphabetically as follows:

Chamberlain Manufacturing Corporation
Research and Development Division
East 4th and Esther Streets
P.O. Box 2545
Waterloo, Iowa 50705

Decker manufacturing Company
312 Blondeau
Keokuk, Iowa 52632

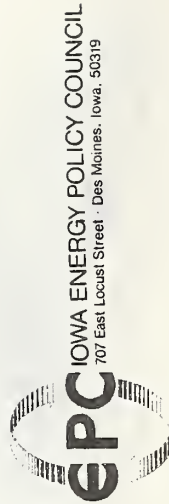
Kruse Manufacturing and Distributing Co.
Highway 71 and City 71
Lake View, Iowa 51450

Lennox Industries, Inc.
350 South 12th Avenue
P.O. Box 250
Marshalltown, Iowa 50158

Solar-Aire Heating System, Iowa
Distributors:

Mr. Lloyd Banks
Banks Realty
Gienwood, Iowa 51534

Climate Control Corporation
1210 Steuben Street
Sioux City, Iowa 51105
Mr. Art Ludwigs





Form K-35

KANSAS

SOLAR ENERGY CREDIT SCHEDULE

Name of Taxpayer (As shown on form to which attached)	Social Security Number
	Federal Identification Number

- 1. Address of solar energy system.

(Number, Street, and City)
- 2. Date system was completed, acquired, or placed into service.
_____|_____|_____
Month Day Year
- 3. Check type of energy system.
_____ Solar _____ Wind
(Please attach a detailed description of the energy system)

- 4. If taxpayer acquired real property on which a solar energy system had previously been installed, from whom was the real property acquired?

Name

Number and Street

City and State _____ Zip Code
(Attach Schedule K-35a Certificate of Solar Energy System Transfer)

5. Adjusted basis of energy system: (See instructions)	
a. Cost of energy system	
b. Installation cost of energy system	
c. Adjusted basis of energy system (Add lines 5a and 5b)	

PART I PRINCIPAL DWELLING ENERGY SYSTEM CREDIT

6. Tax liability (Line 15 less lines 16, 17, and 18, page 1, form 40 or 40N)	
7. Solar energy credit (25% of line 5c, or \$1,000, or line 6, whichever is less) (Enter this amount on line 19, page 1, form 40 or 40N)	
8. Solar energy credit carryforward (See instructions)	

PART II BUSINESS ENERGY SYSTEM

9. Tax liability (See instructions)	
10. Solar energy credit (25% of line 5c, or \$3,000, or line 9, whichever is less) (Enter this amount on the appropriate form line. See instructions.)	
11. Number of months in this taxable year the energy system was in use	
12. Useful life of energy system for federal tax purposes (In months)	
13. Federal depreciation percentage (See instructions) %	
Method of Depreciation (Check one)	
_____ <input type="checkbox"/> Straight Line _____ <input type="checkbox"/> Sum of the year's digits method	
_____ <input type="checkbox"/> Declining balance _____ <input type="checkbox"/> Other (Explain) _____	
14. Kansas amortization percentage (Divide line 11 by 60) %	
15. Federal depreciation modification (Multiply line 5c by line 13) (See instructions)	
16. Kansas amortization deduction (Multiply line 5c by line 14) (See instructions)	
17. Prior year's accumulated Kansas amortization (See instructions)	

INSTRUCTIONS FOR CLAIMING THE SOLAR ENERGY CREDIT

SOLAR ENERGY CREDIT DEFINED: The solar energy credit may be deducted from a taxpayer's Kansas income tax liability if he/she completes the installation of a solar energy system in his/her principal dwelling or business facility; or if title was acquired to a principal dwelling or business facility in which an energy system has previously been installed.

The credit is available if installation was completed on or after January 1, 1976, and prior to July 1, 1983; or if the title was acquired after installation was completed during this period.

ENERGY SYSTEM DEFINED: A qualifying energy system may be either a solar system or a wind system.

SOLAR SYSTEM DEFINED: A solar system is a system of apparatus and equipment capable of converting radiant solar energy into heat or electrical energy and transferring the heat energy through a separate fluidic conduit or the electrical energy through a system of wires to a point of use (including, but not limited to, domestic water heating, space heating or cooling, electrical power device) or storage.

WIND SYSTEM: A wind system is defined as a system of apparatus and equipment capable of converting wind energy into mechanical or electrical energy and transferring the mechanical or electrical energy through a separate apparatus to the point of use or storage.

SPECIFIC INSTRUCTIONS

Line 1--Give the address of the property on which the energy system is located.

Line 2--Enter the month, day, and year in which the energy system was placed into service.

Line 3--Is The Energy System A Conventional System Converted to Solar Energy? Check the appropriate box. Describe the energy system, listing all the equipment constituting the energy system and state which type of energy the system provides such as: heating, cooling, electrical power, etc.

Line 4--If Taxpayer Acquired Real Property On Which A Solar Energy System Had Previously Been Installed, From Whom Was The Real Property Acquired? List the name and address of the party in the space provided. Attach Schedule K-35a, "Certificate of Solar Energy System Transfer," to this schedule.

Line 5--Adjusted Basis of Energy System: In determining the adjusted basis of an energy system, only costs that apply directly to the purchase and installation of a solar or wind system are allowable. For example, if the owner installs a solar hot water system, construction costs cannot include the installation of the hot water tank or hot water plumbing. Only the cost of purchase and installation of the solar unit and plumbing leading to the hot water tank would be allowable.

Line 5a--Enter the purchase price of the energy system. Attach a schedule showing how you arrived at the total purchase price.

Line 5b--Enter the total installation costs for the energy system. Attach a schedule showing how the total installation cost was calculated.

Line 5c--Adjusted Basis of Energy System: Add lines 5a and 5b.

PART I -- PRINCIPAL DWELLING ENERGY SYSTEM CREDIT

Line 6--Tax Liability: Enter the Kansas income tax liability after deducting other state tax credit, 337 liquidation credit, and business and job development credit for the year in which the credit is claimed (line 15 less lines 16, 17, and 18, page 1, form 40 or 40N).

Line 7--Solar Energy Credit: 25 percent of line 5c, or \$1,000, or the amount shown on line 6 above, whichever is less. Enter the credit on line 19, page 1, form 40 or 40N.

Line 8--Solar Energy Credit Carryforward: If the lesser of 25 percent of line 5c, or \$1,000, exceeds the amount shown on line 6, the difference may be claimed as a credit against your Kansas income tax liability for the next succeeding taxable year(s), until the total amount of the tax credit has been used. However, the credit cannot be carried over after the fourth year succeeding the year the credit was originally claimed.

PART II -- BUSINESS ENERGY SYSTEM

Line 9--Tax Liability: Enter the Kansas income tax liability from the form on which the credit is being claimed after subtracting the other state tax credit, 337 liquidation credit, and job development credit.

Line 10--Solar Energy Credit: Enter 25 percent of line 5c, or \$3,000, or the amount shown on line 9 above, whichever is less. Enter the credit on line 19, page 1, form 40 or 40N; line 16, page 1, form 41; line 30, page 1, form 120; or line 24, page 1, form 120S, whichever is applicable.

The credit for an energy system in a business facility cannot be carried forward. However, in addition to the credit, the taxpayer also may amortize the adjusted basis of the solar energy system ratably over a 60-month period.

If the taxpayer transfers title to the equipment for which he is claiming the amortization before completion of the 60-month amortization period, then the right to claim the amortization is lost or terminated in the month the property is transferred.

Individuals who claim amortization on a solar energy system must have itemized deductions on the federal income tax return. If the standard deduction is used on the federal income tax return, then amortization cannot be claimed on the Kansas return, form 40 or 40N.

Line 11--Enter the number of months in this taxable year the energy system was in use.

Line 12--Enter the useful life of energy system for federal tax purposes (In months).

Line 13--Federal Depreciation Percentage: Check the method of depreciation used for federal income tax purposes. Then, based on the entries on lines 11 and 12, determine your federal depreciation percentage.

Line 14--Kansas Amortization Percentage: Divide line 11 by 60.

Line 15--Federal Depreciation Modification: Multiply line 5c by line 13. Enter this amount on line 5, Part II, page 2, form 40; line 5, page 2, Part IV, form 40N; line 2c, page 1, form 41; line 8, page 1, form 120; or line 7, page 1, form 120S, whichever is applicable.

Line 16--Kansas Amortization Deduction: Multiply line 5c by line 14. Enter this amount on line 12, Part II, page 2, form 40; line 9, Part IV, page 2, form 40N; line 4, page 1, form 41; line 19, page 1, form 120; or line 16, page 1, form 120S, whichever is applicable.

Line 17--Prior Year's Accumulated Kansas Amortization: Enter the total amount of amortization claimed for the energy system in prior years.



Form
K-35a

KANSAS

CERTIFICATION OF SOLAR ENERGY TRANSFER

This form must be completed by the individual or firm from whom the taxpayer acquired real property on which an energy system had previously been installed. Attach this form to Schedule K-35, "Solar Energy Credit Schedule".

THAT _____
(Name of individual or firm transferring property)

TRANSFERRED THE TITLE TO PROPERTY LOCATED AT

(Address of the property transferred)

ON WHICH AN ENERGY SYSTEM HAS BEEN INSTALLED
AND ON WHICH THE SOLAR ENERGY CREDIT HAS NOT
PREVIOUSLY BEEN CLAIMED, TO _____
(Name of individual or

firm property transferred to) ON _____
(Date property transferred)

Under the penalties of perjury, I declare that I have examined this statement and to the best of my knowledge and belief, it is true and correct.

Signature of officer of the firm or individual transferring property Date

-71-

APPENDIX B - CONSIDERATION OF SOLAR ENERGY UTILIZATION

By means of Senate Concurrent Resolution No. 1601 adopted by the 1977 Session of the Legislature, the consideration of solar energy utilization is mandated for all state building projects. The resolution states in part:

"Be it resolved by the Senate of the State of Kansas, the House of Representatives con-
curring therein: That the secretary of administration of the state department of administration is directed to consider the installation of solar energy heating and cooling systems in all new state-owned construction projects. If the secretary shall determine that such system is less economical in terms of life cycle costs analysis than other systems he or she shall file a statement explaining such determination with the governor, the speaker of the house of representatives and the president of the Senate.

"Be it further resolved: That the secretary of administration explore and consider the feasibility of establishing demonstration projects utilizing solar energy heating and cooling systems in existing state-owned buildings or facilities thereof."

The project architect shall provide, as part of the energy impact statement, a feasibility study of the utilization of solar energy as a complete or supplementary energy source in comparison with other available fuels. The analysis shall result in a determination whether or not solar energy usage is feasible for heating, cooling and/or domestic water heating based on life cycle costs.

from "Manual of Standards and Procedures," Division of Architectural Services.

APPLICATION FOR SALES TAX EXEMPTION
FOR THE PURCHASE OF SOLAR ENERGY EQUIPMENT AS AUTHORIZED
BY M.R.S.A. SECTION 1760, SUBSECTION 37

PLEASE TYPE OR PRINT - Use additional sheets as necessary.

1. Applicant Information

a.) Name: _____

b.) Address: _____

c.) Location of solar installation
(if different from address): _____

d.) Telephone Number: _____

2. Date of Purchase of Equipment: _____

3. Equipment for which exemption is sought.

a.) Type of use (Residential, Commercial, etc.): _____

b.) Description of equipment (including manufacturer, model, diagrams
and drawings, if appropriate):

c.) Installer of Equipment: _____
(Name)

(Address)

4. Total Cost of Equipment (attach invoices, receipts, etc.): _____

5. Functional description of equipment (e.g. hot water, space heating, etc.):

I, _____, do hereby affirm that the statement
made in this application and any supplements thereto, together with any document
submitted in support of these statements are full, true, complete and correct, to
the best of my knowledge and information.

Date: _____

(Signature)

SOLAR BIBLIOGRAPHY

A review of solar energy information and literature prepared by the Solar Action Plan

April, 1977

Approved by Alfred C. Holland, State Purchasing Agent

PUBLICATION: # 9644-4-5000-4-77-CR

BIBLIOGRAPHY

American Society of Heating, Refrigerating, and Air Conditioning Engineers, Low Temperature Applications of Solar Energy, N.Y. (new edition in preparation).

Anderson, Bruce, Solar Energy and Shelter Design, MIT Thesis, Cambridge, MA., Jan. 1973.

Arthur D. Little Co., Solar Climate Control, Status Report 1975, Cambridge, MA., April 1975.

Arthur D. Little Co., and Cambridge Seven Assoc., Solar Heated and Cooled Office Building for Massachusetts Audubon Society, June 1973.

Barber, Everett, Criteria for the Preliminary Design of Solar-Heating Buildings, August 1974.

Beck, E.J. et al., Solar Heating of Buildings and Domestic Hot Water, U.S. Naval Facilities Engineering Command, Port Hueneme, Cal., June 1976.

Booz, Allen and Hamilton, Inc., Solar Energy Utilization in Florida, Bethesda, Maryland, 1975.

- Brock, H.W. et al., Strategic Implications of Solar Energy for Employment of Sheet Metal Workers, Stanford Research Institute, Menlo Park, Cal., June 1975.
- Chan, David, Residential Energy Consumption and Small-Scale Options of Energy Systems for Space Heating, Mitre Corp., Cambridge, MA., November 1974.
- Clegg, Peter, Energy for the Home, Charlotte, Vermont, 1975.
- Cohen, Arnold and Harlow, Mary, Impact of Energy Developments on the Sheet Metal Industry, Mitre Corp., McLean, Vir., 1975.
- Daniels, Farrington, Direct Use of the Sun's Energy, N.Y., 1973.
- Duffie. J.A., Solar Energy Thermal Processes, N.Y., 1975.
- Environmental Information Center, The Energy Index, N.Y., 1973.
- Humber, Jeff, Solar Space Heating in New England - A Cost-Benefit Analysis Under Alternate Fuel Scenarios, Boston, MA., Feb. 1976.
- InterTechnology Corp., Design Input Data for Solar Heating and Cooling, Warrenton, Virg., 1975.
- Johnson, Timothy et al., Exploring Space Conditioning with Variable Membranes, MIT, April 1975.
- Lof, G.O., "The Cost of House Heating with Solar Energy," Solar Energy, Vol. 14, 1973.
- Lof. G.O. et al., "Heating of Air by Solar Energy," Ohio Journal of Science, 1953.
- Marshall Space Flight Center, Harnessing the Sun's Energy for Heating and Cooling, 1974.
- Mass. Design Architects and Planners, Solar Heated Houses in New England, Cambridge, MA., Feb. 1975.
- Michaels. H.G., Strategies for Development of Energy-Efficient Housing, MIT Thesis, Cambridge, MA., June 1975.
- Mitre Corp., Solar Energy Proof-of-Concept Experiments, Bedford, MA., Dec. 1973.
- Mitre Corp., Systems Analysis of Solar Energy Programs, Washington, D.C., Dec. 1973.
- National Bureau of Standards, Method of Testing for Rating Solar Collectors Based on Thermal Performance, Washington, D.C., Dec. 1974.
- National Bureau of Standards, Interim Performance Criteria for Solar Heating and Combined Heating/Cooling Systems and Dwellings, Washington, D.C., Jan. 1975.
- Pesko, Carolyn, (ed.), Solar Directory, Ann Arbor, Mich., 1975.

- Peterson, Stephen R., Retrofitting Existing Housing for Energy Conservation: An Economic Analysis, National Bureau of Standards, Washington, D.C., Dec. 1974.
- Shurcliff, William A., Solar Heated Buildings, A Brief Survey (12th ed.), Cambridge, MA., March 1976.
- Shurcliff, William A., Informal Directory of the Organizations and People Involved in the Solar Heating of Buildings, Dec. 1975.
- Silverstien, Michael, "The Dawning of the Solar Age," N.E. Business Journal, June 1975.
- Sledd, James, et al., "Sunpower" issue of Industry, published by the Associated Industries of Massachusetts, September 1975.
- "Sun Power," in Architecture Plus, September/October 1974.
- Texas Instruments, Development of High Efficiency Collector Plates, Attleboro, MA., Feb. 1976.
- Thomason, H., "Solar Houses/Heating and Cooling Progress Report," Solar Energy, 1973.
- Total Environmental Action, Solar Energy Housing Design in Four Climates, Jan. 1975.
- U.S. Department of Housing and Urban Development, Residential Energy from the Sun: A Description of the Solar Heating and Cooling Demonstration Program, 1975.
- U.S. Energy Research and Development Administration, National Plan for Solar Heating and Cooling: Interim Report, March 1975.
- U.S. Energy Research and Development Administration, Catalog on Solar Energy Heating and Cooling Products, October 1975.
- Westinghouse Electric Corp., Solar Heating and Cooling of Buildings (Phase 0), Baltimore, Maryland, 1974.
- Wilbur, Elliot et al., The Outlook for Solar Energy from the Commercial Perspective, May 1975.

THE SOLAR ENERGY INDUSTRY

A list of
Solar Builders, Companies and
Manufacturers,
and
Consulting Architectural,
Engineering and Research Firms

A list of local solar energy enterprises. This list is provided as a public service and does not indicate any endorsement of products or services. Due to the rapidly changing nature of the solar energy field, we cannot insure the completeness or accuracy of this list. This list will be updated and amended periodically.

April, 1977

Approved by Alfred C. Holland, State Purchasing Agent

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**COMMONWEALTH OF MASSACHUSETTS
MICHAEL S. DUKAKIS, GOVERNOR**



THE USE OF SOLAR ENERGY FOR SPACE HEATING AND HOT WATER:

**Technical Description
Economic Feasibility
Implications for the State**

ENERGY POLICY OFFICE

Henry Lee, Director

APRIL, 1976

PUBLICATION OF THIS DOCUMENT APPROVED BY ALFRED C. HOLLAND, STATE PURCHASING AGENT.

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WHY THE SUN?

WON'T SOLAR PANELS MAKE MY HOUSE LOOK UGLY?

No. Solar panels on the roof look just like sky - lights. Or you can have them installed in the back yard or on the garage. In any case, they are very good looking and will not detract from the appearance of your house.

WON'T THOSE PIPES AND THINGS RUN THROUGH MY ROOMS AND MAKE THE INSIDE OF MY HOUSE LOOK UGLY?

No. The pipes necessary for a solar system will be no more obvious than the pipes in your house now for regular plumbing.

WILL THE ROOMS UNDERNEATH THE SOLAR PANELS GET UNHEARABLY HOT?

No. Solar panels are designed to collect the heat, and channel it for use in your house. They do not concentrate or magnify the heat from the sun, and will not make the rooms beneath them hot.

WILL I HAVE TO TEAR UP MY ROOF TO HAVE THE SOLAR PANELS INSTALLED?

No. The panels can be put in over the existing shingles.

WE GET LOTS OF SNOW HERE. WON'T IT COVER UP THE PANELS AND MAKE THE SOLAR SYSTEM IMPOSSIBLE FOR USE IN THE WINTER?

No. The snow just slides off because the roof is sloped, and the panels are smooth, glassy surfaces.

DO WE GET ENOUGH SUNLIGHT IN MASSACHUSETTS TO MAKE SOLAR ENERGY WORTHWHILE?

Yes. Most areas in Massachusetts receive about 70% as much sunlight as Florida or southern California. That's enough for 50% -- 70% of your hot water needs.

Since we pay so much more for energy than other regions do, solar energy is more practical for us here than it is for sunnier areas of the country.

Christine B. Sullivan
Secretary of Consumer Affairs

Henry Lee
Director
Energy Policy Office

Sponsored by
Solar Action Plan
Advisory Committee
1 Ashburton Place
Room 1413
Boston 02108



DO I NEED A BACK-UP SYSTEM?

Yes, you'll need some kind of conventional back - up system to supplement the solar systems. But solar systems can provide between 50% and 70% of your domestic hot water heating needs.

BUT BANKS WON'T GIVE ME A LOAN FOR SOLAR, BECAUSE IT'S STILL A RISK, RIGHT?

Wrong. Banks in Massachusetts are willing to give home improvement loans for solar energy systems right now.

INTERESTED IN LEARNING MORE ABOUT SOLAR ENERGY FOR DOMESTIC HOT WATER?

CLIP THIS COUPON AND SEND IT TO:

SOLAR ACTION PLAN
ROOM 1413
MC CORMACK STATE OFFICE BUILDING
ONE ASHBURTON PLACE
BOSTON, MASSACHUSETTS 02108

PLEASE SEND THE INFORMATION TO:

Name _____

Address _____

ISN'T SOLAR A FUTURE TECHNOLOGY? SOMETHING MAYBE MY GRANDCHILDREN WILL USE, BUT NOT FOR US TODAY?

No. Solar energy for hot water is practical and economical now in many cases. Photovoltaic solar energy (converting the sun's energy into electricity) is still a ways off. But using the sun for domestic hot water heat is possible now.

PLEASE SEND ME THE FOLLOWING:

- Solar Consumer Brochure
- List of Solar Legislation Proposed and Passed
- Solar Energy Bibliography
- List of Solar Firms
- Solar Workbook to estimate the cost of solar for your home

WHAT ABOUT PROPERTY TAXES? WILL MY HOME'S VALUATION INCREASE IF I ADD A SOLAR UNIT?

Massachusetts has recently passed a new law, protecting homeowners from having their property valuation increased as a result of investing in a solar energy system. As the law now stands, your property tax cannot be increased as a result of your solar system for a minimum of ten years after installation.

WHERE DO I GET MORE INFORMATION ON SOLAR ENERGY?

Send the coupon on this brochure to the Solar Action Plan (One Ashburton Place, Boston, Mass.)

Or Call: (617) 727 - 7755.

Form 2B

1977

Montana Individual Income Tax

CREDIT ALLOWED FOR NONFOSSIL ENERGY SYSTEM INSTALLED IN TAXPAYER'S PRINCIPAL DWELLING
 (Attach to your return - See instructions on back)

Name(s) as shown on Form 2	Social Security Number
----------------------------	------------------------

Address of installation _____

Date installation was completed in your home (in the event you acquired title to a dwelling to be used as your principal residence and the dwelling came equipped with a nonfossil energy system, give date of acquisition) _____

Description of installation _____

Computation of Credit:

1 Cost of system, including cost of installing		
2 Amount of grants received		
3 Subtract line 2 from line 1 and enter difference (but not more than \$4,000)		
4 Enter 10% of the first \$1,000 shown on line 3 (in the event you are allowed a Federal Income Tax credit on this installation, you must use 5%)		
5 Enter 5% of the amount on line 3 in excess of \$1,000 (in the event you are allowed a Federal Income Tax credit on this installation, you must use 2½%)		
6 Total of lines 4 and 5. Enter here and on line 80 of Schedule IV, page 3 of your return		

CREDIT FOR INSTALLATION OF A NONFOSSIL ENERGY SYSTEM

General Instructions

A direct credit against tax liability is allowed to a Montana resident who (1) installs a nonfossil energy system in a dwelling which is his or her principal place of residence or, (2) who acquires title to a dwelling to be used as his or her principal place of residence, which is equipped with a nonfossil energy system with respect to which this tax credit has not been claimed. A "nonfossil energy system" means a system for the utilization of solar heat, wind, solid wastes or the decomposition of organic wastes, for capturing energy or converting energy sources into usable sources, for the production of electric power from solid wood wastes and also a system for the utilization of water power by means of an impoundment not over 20 acres in surface area.

The credit may be claimed only with respect to an installation made in the taxpayer's principal residence (including a principal place of residence acquired with an existing system) on or after January 1, 1977 but before December 31, 1982. The credit is allowed only to Montana residents and is allowed only once for each installation. It must be claimed against the taxpayer's tax liability for the taxable year in which the energy system was acquired and placed in service. If the credit exceeds the taxpayer's tax liability for such taxable year, the unused portion may be carried over and applied against his or her tax liability for succeeding taxable years.

However, an unused credit may not be carried beyond the fourth taxable year succeeding the taxable year in which the system was acquired.

FORM 2

Montana Individual Income Tax Return - 1977

SCHEDULE III—EXEMPTIONS

Nonresidents and persons changing state of residence see page 6 of instructions.

Regular 65 or Over Blind
 Yourself Enter number checked ▶ 71
 Spouse Enter number checked ▶ 72

List first names of your children and other persons claimed as dependents:

_____ Enter number listed ▶ 73

Additional exemption for handicapped child. If one or more of your dependent children listed above is a "handicapped child" (see instructions, page 6) identify below by first name. Attach required doctor's certificate to this return:

_____ 74

Total number of exemptions claimed (add lines 71, 72, 73 and 74) 75

Multiply total exemptions by \$650 Enter amounts here and on line 17, page 1 76

COLUMN A (for yourself joint, separate or single)		COLUMN B (for Spouse)	
		X X X X X	71
			72
			73
			74
			75
\$		\$	76

SCHEDULE IV - CREDITS AGAINST TAX

Credit allowed residents for income taxes paid to other states or countries - from Schedule V below 77

Contractors gross receipts tax credit - attach computation 78

Investment credit - from Schedule VI, below 79

➔ Credit for installation of non-fossil energy systems - from Form 2-B 80

Total credits - Enter here and on line 22, page 1 81

COLUMN A (for yourself joint, separate or single)		COLUMN B (for Spouse)	
			77
			78
			79
			80
			81

SCHEDULE V

CREDIT ALLOWED RESIDENTS FOR INCOME TAXES PAID OTHER STATES OR COUNTRIES

(See page - 6 of instructions)

(1) Adjusted gross income from other state or country included in Montana adjusted gross income (1)

(2) Total Montana adjusted gross income from line 14 of return (2)

(3) Income tax paid to other state or country (3)

(4) Montana tax liability from line 21 of return (4)

(5) Line (1) divided by line (2) = (not more than 100%) (5)

(6) Multiply amount on line (4) by the percentage on line (5) (6)

(7) Allowable credit is the smaller of the amount on line (3) or (6) enter here and on line 77, Schedule IV, above (7)

COLUMN A (for yourself joint, separate or single)		COLUMN B (for Spouse)	
	%		%

ATTACH COPY OF-OUT-OF-STATE RETURN

SCHEDULE VI - INVESTMENT CREDIT

(See page 7 of instructions)

(1) Investment credit per attached copy of Federal Form 3468

(2) Carryback of unused credits per Federal Form 3468

(3) Subtract line (2) from line (1)

(4) Enter 20% of line (3) here and on line 79 of Schedule IV, above

COLUMN A (for yourself joint, separate or single)		COLUMN B (for Spouse)	

3. Investment Credit. You are entitled to a credit against your Montana Income Tax liability equal to 20% of the Federal Investment Credit allowed to you with respect to Internal Revenue Code Section 38 property acquired and placed in service during the current taxable year. To claim the credit, complete Schedule VI, page 3 of the return, and enter the amount of credit on line 79 of Schedule IV, page 3 of the return. Attach to your return a copy of Federal Form 3468 showing your computation of the Federal Investment Credit claimed.

This credit is first allowed for taxable years beginning after December 31, 1976, and an unused portion of the current taxable year's credit may not be carried back. However, the unused portion, if any, may be carried forward to subsequent taxable years in accordance with Federal Income Tax rules.

4. Credit for Installation of a Nonfossil Energy System. A direct credit against tax liability is allowed to a Montana resident who (1) installs a nonfossil energy system in a dwelling which is his or her principal place of residence or, (2) who acquires title to a dwelling to be used as his or her principal place of residence, which is equipped with a nonfossil energy system with respect to which this tax credit has not been claimed. A "nonfossil energy system" means a system for the utilization of solar heat, wind, solid wastes or the decomposition of organic wastes, for capturing energy or converting energy sources into usable sources, for the production of electric power from solid wood wastes and also a system for the utilization of water power by means of an impoundment not over 20 acres in surface area.

The credit may be claimed only with respect to an installation made in the taxpayer's principal residence (including a principal place of residence acquired with an existing system) on or after January 1, 1977 but before December 31, 1982. The credit is allowed only to Montana residents and is allowed only once for each installation.

It must be claimed against the taxpayer's tax liability for the taxable year in which the energy system was acquired and placed in service. If the credit exceeds the taxpayer's tax liability for such taxable year, the unused portion may be carried over and applied against his or her tax liability for succeeding taxable years. **HOWEVER, AN UNUSED CREDIT MAY NOT BE CARRIED BEYOND THE FOURTH TAXABLE YEAR SUCCEEDING THE TAXABLE YEAR IN WHICH THE SYSTEM WAS ACQUIRED.**

To claim this credit, complete Form 2-B (available from the Montana Department of Revenue, Helena, Montana 59601) and attach it to your return. Enter the amount of credit on line 80 of Schedule IV, page 3 of the return.

LINE 23 — BALANCE OF TAX AFTER CREDITS

Subtract line 22 from line 21, and enter the balance on line 23. IF LINE 22 IS GREATER THAN LINE 21, ENTER ZERO.

LINE 24

Add the amount shown on line 23, Column A to the amount shown on line 23, column B, and enter the total on line 24.

LINE 25

Enter the amount of Montana Income Tax withheld as shown by your withholding tax statements.

LINE 26

Enter the amount of payments made on your 1977 Declaration of Estimated Montana Income Tax.

LINE 29 — BALANCE OF TAX DUE

If the amount shown at line 24 exceeds the total of your payments shown on line 28, enter the balance due on line 29. If the balance due is \$1.00 or more, payment must be made by April 17, 1978. If the balance due is less than \$1.00 payment is not required.

LINE 30 — OVERPAYMENT

If the amount shown at line 24 is less than your total payments shown on line 28, enter the amount of your overpayment on line 30. Be sure to complete lines 31 and/or 32 with the amount of overpayment you want refunded or credited to your 1978 estimated tax. A refund or credit will be made only if the overpayment is \$1.00 or more.

SPECIAL INFORMATION

ASSIGNMENT OF INCOME TO PROPRIETOR'S SPOUSE

The net income (or loss) from a business conducted as a sole proprietorship must be reported in full by the proprietor. However, if the proprietor's spouse regularly and systematically performs substantial personal services in operating the business, and with respect to which he or she is not paid a salary or wages, the proprietor and his (her) spouse may, at their option, agree to assign to said spouse an amount equal to reasonable compensation for the services rendered. Such amount shall be deemed taxable income to the spouse as compensation for services rendered, but such amount shall reduce the proprietorship income taxable to the spouse who is the proprietor. The allocation must be made on the basis of the specific facts in each particular case and without regard to the net income of business. Compensation must be determined on the basis of the reasonable rate of pay appropriate for the taxpayer's locality for the particular type of personal services rendered to the business. Services normally rendered in the operation of a household or services which are incidental to the operation of the business are not services rendered for purposes of this allocation.

In the event the proprietor's spouse is the owner of an interest in real or personal property which is used free of charge by the proprietor in a business, an amount equal to the fair rental value of property may, by mutual agreement, be assigned to the spouse. Thus, if the spouse has a one-half interest in the property, an amount equal to one-half of the fair rental value of the property used in the business may be assigned. In the case of real property used for agricultural purposes, the assignment of fair rental may be made on the "crop rental" basis. The fair rental value must be determined on the basis of the fair rental value in the taxpayer's locality for the particular type and use of the property involved. Idle property and property not used in the production of business income shall not be assigned a rental value, and the net income of the business is not a factor in determining fair rental value.

Please attach an explanation sheet to your return showing the computation as how you arrived at the allocation of income. The allocation of income shall be shown on Schedule I, Line 49 as a deduction from your income and on Line 42 as an addition to your spouse's income.

MONTANA-NORTH DAKOTA RECIPROCAL TAX AGREEMENT

Pursuant to statutory authority, the states of Montana and North Dakota have entered into a reciprocal income tax agreement whereby neither state will tax residents of the other state on certain income from personal services.

42-2.8(1)-S80550 - TAX CREDIT FOR NONFOSSIL ENERGY GENERATION SYSTEMS.

(1) A credit against tax liability is allowed to an individual who is a Montana resident and who either (a) places in use a qualified nonfossil energy system in a dwelling which is his or her principal place of residence or, (b) purchases or otherwise acquires beneficial ownership of a dwelling to be used as his or her principal place of residence, which said dwelling is equipped with a qualifying nonfossil energy system with respect to which this tax credit has not previously been claimed.

(2) The credit may be claimed only with respect to an installation made in the taxpayer's principal residence (including a principal place of residence acquired with an existing system) on or after January 1, 1977, but before December 31, 1982. The credit is allowed only once with respect to a particular installation. Once a tax credit has been given for a particular installation it cannot be claimed again by a subsequent taxpayer who purchases the residence. It must be claimed against the taxpayer's tax determined for the year in which the residence is purchased or the installation is placed in use. In cases in which the residence is purchased in a year subsequent to installation the credit is to be applied to the latter year. If the credit exceeds the taxpayer's tax liability for such taxable year, the unused portion may be carried over and applied against his or her tax liability for succeeding taxable years. However, an unused credit may not be carried beyond the fourth taxable year succeeding the taxable year in which the installation was acquired.

(3) A nonfossil energy system means (a) a system for the utilization of solar heat, wind, solid wastes, or the decomposition of organic wastes; (b) a system for capturing energy or converting energy sources into usable sources; (c) a system for the production of electric power from wood waste; or (d) a system for the utilization of water power by means of an impoundment not over twenty acres in surface area.

(4) The only energy sources recognized as supplying nonfossil forms of energy within the scope of this regulation are solar heat, wind, solid wastes, organic wastes, solid wood wastes and water power from impoundment of not over twenty acres in surface area.

(5) This credit must be claimed on Form 2-B, which may be obtained from the Montana Department of Revenue, Helena, Montana 59601. The completed form must be attached to the taxpayer's return for the year in which the credit is claimed.

AFFIDAVIT

Claim for allowance against residential buildings with Property Tax Renewable Resource Heating and/or Cooling Systems Under the Provisions to NRS 361.795.

The types of property upon which tax allowance is claimed consists of the following:

<u>Type or Character</u>	<u>Primary Purpose</u>	<u>Installation Date</u>	<u>Installation Cost</u>	<u>Location and Description</u>
--------------------------	------------------------	--------------------------	--------------------------	---------------------------------

I, _____, state on oath that the above claim for property tax allowance is made in good faith and is to the best of my knowledge and belief true, correct and complete and that the use of said property included in the above exemption claim is for the primary purpose of heating and/or cooling a residential building. In addition I hereby certify the system was in use during the current assessment year. Further, I hereby authorize and empower Nevada taxing authorities and their deputies to personally inspect the facilities, examine supporting documents or otherwise verify the above allowance claim(s).

Subscribed and sworn to before me this _____ day of _____, 19____.

Taxpayer or Authorized Representative

ASD 27

PROPOSED

EXPLANATION OF PROCESSING THE PROPERTY TAX ALLOWANCE FOR
RESIDENTIAL STRUCTURES EQUIPPED WITH RENEWABLE RESOURCES
HEATING AND/OR COOLING SYSTEMS

Reference is made to NRS Chapter 361 and Property Tax Regulation Number 14 for the broad interpretation of this property allowance. (Emphasis added)

This law provides for a property tax allowance. It is not an exemption. For this reason, the allowance is to coincide with the current budget year. An allowance is an adjustment to the tax bill. An exemption is an adjustment to the assessed value.

Examples for application to the secured and unsecured tax rolls are as follows:

SECURED TAX ROLL

1. Assessment year - 1977 - 1978.
2. Budget year - 1978 - 1979.
3. Affidavit filing date - between January 15, 1978 and March 15, 1978 (to the assessor's office).
4. Property description or parcel number, name and address of claimant and the assessment dollar allowance to be provided to the county auditor, prior to May 1, 1978.
5. Auditor to extend the adjustment for the allowance and deliver the extended tax roll, so adjusted to the county ex officio tax receiver, prior to June 1, 1978.

6. *Ex officio* tax receiver to prepare the tax bill necessary to notify the taxpayer of the allowance granted. This adjustment should show the original property tax liability less the adjustment together with the net amount of tax due.
7. Prior to July 1, 1978, County assessor to send to Department of Taxation a copy of the statement provided the county auditor (Paragraph 4) together with the tax dollar allowances granted.
8. Upon verification and audit of allowances, the Department of Taxation to authorize reimbursement to county by the State for money appropriated for the purpose.

UNSECURED TAX ROLL

1. Assessment year - 1978 - 1979.
2. Budget year - 1978 - 1979.
3. Affidavit of filing date - between January 15, 1978 and March 15, 1978 or upon entry into Nevada.
4. County assessor to determine the amount of the allowance and shall credit the individual property tax account accordingly.
5. Prior to July 1, 1978, County assessor to send to the Department of Taxation a statement of all allowances granted. The statement should show the original property tax liability less the adjustment together with the net amount of tax due.
6. Upon verification and audit of allowances, the Department of Taxation to authorize reimbursement to county by the State for money appropriated for the purpose.

COMPUTATION OF ALLOWANCES GRANTED

1. The purpose of this legislation has been interpreted to provide for the avoidance of penalizing individuals for additional con-

struction cost (or value) incurred in order to conserve energy in heating and/or cooling their residences only. (Heating of swimming pools and water for domestic use is excluded from this allowance pursuant to NRS).

2. If the original appraisal for assessment purposes included both a conventional heating and/or cooling system (for standby purposes) and a "qualified system," the total cost (or value) - see Note 1 - as established by the county assessor of the "qualified system" would be allowed.
3. If the original appraisal for assessment purposes included only a conventional heating and/or cooling system, but not the "qualified system" where one existed, no allowance would be made.
4. If the original appraisal for assessment purposes includes only a "qualified system" but not a conventional system, the total cost (or value) - see Note 1 - as established by the county assessor of the "qualified system" would be allowed.

NOTE 1 All allowances should be consistent with the method used in the original appraisal for assessment purposes, i.e.,

- a. "Qualified system cost = \$5,000.
- b. Market approach used for original appraisal.
- c. Market indicates additional value of \$7,000.
- d. Allowance should be \$7,000.

OR

- a. "Qualified system" cost = \$5,000.
- b. Cost approach used for original appraisal.
- c. Allowance should be \$5,000.

The State of New Hampshire

HANDBOOK OF GENERAL TAX INFORMATION



DEPARTMENT OF REVENUE ADMINISTRATION

CONCORD, N. H. 03301

WIND-POWERED ENERGY SYSTEM EXEMPTION

A wind powered energy system means any wind-powered devices which supplement or replace electrical power supplied to households or businesses at the immediate site.

This is a local option type law and must be adopted at the local level. If further information is required, contact your local town or city assessing officials

SOLAR-ENERGY SYSTEMS EXEMPTION

Solar heating or cooling system means a system which utilizes solar energy to heat or cool the interior of a building or to heat water for use in a building and which includes one or more collectors and a storage container.

This is a local option type law and must be adopted at the local level. If further information is required, contact your local town or city assessing officials.

TO ALL SELECTMEN AND ASSESSORS:

Please read the following excerpt from Chapter 391, laws of 1975 and take the appropriate action:

RSA 72:62 Property Tax Exemption. Each city and town may adopt under RSA 72:63 an exemption from the property tax for persons owning real property which is equipped with a solar energy heating or cooling system.

RSA 72:63 Procedure for Adoption.

I. A town desiring to adopt the provisions of RSA 72:62 may have the question placed on the warrant for a town meeting at which town officers are elected in the manner provided in RSA 39:3. Such question shall be presented for voter approval in the following manner:

(a) For a town which has an official ballot for the election of town officers, the officer who prepares the ballot shall place the question on such official ballot as it appears in subparagraph (c).

(b) For a town which does not have an official ballot for the election of town officers, the clerk shall prepare a ballot in the form as provided in subparagraph (c).

(c) The wording on the ballot of any referendum for the adoption of RSA 72:62 shall be as follows: "Shall we adopt the provisions of RSA 72:62 for a property tax exemption on real property equipped with a solar energy heating or cooling system which exemption shall be in an amount _____?" The amount of the exemption or the manner of it's determination shall be included in the written application of the voters presented under RSA 39:3 and shall be inserted in the question on the referendum where the blank appears above.

(d) Upon the ballot containing the question shall be printed the word "Yes" with a square near it at the right hand of the question; and immediately below the word "Yes" shall be printed the word "No" with a square near it at the right hand of the question. The voter desiring to vote upon the question shall make a cross in the square of his choice. If no cross is made in a square beside the question, the ballot shall not be counted on the question.

RSA 72:64 Application for Exemption

I. On or before April fifteenth of the year in which an exemption is claimed, a person qualified for the exemption under RSA 72:62 shall file an application for the exemption with the selectmen or assessors. The selectmen or assessors shall have an application form prepared, to be signed by the applicant under penalty of perjury, which shows that the applicant is qualified for the exemption.

Should you have any questions relative to this request, please contact:

Mr. Arthur G. Danie,
Assistant Commissioner
19 Pillsbury Street
Concord, N.H. 03301

Phone 271-2191

FOR USE OF LOCAL OFFICIALS ONLY

ENERGY SYSTEMS EXEMPTION



SOLAR ENERGY SYSTEMS EXEMPTION

WHEREAS THE TOWN/CITY OF _____ HAS ADOPTED BY REFERENCE, THE PROVISIONS OF RSA 72:62 FOR A PROPERTY TAX EXEMPTION ON REAL PROPERTY EQUIPPED WITH A SOLAR ENERGY HEATING OR COOLING SYSTEM IN THE AMOUNT OF \$ _____ I HEREBY STATE THAT MY REAL PROPERTY IS EQUIPPED WITH SUCH EQUIPMENT AND THAT TO THE BEST OF MY KNOWLEDGE QUALIFIES FOR THE EXEMPTION UNDER RSA 72:62

Signature of Applicant _____ DATE _____

WIND POWERED ENERGY SYSTEMS EXEMPTION

WHEREAS THE TOWN/CITY OF _____ HAS ADOPTED BY REFERENCE, THE PROVISIONS OF RSA 76:66 FOR A PROPERTY TAX EXEMPTION ON REAL PROPERTY EQUIPPED WITH A WIND POWERED ENERGY SYSTEM IN THE AMOUNT OF \$ _____ I HEREBY STATE THAT MY REAL PROPERTY IS EQUIPPED WITH SUCH EQUIPMENT AND THAT TO THE BEST OF MY KNOWLEDGE QUALIFIES FOR THE EXEMPTION UNDER RSA 76:66

Signature of Applicant _____ DATE _____

BLIND EXEMPTION

PURSUANT TO REVISED STATUTES ANNOTATED, CHAPTER 72, AS AMENDED, I HEREBY MAKE APPLICATION FOR THE EXEMPTION THEREIN PROVIDED FOR AND DECLARE UNDER THE PENALTY OF PERJURY THAT I AM LEGALLY BLIND AS DETERMINED BY THE BLIND SERVICES DEPARTMENT OF THE VOCATIONAL REHABILITATION DIVISION OF THE EDUCATION DEPARTMENT AND THE LAWFUL OWNER OF CERTAIN REAL ESTATE WHICH I OCCUPY AS MY PRINCIPAL PLACE OF ABODE AND THAT THE ANSWERS TO THE FOLLOWING QUESTIONS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

- 1) ARE YOU 65 YEARS OF AGE OR OVER? _____
- 2) WHAT WAS THE UNPAID BALANCE ON APRIL 1st OF ANY RECORDED BONA FIDE ENCUMBRANCE UPON YOUR PRINCIPAL PLACE OF ABODE? _____
- 3) THE NAMES OF THE HOLDERS OF SUCH RECORDED OUTSTANDING ENCUMBRANCES? _____
- 4) OF WHAT DO THE RECORDED ENCUMBRANCES CONSIST? _____

Signature of Applicant _____ DATE _____

FOR SELECTMEN'S USE ONLY:

DESCRIPTION OF RESIDENTIAL REAL ESTATE: _____

ASSESSED VALUE AS OF APRIL 1, 19 _____ \$ _____

LESS OUTSTANDING ENCUMBRANCES..... \$ _____

NET VALUE OF EXEMPTION..... \$ _____

UNLESS THE APPLICANT IS 65 YEARS OF AGE OR OVER, THE VALUE, LESS ENCUMBRANCES, MAY NOT EXCEED \$30,000.

Form SEE-1-1978

State of New Jersey
Division of Taxation
**CLAIM FOR PROPERTY TAX EXEMPTION FOR
SOLAR HEATING AND COOLING SYSTEMS**
C 256 P.L. 1977 (NJSA 54:4-3.113 et seq.)

Submit this claim to the Construction Code Office of the municipality where property is located.

MUNICIPALITY _____ COUNTY _____

The following declaration is submitted in accordance with the provisions of NJSA 54:4-3.113 et seq., and I certify it true to the best of my knowledge and belief and fully understand that such declaration will be considered as if made under oath, and, as to a false declaration shall be subject to the penalties as provided by law for perjury.

Date: _____ Signature of Owner _____

SEC. A	Owner	Name of Owner _____ Mailing Address _____ City _____ State _____ Zip Code _____ Block No. _____ Lot No. _____, or Page _____ Line _____
SEC. B	Location of Property	If location of property is different than above, complete this section Street Address _____ City _____ State _____ Zip Code _____ Block No. _____ Lot No. _____, or Page _____ Line _____
SEC. C	General Contractor or Equal	Name _____ Telephone Number _____ Mailing Address _____ City _____ State _____ Zip Code _____
SEC. D	Arch. or Eng. if applicable	Name _____ Telephone Number _____ Mailing Address _____ City _____ State _____ Zip Code _____
SEC. E	Cost of System	Cost of Eligible Solar System (Labor and Material) _____
SEC. F	Type and Cost of Solar Installation	<p>1. Proposed Work (Check One)</p> <p><input type="checkbox"/> Solar System as part of new construction.</p> <p><input type="checkbox"/> Solar System as part of an addition to existing structure.</p> <p><input type="checkbox"/> Solar System as part of an alteration to existing structure.</p> <p>2. Use group of building.</p> <p>As shown on construction permit _____</p> <p>3. Type of Solar Equipment (Check applicable components)</p> <p><input type="checkbox"/> Solar space heating and/or cooling system consisting of collectors, piping, heat exchangers, and other equipment.</p> <p><input type="checkbox"/> Solar water heating systems consisting of collectors, piping, heat exchangers and other equipment.</p> <p><input type="checkbox"/> Storage facilities for solar energy.</p> <p><input type="checkbox"/> Photovoltaic equipment and storage batteries.</p> <p><input type="checkbox"/> Glazing material and bracing for glazing.</p> <p><input type="checkbox"/> Insulated skylights and roof glazing.</p> <p><input type="checkbox"/> South facing, glass enclosed areas.</p> <p><input type="checkbox"/> Trombe wall.</p> <p><input type="checkbox"/> Thermal contact calling.</p> <p><input type="checkbox"/> Movable insulation used to minimize nocturnal heat losses.</p> <p><input type="checkbox"/> Other (Specify) _____</p> <p>NOTE: Detailed cost breakdown of the proposed solar installation must be attached.</p>
SEC. G	Type of Heating/Cooling System for Building	<p>1. Space Heating/Cooling</p> <p><input type="checkbox"/> Conventional and solar.</p> <p><input type="checkbox"/> Solar with no backup.</p> <p>2. Hot water</p> <p><input type="checkbox"/> Conventional and solar.</p> <p><input type="checkbox"/> Solar with no backup.</p>

**CERTIFICATION FOR SOLAR HEATING AND/OR COOLING
SYSTEM PROPERTY TAX EXEMPTION**

Construction Permit Number _____

This is to certify that the solar energy system set forth was designed and installed in conformance with the Uniform Construction Code and is eligible equipment as defined in NJAC, 14A:4-1 and is used primarily for heating/cooling purposes, or heating, water.

This certificate shall remain in full force and effect, subject to the provisions of NJSA 54:4-3.113 et seq.

Date Certified _____

Construction Code Official _____

Date— Copy furnished to Assessor _____

FOR USE BY ASSESSOR ONLY

The within claim for tax exemption is approved on real property referred to as Block No. _____ Lot No. _____ on the tax map of said municipality (or Page _____ Line _____ on the 19__ Tax List.)

Exemption is authorized beginning with tax year 19__ , in the amount of \$ _____ .

DATE _____

ASSESSOR _____

INSTRUCTIONS

A certified application of each solar energy system which qualifies for exemption shall be allowed by the assessor. Claim for the exemption, once certified shall continue in force until December 31, 1982, or until certification has been revoked by the enforcing agency under regulations promulgated by the Department of Community Affairs.

Data concerning the exemption shall be recorded and retained in the Assessor's office. The assessor shall forthwith send a copy of the certified application to the:

Local Property & Public Utility Branch
Appraisal Section—9th Floor

West State & Willow Streets
Trenton, New Jersey 08646

In applying the exemption the assessor may regard the certified solar system as not increasing the value of the property. Accordingly, the provisions of N.J.S.A. 54:4-63.1 to 63.11 the Added and Omitted Assessment Laws, shall not apply to the allowable exemption in the year in which the qualified solar system is completed.

N.J.S.A. 54:4-3.113 et seq. provides that; any person aggrieved by any action of the assessor or of the Director of the Division of Taxation, may seek a review before the Director of the Division of Taxation pursuant to the Administrative Procedure Act, P.L. 1968, C410 (c. 52:14B-1 et seq.). Appeals shall be filed after the tax list has been certified by the County Board of Taxation, but not later than August 15th.

Such request for hearing must be made in writing and should contain the basis for such appeal, and shall include a copy of the approved certification form, and should be mailed to:

Director
Division of Taxation
West State & Willow Streets
Trenton, New Jersey 08646

Copy of such appeal shall be sent forthwith to the assessor.

EXCERPTS FROM N.J.S.A. 54:4-3.113 et. seq.

N.J.S.A. 54:4-3.113 (1.a) "Solar energy" means energy which has recently originated in the Sun, including direct and indirect solar radiation and intermediate solar energy from such as wind and sea thermal gradients.

N.J.S.A. 54:4-3.113 (1.d) "Enforcing agency" means the enforcing agency in any municipality provided for under the State Uniform Construction Code Act, P.L. 1975, c.217 (C. 52:27D-119 et seq.) and regulations promulgated thereunder.

N.J.S.A. 54:4-3.113 (1.e) "Board of appeals" means the municipal or county board provided for under the State Uniform Construction Code Act and regulations promulgated thereunder.

N.J.S.A. 54:4-3.113 (3) No certification shall be made by the enforcing agency as provided herein, except upon written application hereof, which application shall be made under oath on a form prescribed by the Director, Division of Taxation, in the Department of Treasury, and provided for the use of claimant hereunder by the local enforcing agency. The enforcing agency may at any time inquire into the right of a claimant to the exemption hereunder and for that purpose he may require the filing of a new application or the submission of such proof as he shall deem necessary to determine the right of the claimant to the continuance of such exemption, and the enforcing agency shall have to right to make an inspection of the premises which are the subject of the claim for exemption under this act.

N.J.S.A. 54:4-3.113 (4) The enforcing agency, when requested for any such certification, shall certify a system as being a solar heating and cooling system whenever he finds the equipment, facility, device, or system installed, was designed primarily as a solar heating or cooling system in accordance with regulations prescribed by the commissioner. Said certificate shall contain information identifying the system and the cost thereof and shall be in such form and detail as the Director of the Division of Taxation shall prescribe and, further, said certificate shall be submitted to the applicant therefor with a copy retained on file by the enforcing agency, and a copy thereof shall be sent to the assessor of the taxing district in

which such facilities are located and have been installed; and the exemption from taxation for such equipment, facility or device shall become effective for the tax year following the year in which certification has been granted and thereafter during its use primarily for such purposes.

N.J.S.A. 54:4-3.113 (6.a) Any person aggrieved by any action of the enforcing agency may seek review before the board of appeals.

N.J.S.A. 54:4-3.113 (6.b) Any person aggrieved by any action of the assessor or of the Director of the Division of Taxation may seek a review before the Director of the Division of Taxation pursuant to the Administrative Procedure Act, P.L. 1968, c.410 (C.52:14B-1 et seq.).

N.J.S.A. 54:4-3.113 (7) The owner of real property which is equipped with a certified solar heating and cooling system may have exempted annually from the assessed valuation of the real property a sum equal to the remainder of the assessed valuation of the real property with the solar heating and cooling system included, minus the assessed valuation of the real property without the solar heating and cooling system.

N.J.S.A. 54:4-3.113 (8) Subject to the "Administrative Procedure Act" P.L. 1968, c.410 (C. 52:14B-1 et seq.), the Director of the Division of Taxation is authorized to adopt all rules and regulations necessary for the proper certification of any tax exemption, the form of any certificate to be issued and any other matter related to the exemption. The Administrator of the State Energy Office shall establish standards with respect to the technical sufficiency of solar energy systems for purposes of qualification for exemption.

N.J.S.A. 54:4-3.113 (9) This act shall take effect January 1, next following enactment, and shall expire on December 31 of the fifth year following enactment. Approved October 11, 1977.

This form is prescribed by the Director, Division of Taxation in the Department of the Treasury, as required by law, and may not be altered or amended without the approval of the Director.

CHAPTER 4

TECHNICAL SUFFICIENCY STANDARDS FOR
SOLAR ENERGY HEATING AND COOLING SYSTEMS

SUBCHAPTER 1 GENERAL PROVISIONS

14A:4-1.1 Purpose and Scope
14A:4-1.2 Construction and Amendment
14A:4-1.3 Definitions

SUBCHAPTER 2 ELIGIBILITY CRITERIA

14A:4-2.1 Eligible Equipment
14A:4-2.2 Ineligible Equipment
14A:4-2.3 Determination by Administrator

SUBCHAPTER 3 SOLAR SYSTEM STANDARDS

14A:4-3.1 Applicability of New Jersey Uniform Construction Code

Subchapter 1 General Provisions

14A:4-1.1 Purpose and Scope

The technical sufficiency standards for solar energy systems in buildings are designed to establish minimum performance standards for the purpose of obtaining a property tax exemption pursuant to P.L. 1977, C. 256.

14A:4-1.2 Construction and Amendment

- (a) These regulations shall be liberally construed to permit the Commissioner to effectively carry out his statutory functions and to insure the maximum conservation of energy sources within the State; and,
- (b) These rules may be amended by the Director of the Division of Energy Planning and Conservation, pursuant to authority of P.L. 1977, C. 256.

14A:4-1.3 Definitions

"Active solar systems" means those systems which convert the sun's energy into thermal energy, and transport this energy to a storage device through the use of a heat transport medium such as air or a liquid. At this point, the heat is withdrawn and utilized for the purpose for which the system was designed. "Active solar systems" also designate those systems which convert energy directly derived from solar flux into electricity which can then be used in thermal applications.

"Administrator" means the Administrator of the Office of Alternate Technology of the Department of Energy.

"Building" means any residential, commercial, or industrial structure. For purposes of this tax exemption, "building" does not include free standing greenhouses utilized solely for cultivation purposes.

"Concentrating Collector" means a solar collector that contains reflectors, lenses, or other optical elements to concentrate the energy falling on the aperture onto a heat exchanger or surface area smaller than the aperture.

"Eligible" means that a system or piece of equipment qualifies to be included in the determination of the amount of the exemption pursuant to 14A:4-2.1 et seq. and complies with the standards specified in these regulations.

"Eligible Solar Heating and/or Cooling System" means equipment assembled as subsystems and components of a system necessary to convert solar energy into thermal or electric energy for thermal end uses.

"Flat Plate Collector" means a device consisting of an absorptive plate, which may be flat, corrugated or grooved to which tubes or fins are attached as a means of conducting or directing the heat transfer medium. This assembly is surrounded by a casing and one or more sheets of glazing material. This device is used to intercept radiation and convert this radiation into usable thermal energy.

"Glazing" refers to that material which covers a device or building and permits the entry of solar energy, for conversion to thermal energy, but prevents excessive loss of thermal energy from that device or building.

"Heat Transportation Systems" means that portion of a solar heating and/or cooling system used to transfer heat (and complete return cycle) from point of collection, through pipes in liquid systems or ducts in air systems, and/or cooling distribution system or, where appropriate, directly to thermal end-use.

"Passive solar heating systems" means those systems which utilize the architecture of a building to maximize solar heat gains during the cold seasons and minimize heat gain in the hot seasons.

"Solar energy" means energy which has recently originated in the sun, including direct and indirect solar radiation from such sources as wind.

"South" shall be defined as falling within the 90 degree envelope from 45 degrees East to 45 degrees West of the true South.

"Thermal contact ceiling" means a combined roof and heating and/or cooling system composed of containers filled with a liquid solution placed above the roof beams of a building, and is utilized as a heat sink for solar radiation or heat transfer medium from building to atmosphere for cooling during the daylight hours and as a thermal storage insulator during the nocturnal hours. Movable insulation is placed over the water filled containers at night and during cold weather as a means of retaining the absorbed heat.

"Trombe wall" means a south facing wall of the building envelope composed of a mass wall surface with exterior glazing. The mass wall functions as a heat storage device and exterior wall.

Subchapter 2

Eligibility Criteria

14A:4-2.1

Eligible Equipment

The following solar energy equipment is eligible for an exemption as specified below:

- (a) Equipment in solar heating and/or cooling systems and hot water systems including equipment for converting, storing and transporting solar energy shall be considered eligible solar energy equipment.
- (b) Solar energy collectors purchased or constructed for heating and/or cooling of a building or other thermal applications shall be considered eligible solar energy equipment.
- (c) Heat transportation systems which are part of a solar heating system to be used in a building up to a thermal storage device, or until it is integrated with a conventional heating system shall be considered eligible solar energy equipment.
- (d) Solar-electric generation devices, of which 100% of the electricity produced is utilized for thermal applications, shall be considered eligible solar energy equipment.
- (e) Batteries used to store electricity produced by eligible solar-electric generation devices shall be considered eligible solar-energy equipment.
- (f) Equipment of the following types in passive systems:
 - (1.) Glazing material used on the designated solar surface of south facing walls in fenestrating a building as part of a design for the purpose or direct solar heat gain shall be eligible solar energy equipment based on the following equation:

X = Percentage of glazing contained within the designated solar surface of the south facing wall in respect to the area of that wall.

Y = Percentage of glazing on non-solar surfaces (north, east, west wall, and non-solar south walls) in respect to the area of those walls.

Z = Percentage of glazing eligible for abatement.

$$X - Y - Z$$

The percentage of glazing eligible as solar energy equipment (Z) is then multiplied by the total increase in value due to the glazing used on only the designated solar surfaces of the south facing walls.

The product of these calculations will be the basis of the exemption for glazing considered as equipment.

- (2) Equipment such as heads, sills, and jambs used solely as bracing for glass on designated solar surfaces shall be considered eligible solar energy equipment in the same percentage as the glass.
- (3) 50% of skylights and roof glazing shall be considered eligible solar energy equipment only if such devices are used for direct solar heat gain during the daylight hours, and if capable of reducing the heat loss at night and during cold weather through the use of insulating devices.
- (4) Glass, fiberglass, or other glazing materials used to enclose attached south facing areas such as patios, atriums, or greenhouses for purposes of entrapping solar heated air shall be considered eligible solar energy equipment provided that the warm air be circulated through the building by use of a permanently installed air movement system and that adequate provisions have been made to prevent nocturnal heat losses and cold weather heat losses through use of insulating devices.

Equipment such as ductwork and fans used in circulating solar heated air accumulated within enclosed south facing areas such as patios, atriums, or greenhouses, shall be considered eligible solar energy equipment up to the point where such a system is integrated with a conventional heating system. Movable insulation shall be considered eligible solar energy equipment.

- (5) Material used in the construction of a mass wall of a nonload-bearing Trombe wall of a building shall be considered eligible solar energy equipment provided that such a wall is used solely for thermal storage. Should the mass wall of a Trombe wall be a load-bearing structural member, only 50% of the wall shall be considered eligible solar energy equipment. Should the floor of a building be utilized for the same purpose as a mass wall, 25% of the floor shall be considered eligible solar energy equipment.

South facing glazing material used in the construction of a Trombe wall or mass floor of a building shall be considered eligible solar energy equipment in the percentage determined using the formula stated in 14A:4-3.1, f, i.

- (6) 50% of the materials purchased for the construction of a thermal contact ceiling shall be considered eligible solar energy equipment.
- (7) Insulation used to minimize heat loss largely caused by noncturnal radiation through areas used for direct solar heat gain during the daylight hours shall be considered eligible solar energy equipment.

14A:4-2.2

Ineligible Equipment

The following materials and equipment shall not be considered eligible solar energy equipment:

- (a) Building insulation used to reduce heat lost through walls, roofs, slabs, and foundations.
- (b) Uninsulated skylights.
- (c) Heat storage devices or delivery systems which are also utilized for other means of heating and/or cooling including back-up systems.
- (d) Bracing equipment used as building structural members such as columns, beams, and studs.
- (e) Exterior walls and floors constructed of masonry as a means of reducing heat loss.
- (f) Devices such as draperies, venetian blinds, and curtains.
- (g) Heat pumps and other refrigerators shall not be considered solar energy equipment.
- (h) Devices used to extract and store heat generated by organic waste piles.
- (i) Trees, shrubbery, and other forms of vegetation incorporated into a building or site design.
- (j) Solar-powered batteries used to store electricity used to operate lighting equipment and/or household appliances.
- (k) Retaining walls used as thermal storage devices in the case of subterranean housing.

14A:4-2.3

Determination by Administrator

If a solar heating and/or cooling system is neither specifically eligible nor ineligible for exemption, the Administrator shall examine said system to determine its eligibility.

- (a) The applicant for an exemption shall submit information required by the Administrator at the time of application for a construction permit;
- (b) The Administrator shall issue a ruling as to the system's eligibility within 20 working days of receipt of the request for a determination and shall communicate the ruling to the applicant and to the construction official with jurisdiction;
- (c) The Administrator shall notify all construction officials as to his rulings. Rulings of the Administrator are prospective and shall apply to all future exemption applications for systems of that type; and,
- (d) If a determination is not issued within 20 working days of receipt of the request, the system shall be deemed eligible for a full exemption in this case. This will not affect the eligibility of future systems of the same type.

Subchapter 3

Solar System Standards

14A:4-3.1

Applicability of New Jersey Uniform Construction Code

Until the New Jersey Department of Energy promulgates standards for the manufacturing, sale or installation of solar components and/or systems, solar energy systems constructed or purchased for heating and/or cooling utilizing active and/or passive concepts shall comply with applicable provisions of the New Jersey Uniform Construction Code (N.J.A.C. 5:23 et seq.).

(CITE TO N.J.R. 222)

NEW JERSEY REGISTER, THURSDAY, JUNE 8, 1978

COMMUNITY AFFAIRS**THE COMMISSIONER****Proposed Rules on Tax Exemption
For Solar Facilities**

Patricia Q. Sheehan, Commissioner of Community Affairs, pursuant to authority of P.L. 1975, c.217, as amended, proposes to adopt new rules concerning tax exemptions for solar facilities. Such proposed rules were developed jointly by the three departments of Energy, Treasury and Community Affairs.

Full text of the proposal follows:

**SUBCHAPTER 6. TAX EXEMPTION FOR SOLAR
FACILITIES****5:23-6.1 Applications; forms**

Applications for tax exemption pursuant to P.L. 1977, c.256, shall be made on a form prepared by the Department of Treasury, Division of Taxation, and made available to the public at the office of the enforcing agency.

5:23-6.2 Construction official's responsibilities

The construction official shall have responsibility for determining the eligibility of proposed solar heating and cooling systems, pursuant to the standards promulgated in N.J.A.C. 14A:4-1 et seq. The construction official shall consult with the appropriate subcode officials in determining conformity with standards adopted by the Department of Energy pursuant to the act. The construction official shall in addition review the cost estimates provided by the applicant. The construction official may require documentation in the form of signed contracts, contractor estimates and the like if he deems necessary. The construction official shall grant or deny certification of the system prior to issuance of the construction permit and shall notify the applicant of his decision at that time. The construction official shall forward a copy of the approved application for exemption to the municipal assessor for his action upon issuance of the certificate of occupancy or certification of completion.

5:23-6.3 Revocation of certification

(a) The enforcing agency, after giving written notice to the owner may revoke such certification whenever any of the following appears:

1. The exemption was obtained by fraud or misrepresentation;

2. The claimant has not proceeded substantially to proceed with the construction, reconstruction, installation or acquisition of a solar heating/cooling system;

3. The structure or equipment or both to which the certificate relates has ceased providing solar energy and is being used for a different primary purpose;

4. The claimant for tax exemption hereunder has so departed from the equipment, design and construction previously certified by the enforcing agency that, in the opinion of said enforcing agency, the solar heating and cooling system is not suitable and reasonably adequate for the purpose of providing solar energy.

5:23-6.4 Notification of revocation of certification

The construction official shall notify the assessor in writing of the revocation of the certification, pursuant to N.J.A.C. 5:23-6.3.

5:23-6.5 Appeals

Appeals may be made regarding the decision of the construction official to the Construction Board of Appeals, in accordance with N.J.A.C. 5:23-2.10.

Interested persons may present statements or arguments in writing relevant to the proposed action on or before June 28, 1978, to:

Construction Code Enforcement
Department of Community Affairs
P.O. Box 2768
Trenton, N.J. 08625

The Department of Community Affairs may thereafter adopt rules concerning this subject without further notice.

Patricia Q. Sheehan
Commissioner
Department of Community Affairs

NEW JERSEY REGISTER, THURSDAY, JUNE 8, 1978

TREASURY**DIVISION OF TAXATION****Proposed Rules on Property Tax Exemption
For Solar Energy Heating and Cooling Systems**

Sidney Glaser, Director of the Division of Taxation in

the Department of the Treasury, pursuant to authority of N.J.S.A. 54:11 et seq., proposes to adopt new rules concerning a property tax exemption for solar energy heating and cooling systems.

Full text of the proposal follows:

**SUBCHAPTER 8. EXEMPTIONS; SOLAR ENERGY
HEATING AND COOLING SYSTEMS****18:12-8.1 Claims for exemption of solar energy systems;
value of exemption**

An exemption from property tax shall be allowed by the assessor for a solar energy heating and cooling system which has been certified to by the construction code official on a claim for property tax exemption (form SIEE-1). The exemption shall be a sum equal to the remainder of the assessed valuation of the real property with the solar energy heating and cooling system included, minus the assessed valuation of the real property without the solar energy heating and cooling system.

18:12-8.2 Term of exemption

Claim for the exemption, once certified shall continue in force until December 31, 1982, or until certification has been revoked by the enforcing agency (construction code official) under regulations promulgated by the Department of Community Affairs.

**18:12-8.3 Certified copy of application to director, Division
of Taxation**

Data concerning the exemption shall be recorded and retained in the assessor's office. Accordingly, the assessor shall forthwith send a copy of the certified application to the:

Local Property and Public Utility Branch
Appraisal Section - Ninth Floor
West State and Willow Streets
Trenton, New Jersey 08646

18:12-8.4 Effect of valuation of solar energy system

In applying the exemption, the assessor may regard the certified solar energy system as not increasing the value of the property. Accordingly, the provisions of N.J.S.A. 54:4-63.1 to 63.11, the added and omitted assessment laws, shall not apply to the allowable exemption in the year in which the qualified solar energy system is completed.

18:12-8.5 Applicant's administrative remedy

N.J.S.A. 54:4-3.111, et seq. provides that any person aggrieved by any action of the assessor or of the director of the Division of Taxation, may seek a review before the director of the Division of Taxation pursuant to the Administrative Procedure Act, P.L. 1968, c. 410 (C. 52:14B-1, et seq.). The request for review shall be filed after the tax list has been certified by the county board of taxation, but not later than August 15.

**18:12-8.6 Procedure for review; copy of request for review
to go to the assessor of municipality**

(a) The request for a review must be made in writing and should contain the basis for such request, and shall include a copy of the approved certification (form SIEE-1), which should be mailed to:

Director
Division of Taxation
West State and Willow Streets
Trenton, New Jersey 08646

(b) Copy of the request for review shall be sent forthwith to the assessor of the municipality in which the property is located.

Interested persons may present statements or arguments in writing relevant to the proposed action on or before June 28, 1978, to:

Jack Silverstein
Chief Tax Counselor
Division of Taxation
West State and Willow Streets
Trenton, N.J. 08646

The Department of the Treasury may thereafter adopt rules concerning this subject without further notice.

Sidney Glaser
Director, Division of Taxation
Department of the Treasury

PROPOSED

DEPARTMENT OF COMMUNITY AFFAIRS

SOLAR HEATING AND COOLING SYSTEM
TAX EXEMPTION REGULATIONS

5:23-6.1. - Applications for tax exemption pursuant to P.L. 1977, c.256, shall be made under oath on a form prepared by the State Division of Taxation, and made available to the public at the office of the enforcing agency.

5:23-6.2 (a) - The construction official shall have responsibility for determining the eligibility of proposed solar heating and cooling systems pursuant to the standards promulgated in N.J.A.C. 14A:4-1 et seq. The Construction official shall consult with the appropriate subcode officials in determining conformity with standards adopted by the Department of Energy pursuant to the Act.

The construction official shall in addition review the cost estimates provided by the applicant. The construction official may require documentation in the form of signed contracts, contractor estimates and the like if he deems necessary.

The construction official shall certify or deny certification of the system at or prior to the time of issuance of the construction permit, and notify the applicant of his action at that time.

The construction official shall forward a copy of the approved application for exemption to the assessor for his action upon issuance of the certificate of occupancy or certificate of final inspection. 5:23-6.3 - The enforcing agency, after giving notice to the owner may revoke such exemption whenever any of the following appears:

- (A) The exemption was obtained by fraud or misrepresentation;
- (B) The claimant for tax exemption has failed substantially to proceed with the construction, reconstruction, installation or acquisition of a solar heating cooling system;
- (C) The structure or equipment or both to which the certificate relates has ceased providing solar energy and is being used for a different primary purpose;
- (D) The claimant for tax exemption hereunder has so departed from the equipment, design and construction previously certified by the enforcing agency that, in the opinion of said enforcing agency the solar heating and cooling system is not suitable and reasonably adequate for the purpose of providing solar energy.

5:23-6.4 The construction official shall notify the assessor of the revocation of the exemption in writing.

5:23-6.5 - Appeals to the Board of Appeals shall be in the same manner as provided under the Uniform Construction Code Act.

**A Directory of:
New Mexico
Solar Energy
Businesses**



**New Mexico
Solar Energy Institute**

NMSEI 0-0-2

Tapping New Mexico's Solar Resource



**New Mexico
Solar Energy Institute**
Box 3 SOL; Las Cruces, New Mexico 88003
(505) 646-1846
NIMSEI 9-0-1



Solar systems now on the market often provide up to 90 percent of the hot water for a household. They can also meet similar needs for farms and small businesses. Though installation costs may be high, solar hot water heaters stand a good chance of paying for themselves in the long run through lower gas and electric bills. In years to come, rising costs of other types of energy will almost certainly shorten pay-off times.

The key to any solar system is the way it gathers the sun's heat. Usually energy is gathered by collectors on a roof or in some other area which receives plenty of sunshine. It is important that collectors be set up in places where very few shadows will fall on them.

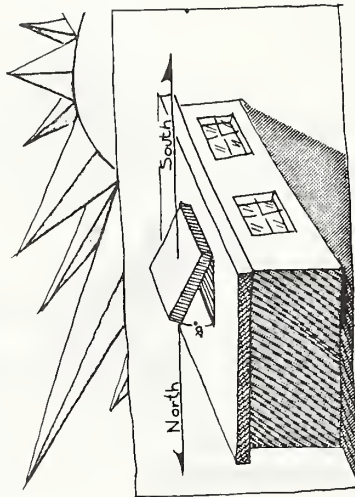
New Mexico has one of the best climates in the United States for using solar energy. Except for a few mountain areas where the weather is often cloudy, the state has clear skies most of the time and gets lots of sunshine all year round. It is possible to collect and store enough solar warmth, even in winter, to heat houses, office buildings, factories and water.

A look at the map will give you an idea how much sunshine you can expect where you live. Solar systems may be somewhat less efficient in the shaded areas, but they should still work well for many purposes.

The way to get the most direct sunlight on a collector is to connect it to a motor which turns it to follow the moving sun across the sky. Collectors which do this are called tracking collectors. Since they are costly and hard to keep adjusted, they are rarely used for general heating.

Far more common are fixed collectors which look like shallow rectangular boxes with glass fronts. They are relatively inexpensive and can collect some of the energy which gets through the clouds on overcast days. Thus they have a double advantage over tracking collectors.

In New Mexico, fixed collectors facing south and tilted about 20 degrees above horizontal will serve the needs of most houses, farms and small businesses. You may obtain information on setting up collectors for a particular area or use by writing the New Mexico Solar Energy Institute.



Experts say space heating accounts for nearly 60 percent of the energy consumed by households in New Mexico. Air conditioners of all sorts use up no more than 2 percent of the total home energy load. A switch to solar would help lower the large amount of electricity and petroleum used for heating.

Though solar costs may be high at first, the prospect of long-term savings ought to be considered. This is particularly true for new houses which may be designed with solar in mind. What applies to residential buildings also applies to many businesses and schools. On farms solar energy may also be an excellent choice for heating barns, greenhouses and hen-houses.

Cost is not the only reason for considering solar energy. Solar hot water heaters, for example, have many other advantages:

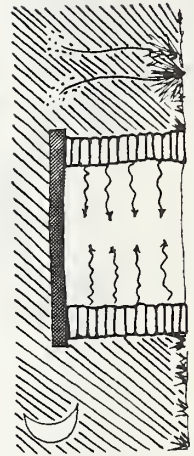
- they are easily fitted to existing buildings;
- many take advantage of the storage capacity of already installed conventional units;
- they lower energy bills all year, not just for a single season; and
- there are several commercial models to choose from.

In older buildings solar hot water is likely to work well, but trying to put in solar space heating is usually more expensive and less satisfactory. Even so, there may be advantages in adding solar heat to some already standing buildings. Anyone thinking about such a step would be wise to consult an engineer knowledgeable in solar matters before spending any money.

Those building new houses may wish to consider a so-called passive solar design instead of collectors. Passive systems seek to collect solar heat in roofs, walls or in some special feature like a water bag, a pool or a rockpile. Heat gathered this way may be blown about the house by fans or allowed to circulate on its own by convection.



Heat collected in thick walls...



... Continues to circulate.

In addition to heating, many passive designs seek to include some cooling for summer. This involves a reversal of the warming process. The wall, water bag or rockpile which absorbs heat in winter remains covered on hot summer days. At night it is left exposed for cooling. Convection or fans then circulate the lower temperature air through the passive house.

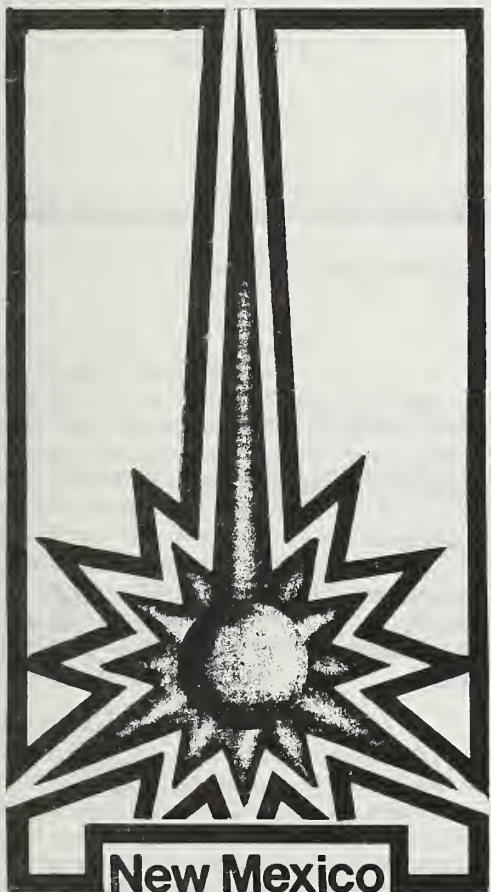
Builders of New Mexico's traditional adobe houses were among the state's earliest passive designers. They used inner patios, heavily shuttered windows and thick dirt walls to maintain comfortable indoor temperatures throughout the year. In winter adobes may be heated with a minimum amount of energy in the form of firewood. In summer they may be opened to any passing breeze.

If you wish to use solar energy yourself, you may want to talk to a builder, architect or engineer who knows more about the subject. Or you may wish to try building a collector or working out a passive design of your own. Public libraries and book stores can provide you with additional solar information. Whatever your needs or wishes, you are welcome to write the New Mexico Solar Energy Institute's Education and Information Division for more data on tapping New Mexico's solar resource.

New Mexico Solar Energy Institute

Box 3 SOL, Las Cruces, New Mexico 88003
(505) 646-1846
NMSEI 9-0-1

New Mexico Solar Tax Credit



New Mexico Solar Energy Institute

Box 3 SOL; Las Cruces, New Mexico 88003
(505) 646-1846 NMSEI 0-0-6

Solar Energy Informational Services



New Mexico Solar Energy Institute

Box 3 SOL; Las Cruces, New Mexico 88003
(505) 646-1846 NMSEI 0-0-6

Application for Tax Exemption of Solar or Wind Energy Systems

PLEASE READ INFORMATION AND FILING REQUIREMENTS ON PAGE 3

(Prepare in duplicate)

1. Name of Owner(s) of Property	Post Office Address

2. Location of Property							
Post Office Address if Different from 1. Above _____ <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none;">_____</td> <td style="width: 33%; border: none;">_____</td> <td style="width: 33%; border: none;">_____</td> </tr> <tr> <td style="text-align: center; border: none;">City-Town-Village</td> <td style="text-align: center; border: none;">School District</td> <td style="text-align: center; border: none;">County</td> </tr> </table>		_____	_____	_____	City-Town-Village	School District	County
_____	_____	_____					
City-Town-Village	School District	County					

3. Description of parcel, as it appears on the assessment roll, to which solar or wind energy system has been added:

4. Description of solar or wind energy system (attach additional sheets, if necessary):		
<input type="checkbox"/> Wind Energy System <input type="checkbox"/> Electrical Generation <input type="checkbox"/> Water Pumping	<input type="checkbox"/> Solar Energy System <input type="checkbox"/> Active <input type="checkbox"/> Hot Water <input type="checkbox"/> Heating <input type="checkbox"/> Combination <input type="checkbox"/> Other	<input type="checkbox"/> Passive <input type="checkbox"/> Drum Wall <input type="checkbox"/> Masonry Wall <input type="checkbox"/> Water Wall <input type="checkbox"/> Roof Pond <input type="checkbox"/> Insulating Panel configurations <input type="checkbox"/> Other
Written description: <div style="border: 1px solid black; height: 150px; margin-top: 5px;"></div>		

5. Date of completion of solar or wind energy system:	_____	_____
	Month	Year

6. Cost of solar or wind energy system \$ _____

I, _____, hereby certify that the information on this application and any accompanying papers constitutes a true statement of fact.

Signature of owner or authorized representative

GENERAL INFORMATION AND FILING REQUIREMENTS

1. Authorization for exemption.

Section 487 of the Real Property Tax Law exempts from taxation, but not special ad valorem levies or special assessments, real property which includes a solar or wind energy system satisfying guidelines established by the New York State Energy Office. The exemption is equal to the increase in assessed value of the property attributable to the inclusion of the solar or wind energy system and is to be granted for a period of fifteen (15) years. The solar or wind energy system must be existing or constructed before July 1, 1988.

2. Place of filing application.

Application for exemption from county, city, town and school district taxes must be filed with the city or town assessor who prepares the assessment roll used in levying county, city, or town and school district taxes. If the property is also located within a village, a separate application for exemption from village taxes must be submitted to the village assessor. In Nassau County, application for exemption from county, town, and school district taxes must be filed with the Nassau County Board of Assessors. In Tompkins County, application for exemption

from county, city, town, village, and school district taxes must be filed with the Tompkins County Division of Assessment. Two copies of this application are to be filed with the assessor. Upon approval or disapproval the assessor shall transmit one copy to the State Board of Equalization and Assessment, Empire State Plaza, Agency Building, No. 4, Albany, New York, 12223.

3. Time of filing application.

The application must be filed in the assessor's office on or before the appropriate taxable status date. In towns preparing their assessment rolls in accordance with the schedule provided in the Real Property Tax Law, the taxable status date is May 1. In towns in Erie, Suffolk, and Westchester Counties, the taxable status date is June 1. In cities, the taxable status date is determined by the city charter provisions and the city assessor's office should be consulted for the specific date. Taxable status date in most villages is January 1, but the village clerk should be consulted for variations.

THE STATUTE REAL PROPERTY TAX LAW, SECTION 487

§487. Exemption from taxation for certain solar or wind energy systems. 1. As used in this section:

(a) "Solar or wind energy equipment" means collectors, controls, energy storage devices, heat pumps and pumps, heat exchangers, windmills, and other hardware or equipment necessary to the process by which solar radiation or wind is received and converted into another form, such as thermal, electrical, mechanical or chemical energy.

(b) "Solar or wind energy system": means an arrangement or combination of solar or wind energy equipment designed to provide heating, cooling, hot water, or mechanical, chemical, or electrical energy by the collection and storage of solar or wind energy. It does not include pipes, controls, insulation or other equipment which are part of the normal heating, cooling or insulation system of a building, but relates to means of collecting, converting and storing energy from solar radiation or wind.

(c) "Energy office" means the state energy office established by subdivision one of section 5-101 of the energy law.

2. Real property which includes a solar or wind energy system approved in accordance with the provisions of this section shall be exempt from taxation to the extent of any increase in the value thereof by reason of the inclusion of such solar or wind energy system for a period of fifteen years.

3. On or before January first, nineteen hundred seventy-eight, the commissioner of the energy office shall provide definitions and guidelines for the eligibility for exemption of the solar and wind energy equipment and systems described in paragraphs (a) and (b) of this section.

4. No solar or wind energy system shall be entitled to any exemption from taxation under this section unless such system meets the guidelines set by the commissioner of the energy office and all other applicable provisions of law.

5. The exemption granted pursuant to this section shall only be applicable to solar or wind energy systems which are existing or constructed prior to July first, nineteen hundred eighty-eight.

6. Such exemption shall be granted only upon application by the owner of the real property on a form prescribed and made available by the state board in cooperation with the energy office. The applicant shall furnish such information as the board shall require. The application shall be filed with the assessor of the appropriate county, city, town or village on or before the taxable status date of such county, city, town or village. A copy of such application shall be filed with the state board. The energy office shall have access to such applications and, on January first, nineteen hundred seventy-nine and annual thereafter until January first, nineteen hundred eighty-eight, shall provide the governor and the legislature with a summary of the data available. On or before January first, nineteen hundred eighty, the energy office shall report to the governor and the legislature on the feasibility of granting real property tax exemptions for other renewable resource systems.

7. If the assessor is satisfied that the applicant is entitled to an exemption pursuant to this section, he shall approve the application and enter the taxable assessed value of the parcel for which an exemption has been granted pursuant to this section on the assessment roll with the taxable property, with the amount of the exemption as computed pursuant to subdivision two of this section in a separate column. In the event that real property granted an exemption pursuant to this section ceases to be used primarily for eligible purposes, the exemption granted pursuant to this section shall cease.

SPACE BELOW FOR USE OF ASSESSOR

Date Application Filed _____

Applicable Taxable Status Date _____

Application Approved

Application Disapproved

Assessed valuation of parcel
Including value attributable
to solar or wind energy
system \$ _____

Assessed valuation of parcel
excluding value attributable
to solar or wind energy
system \$ _____

Assessed valuation of
exemption granted
(difference between above) \$ _____

First assessment roll on
which exemption is to be
granted _____

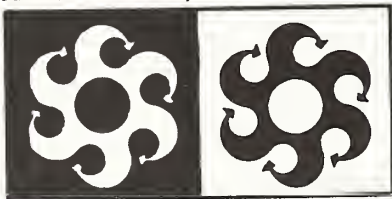
Last assessment roll on
which exemption is to be granted _____

Signature of Assessor

Date

Solar and Wind Energy Systems Definitions and Guidelines For Property Tax Exemptions

State of New York
Hugh L. Carey, Governor
New York State Energy Office
James L. Larocca, Commissioner



Section 487 of the New York State Real Property Tax Law, enacted in 1977, provides a 15-year property tax exemption for solar and wind energy systems constructed prior to July 1, 1988. Subdivision 3 of this law requires the Commissioner of the State Energy Office to provide definitions and guidelines establishing eligibility for exemption for these systems. Those definitions and guidelines follow.

Summary:

The intent of the legislation providing the real property tax exemption is to encourage the use of alternate energy sources – solar and wind energy. By providing tax exemption for these systems, property owners installing them will be assured of no penalty in the form of increased real property assessment based upon their system's *value*.

At the outset, it should be noted that the exemption prohibits any increase in assessed value which is attributable to the solar or wind energy system. The purchase cost of the system is not the basis for the exemption; the possible increased property value resulting from installation of such a system is the determining factor.

The basic definitions are distinct from the guidelines. The definitions identify solar and wind systems which qualify for exemption. The guidelines suggest the interpretation of these definitions for use by the homeowner and assessor

Guidelines:

WIND ENERGY SYSTEMS

Two commonly used wind energy systems are depicted below:

Wind System A collects wind energy through means of a propeller or blade configuration and converts this energy by means of a gearing mechanism connected to a generator which transmits electrical energy to the owner for immediate usage or to batteries for storage.

For property tax assessment purposes, the windmill unit and its foundation, the generator and wiring to the storage batteries and up to the inverter at interface with the conventional building distribution system, qualify for exemption.

Wind System B collects wind energy through means of a propeller or blade configuration and converts this energy to mechanical energy for pumping water for immediate use or to a tank or pond for storage purposes.

For property tax assessment purposes, the windmill unit and its foundation, the pump, and piping to the storage unit qualify for exemption.

Definitions:

Equipment –

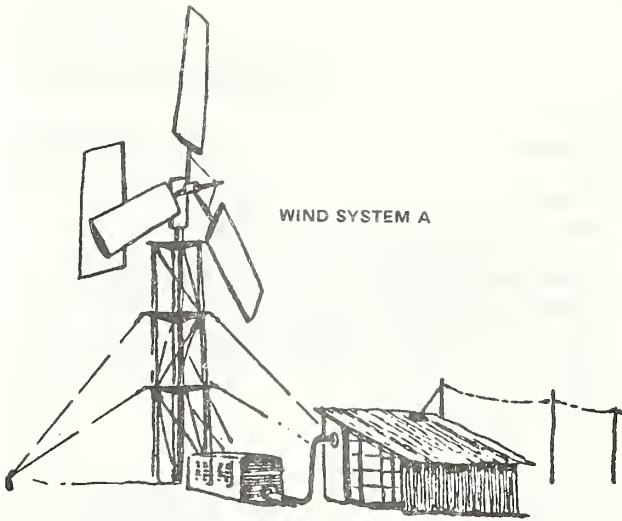
“Solar and wind energy equipment” means collectors, controls, energy storage devices, heat pumps, and pumps, heat exchangers, windmills or other hardware or equipment necessary to the process by which solar radiation or wind is received and converted into another form, such as thermal, electrical or chemical energy. (As defined in Section 487(1) of the Real Property Tax Law)

System –

“Solar or wind energy system” means an arrangement or combination of solar or wind energy equipment designed to provide heating, cooling, hot water, or mechanical, chemical, or electrical energy by the collection and storage of solar or wind energy. It does not include pipes, controls, insulation or other equipment which are part of the normal heating, cooling or insulation system of a building, but related to means of collecting, converting and storing energy from solar radiation or wind. (As defined in Section 487(1) of the Real Property Tax Law)

The definitions, broad in scope, provide the basic legal definition to be used for granting exemptions. Recognition by the assessor should be made to the “collecting, converting and storing” aspects of the systems.

The above definition of the system excludes the normal building systems from exemption under this law. Conventional, backup heating and cooling systems do not qualify for exemption.



SOLAR ENERGY SYSTEMS

Solar energy can be collected by two methods:

Active systems collect solar energy but require external mechanical power to move the energy collected.

Passive systems use little or no external mechanical power to move the collected solar energy.

Many new buildings which use solar energy will include both active and passive systems in their design.

Active Solar Energy Systems:

Active systems are easily recognizable. They are distinguished by having solar collectors mounted on or near the building.

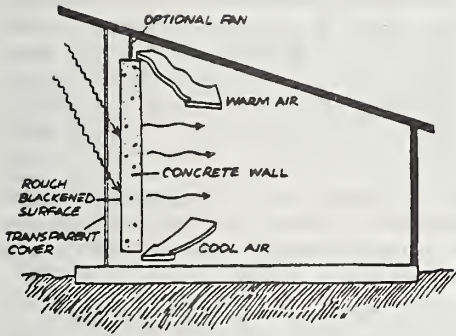
In New York State, active systems generally only provide a portion of the heating, cooling, or hot water requirements of the building. The current costs of such systems, coupled with the uncertain daily availability of sunlight, require that a conventional heating, cooling, or hot water system also be available for backup purposes.

For property tax assessment purposes, the conventional system — including burner or furnace and delivery system — do *not* qualify for exemption under this law. *Only the solar system*, from exterior collector to the interior point of connection with the conventional unit, *is eligible for exemption.**

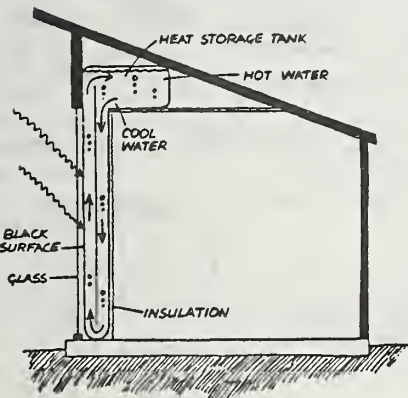
In the case of solar heaters for swimming pools, the collectors, mounting brackets and piping to the pool are eligible for exemption. The pool itself serves a primary purpose unrelated to solar energy use and is *not* eligible for exemption. Likewise, when a cabana type building houses the collector and mounting brackets, the only equipment eligible for exemption is the collectors and mounting brackets; the building itself does not qualify for exemption.

Shown below are typical active solar heating and hot water systems.

*When solar assisted heat pumps are used in conjunction with solar systems, any increase in value to the property directly resulting from the heat pump, *excluding* its resistance heating and cooling components, may qualify for exemption.

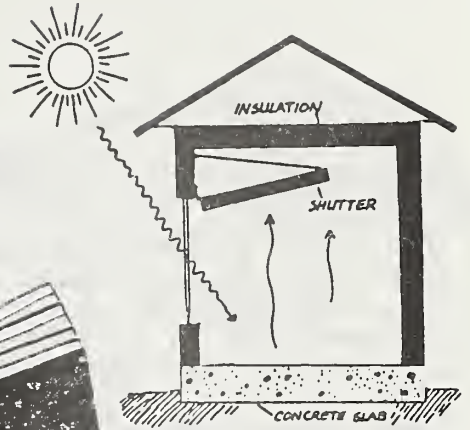


MASONRY WALL



WATER WALL

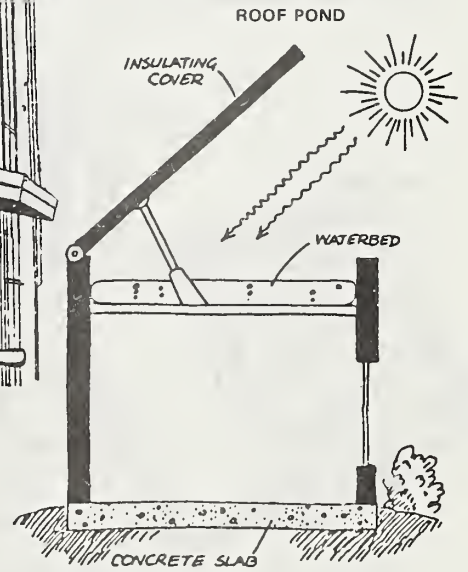
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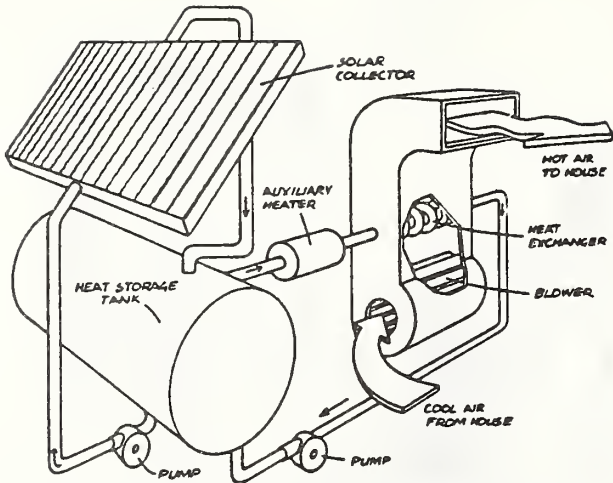
MOVABLE INSULATING PANEL



MOVABLE INSULATING PANEL AND WINDOWS

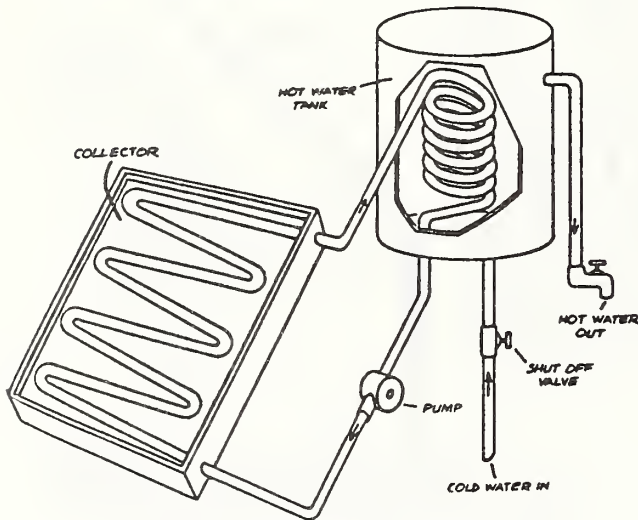


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A typical active system for solar heating using water for collection and hot air for distribution.

Note that the heat storage can also be a bin of rocks or a collection of eutectic salt cannisters.

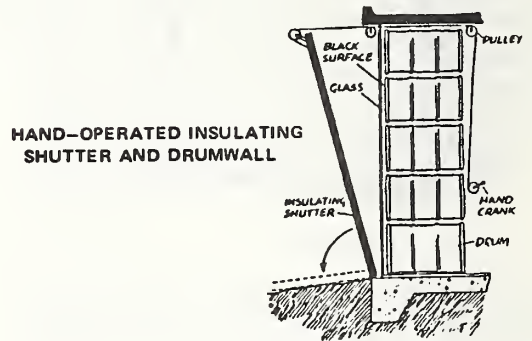
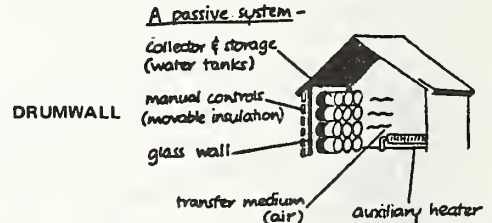


Solar hot water heater with heat exchanger inside the tank.

Passive Solar Energy Systems:

Passive systems are more difficult to identify than active systems because of their close integration with the building and its other systems. By their nature, passive systems have the greatest use in new building projects. Passive design involves a common sense approach to energy efficient construction. Orientation of the home, size and placement of windows, use of draperies, extent of roof overhang, use of landscaping and minimization of exposed northerly wall and window areas are basic considerations that may maximize passive solar energy use. For tax assessment purposes, these considerations above do not qualify for exemption since they do not in themselves constitute a passive solar energy system.

Examples of passive systems which may qualify for exemption are shown and described below. They include drumwall, masonry (trombe) wall, water wall, roof pond, and movable insulating panel configurations. Other, less common, passive systems exist which may be used in this state. General guidelines for their assessment follow the description of the above mentioned systems.



For property tax assessment purposes, the following guidelines apply to passive solar energy systems.

1. Since components of passive systems also serve functions other than collecting and storing solar energy, in some cases it may be necessary to determine the **added value** to the building because of its use of solar energy. In these cases, the value of the exemption should equal that added value.

2. While passive solar energy systems may be more difficult to identify, the assessor is most likely to confront them in new construction or major renovations. For that reason, the process of determining value may be made easier by the provision of available cost data by the applicant.

3. **Drumwalls** — For property tax assessment purposes, the full property value of such configurations should qualify for exemption.

4. **Masonry or Water Walls** — These passive configurations on the south facing walls of buildings have a glass or clear panel exterior glazing and store solar energy in the mass of the masonry or in the water (liquid) medium. For property tax purposes, these configurations qualify for exemption in a value equaling the property value of the wall with the solar collection and storage, minus the value of a typical exterior wall in this building.

5. **Roof Ponds** — The roof pond configuration provides for a solar collector and storage unit above the normal roof supporting system. These passive systems require the use of movable insulating panels for their effective use. For property tax assessment purposes, the qualifying value of the tax exemption should be equal to the value of the solar roof and related equipment, minus the value of a standard roof.

Insulating Panels — Several passive systems require use of movable insulating panels or shutters. These serve to prevent heat loss or gain through the exterior surfaces. For property tax assessment purposes, this equipment should qualify for exemption.

Other Passive Systems — There are other types of passive solar energy systems which are designed to provide more energy than they use (or lose). Generally, they have a positive energy value if they include:

- a. a heat storage medium (usually an extra thick concrete slab, masonry walls or large water container storage units);
- b. a transfer method or passage to move the energy to the building itself; and
- c. thermal protection to reduce energy loss. (In solar greenhouses, for example, a double glazing of glass, polyethylene, fiberglass or combination of these will provide this protection. Use of movable insulating panels also meets this need.)

These passive solar energy systems should include all these characteristics. (Solar greenhouses, for example, may qualify for an exemption equal to the market value of the improvements made to maximize energy gain.)

Form D-405
(10-77)

NORTH CAROLINA DEPARTMENT OF REVENUE
INDIVIDUAL INCOME TAX DIVISION

CREDITS AGAINST INDIVIDUAL INCOME TAX

(Attach to Form D-400. Use a separate form for each spouse if required.)

Name as shown on Form D-400	Social Security Number	Year
<p>PART I. – TAX CREDIT FOR INCOME TAX PAID TO ANOTHER STATE OR COUNTRY – N. C. RESIDENTS ONLY</p> <p>When income is taxed by North Carolina for a period during which the taxpayer was a legal resident of this State and the same income is also taxed by another state or country because it was earned in or derived from sources within that state or country, a tax credit as determined below may be claimed, but not on the basis of a withholding statement alone. Attach a copy of the income tax return filed with the other state or country on which the correct tax is computed and a copy of the check or receipt if a balance of tax was paid.</p>		
1. Adjusted gross income reported to North Carolina (from line 11, page 1, Form D-400)		
2. The portion of line 1 above which was taxed by another state or country		
3. Percentage (divide line 2 by line 1)		%
4. Amount of North Carolina tax (from page 1, line 16a, Form D-400)		
5. Computed tax credit (line 3 times line 4)		
6. Amount of tax paid the other state or country on the income shown on line 2 above		
7. Enter here the lesser of line 5 or line 6		
8. Add share of tax credit from _____ trust or estate		
9. Total. Carry to line 1, PART V		
<p>PART II. – CREDIT FOR INSULATION, STORM WINDOWS, AND STORM DOORS</p>		
1. Cost of installation and equipment not exceeding \$400 for any single building or family dwelling unit		
2. Credit, multiply line 1 by .25 (25%) (may not exceed amount paid during year)		
3. Add share of credit from _____ partnership		
4. Total. Carry to line 2, PART V		
<p>PART III. – CREDIT FOR HANDICAPPED DWELLING UNITS</p>		
Number of units <input type="text"/> x \$27.50. Enter here and carry to line 3, PART V		
<p>PART IV. – CREDIT FOR SOLAR HEATING, COOLING, OR HOT WATER SYSTEMS</p>		
1. Cost of installation and equipment not exceeding \$4,000 for any single building or family dwelling unit		
2. Credit, multiply line 1 by .25 (25%) (may not exceed amount paid during year)		
3. Add share of tax credit from _____ partnership		
4. Total. Carry to line 4, PART V		
<p>PART V. – SUMMARY OF TAX CREDITS</p>		
1. Credit for tax paid to another state or country (PART I)		
2. Credit for insulation, storm windows and doors (PART II)		
3. Credit for handicapped dwelling units (PART III)		
4. Credit for solar energy systems (PART IV)		
5. Carry-over credit from previous year (attach schedule)		
6. Total credit. Carry to line 16c, page 1, Form D-400		

INSTRUCTIONS

PART I. – CREDIT FOR TAX PAID TO ANOTHER STATE OR COUNTRY

General Information

A legal resident of North Carolina is required to report all of his income to this State. He may also be taxed by another state or country on any income earned in or derived from sources within that state or country. If so, he may be eligible to claim a tax credit.

A credit cannot be claimed for income tax paid to the Federal Government or to a city or county.

A tax credit may be claimed on the North Carolina return by a beneficiary of an estate or trust who has income on which the estate or trust has paid an income tax to another state or country.

How To Claim Tax Credit

Complete the return, Form D-400, include all income both within and without the State, and compute the tax as though no credit is to be claimed.

Complete Part I to determine the amount of tax credit and attach it to the return with a copy of the return filed with the other state and proof of payment (copy of canceled checks, receipt, or a wage and tax statement showing tax withheld by the other state if a refund is claimed with the other state.)

PART II. – CREDIT FOR INSULATION, STORM WINDOWS, AND STORM DOORS

Credit is allowable to an individual, including an individual member of a partnership, who installs during 1977 or 1978 new or additional insulation, storm windows, or storm doors in a building located in North Carolina which was built and occupied prior to 1977.

The taxpayer must be liable for payment and the credit for a taxable year may not exceed the portion of the cost paid by the taxpayer during the year. The credit is limited to 25% of the cost, but it may not exceed \$100 in any year for any single building or for each family unit of a multi-dwelling building. The credit may not exceed the tax liability for the year reduced by all other credits.

Insulation means materials that will reduce the heat loss or heat gain of a building. The equipment must have a useful life of at least three years and must meet the insulation standards of the Building Codes Council.

PART III. – CREDIT FOR CONSTRUCTION OF DWELLING UNITS FOR HANDICAPPED PERSONS

Credit is allowable to a North Carolina resident who is an owner of multi-family rental units located in North Carolina for dwelling units completed during the taxable year which conform to section (IIX) of the North Carolina Building Code. To receive the credit the taxpayer must attach a copy of the occupancy permit on which the building inspector has recorded the number of units completed during the year. If the credit exceeds the tax liability for the year reduced by all other credits, the excess may be carried over only to the succeeding tax year. A taxpayer who is entitled to a carry-over must attach a schedule showing how the amount of the carry-over was determined.

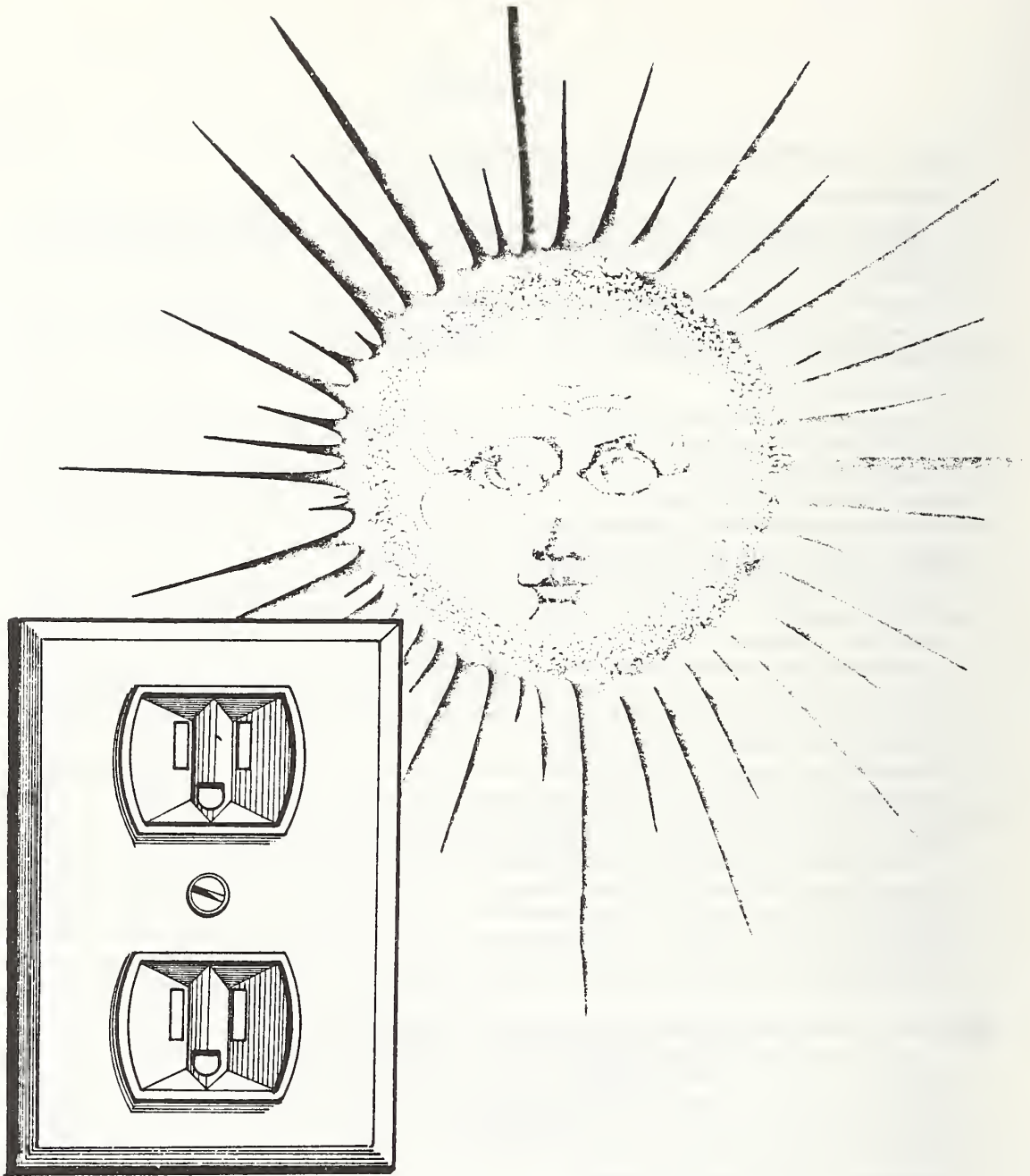
PART IV. – CREDIT FOR SOLAR HEATING, COOLING, OR HOT WATER SYSTEMS

Credit is allowable to an individual, including an individual member of a partnership, who constructs or installs a solar heating, cooling, or hot water system in a building located in North Carolina which the taxpayer owns or controls. The credit for a taxable year may not exceed the portion of the cost paid by the taxpayer during the year and is limited to 25% of the cost but may not exceed \$1,000 in any year for any single building or for each family unit of a multi-dwelling building which is individually metered for electric power or natural gas or with a separate furnace for oil heat paid for by the occupant.

In the case of property owned by the entirety, each spouse may claim one-half the credit, or one spouse may, by agreement with the other spouse, claim the entire credit, provided they were living together at the end of the year and file a combined return. If only one spouse is required to file, that spouse may claim the credit.

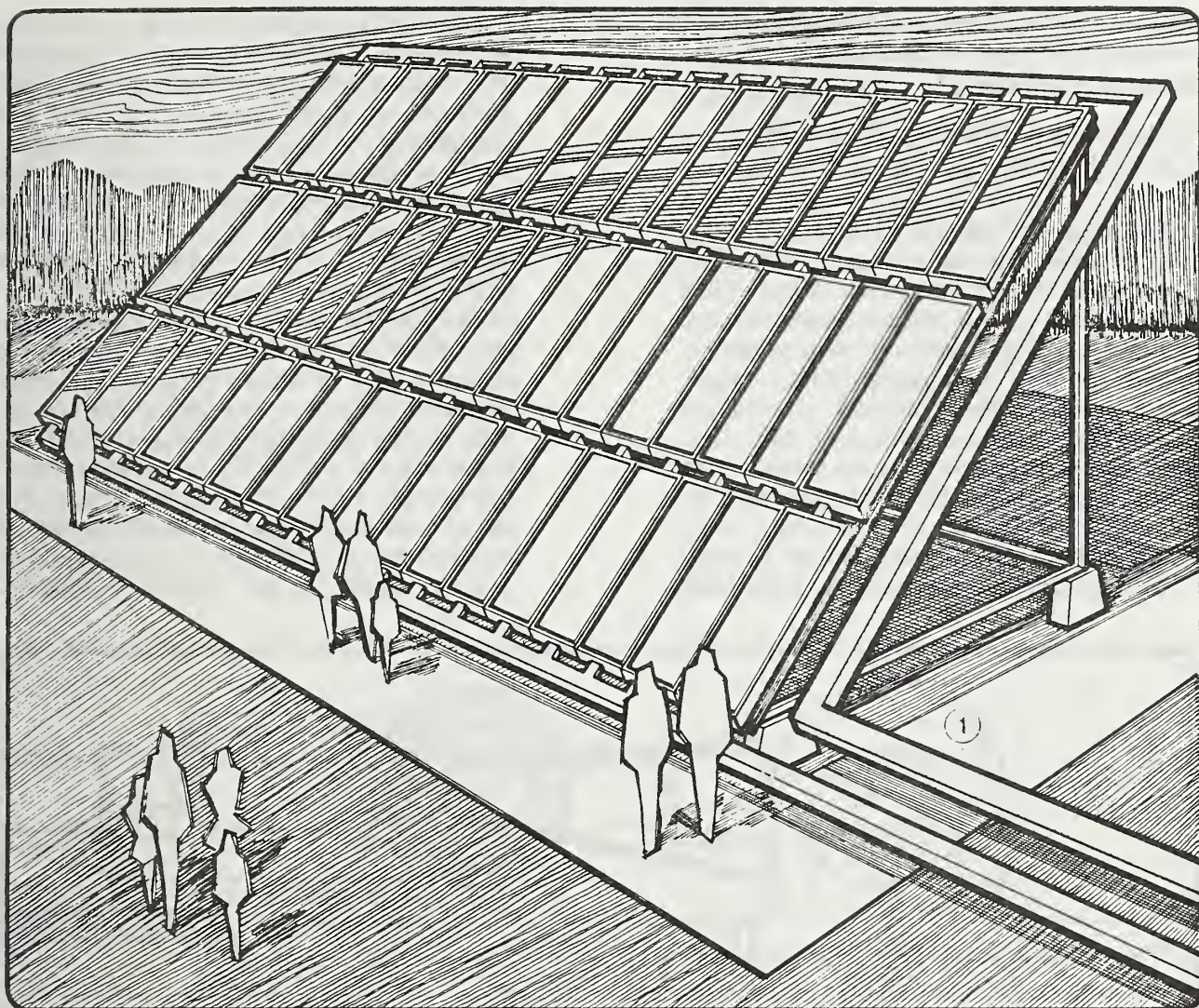
The equipment must meet the performance criteria prescribed under the Solar Heating and Cooling Demonstration Act of 1974 (42 USCA 5501, et seq) and any amendments thereto.

If the credit exceeds the tax liability for the year reduced by all other credits, the excess may be carried over to the three succeeding years. A taxpayer who is entitled to a carry-over must attach a schedule to show how the amount of the carry-over was determined.



SOLAR-ELECTRIC

POWER GENERATION FOR NORTH CAROLINA



The solar energy system being developed at the NCSU research farm just off the beltline on Ligon Road is a unique combination of components that with only two exceptions are available from stock items. Solar energy is absorbed by nearly 2000 square feet of flat plate collectors (1) facing due south and angled at 45 degrees.

Freon 114 was chosen as a working fluid in place of water in this system because it boils to produce a high pressure gas (165 psig) at a temperature low enough (200 degrees F.) to permit the collectors to operate at a relatively high efficiency. The operating principle of the system however

is the same as that used by the power companies to generate electricity. Instead of a coal or oil fire or the heat of a nuclear reaction, this system employs the rays of the sun as the heat source. A system of this size can provide the average residence in North Carolina with 100% of its electrical energy needs. (1000 KWH/month or about \$40. at present rates)

Starting with the freon pump (2) liquid freon first moves through the regenerator (3) which is actually a preheater then through a system of manifolds which distribute it to the bottom of the collector array. (1) Entering the collectors as a liquid the freon is vaporized by the solar energy absorbed by the panels. The freon

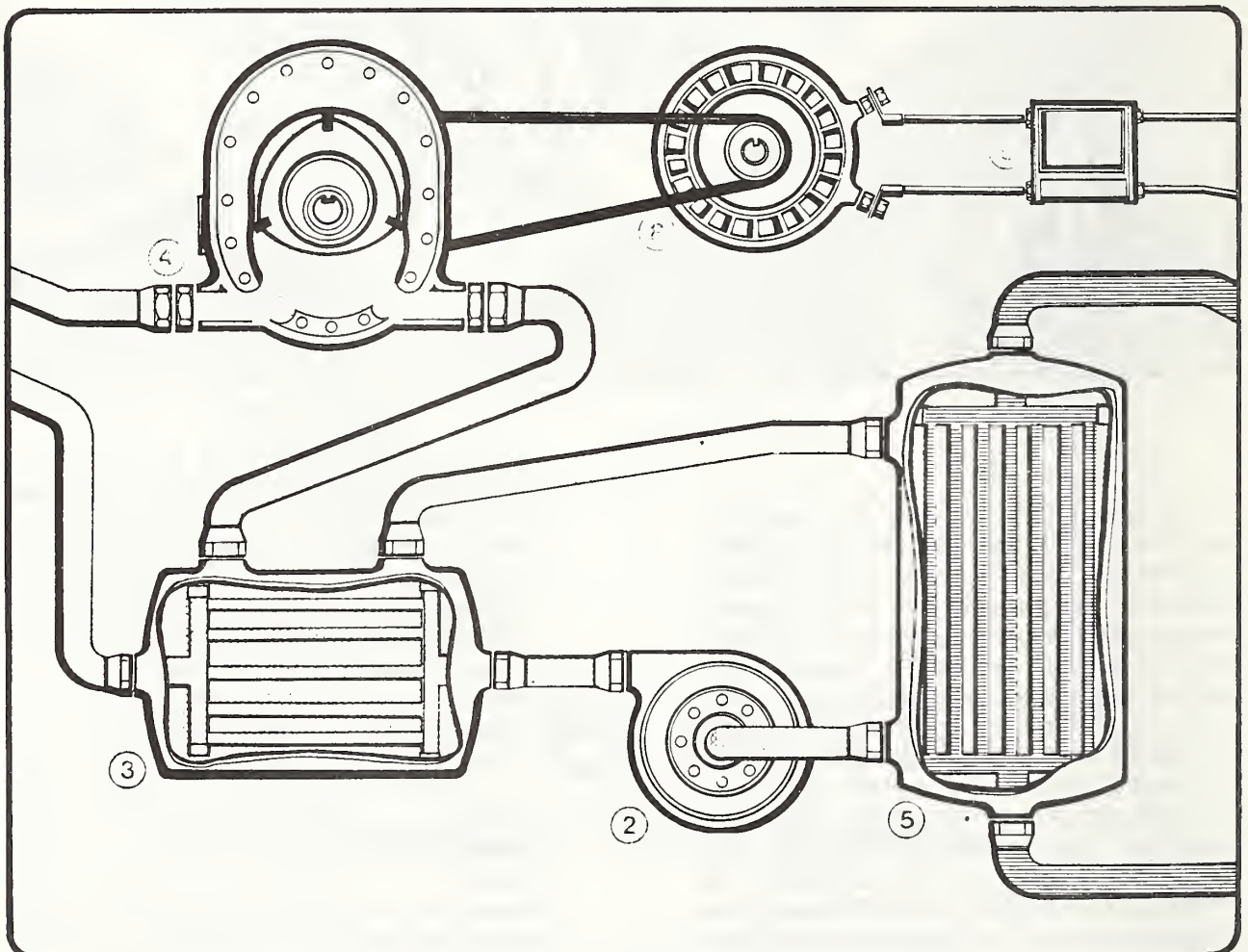
exits the collectors as a high pressure, high temperature gas and goes directly into the expansion engine. ④

SOLAR-TO-MECHANICAL ENERGY CONVERSION EQUIPMENT

The expansion engine in this system is a rotary, screw type compressor running in reverse as a motor. This motor is one of the few custom made components in the system. Turbines, positive displacement, vaned, or gear type pump/motors could also be used in this expansion phase. The choice depends upon hardware availability, cost, efficiency, and operating characteristics. Energy is taken from the stream of hot gas by the screw in the motor and converted to rotary mechanical energy. The freon gas, still carrying useable heat

energy is exhausted from the expansion engine and passes through the regenerator/heat exchanger. The regenerator performs a heat recovery function by preheating the liquid freon before it goes into the collectors. In this way heat is regained by the freon on the cold, inlet side of the loop where it can be used and given up by the freon gas on the hot exhaust side of the loop where it is undesirable.

The condensor ⑤ is the final stage in the freon loop. Since the power required to pump a gas is much greater than that required to pump the same weight of material as a liquid, the freon must be condensed or liquified before it gets to the pump inlet. This condensor is a freon-to-water heat exchanger in which the freon moves through a tank containing a series of copper water pipes. Water circulating



through the pipes keeps them cold enough to enable the freon gas to condense against them and collect as a liquid at the bottom of the tank.

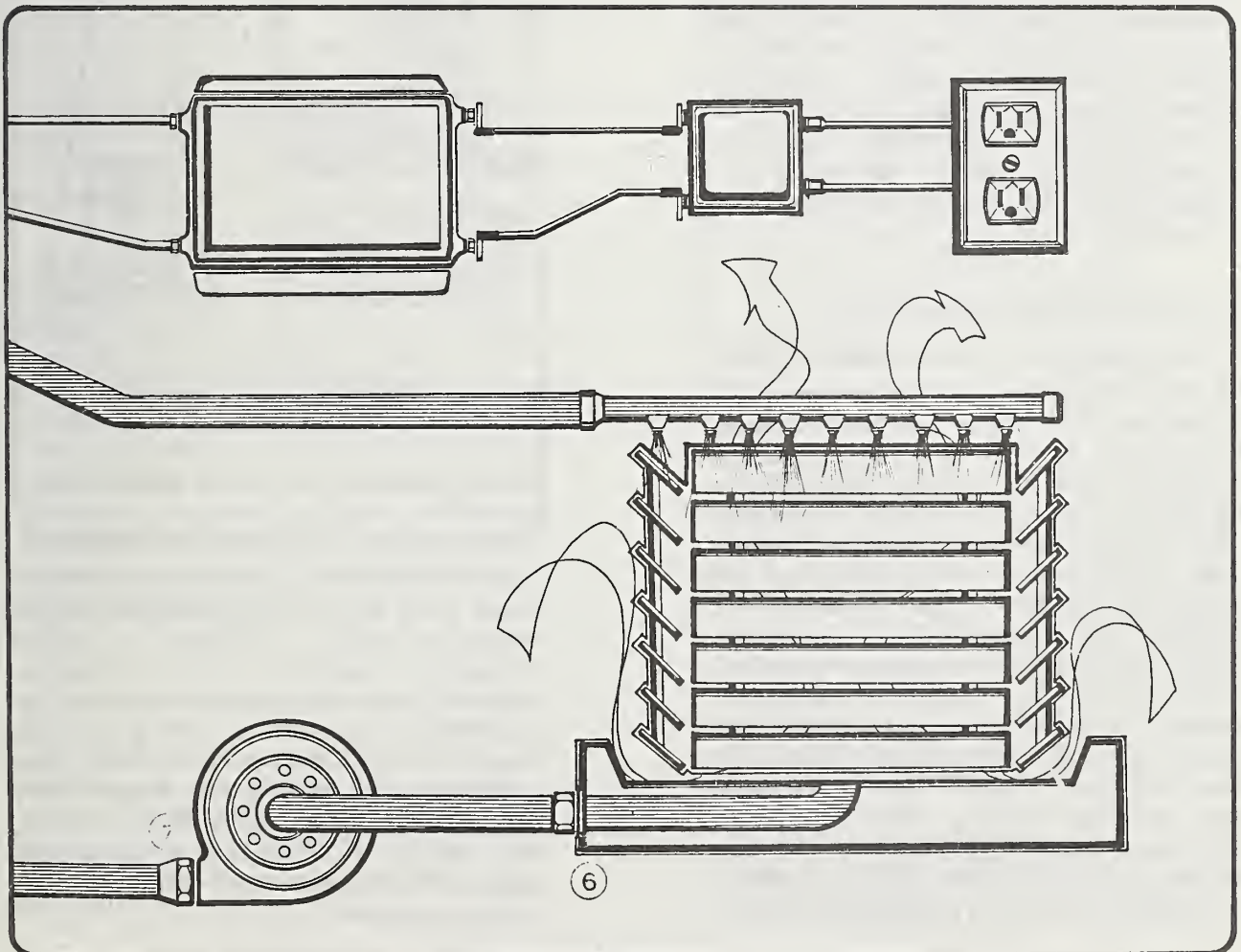
Water is continuously circulated between the condensing coil and an evaporative, natural-convection-type cooling tower (6) by a water pump (7) driven by the expansion engine. This final cooling stage is a method commonly used in commercial/industrial air conditioning systems and on a much larger scale in electrical power generating processes. Water that has been heated by contact with the freon gas in the condenser is pumped to the top of the cooling tower and allowed to cascade down the louvered side walls where it loses its heat by evaporation. Air flows through the tower by natural convection induced by the heat transferred from the water to the air

causing the air to rise through the chimney-like structure of the tower.

MECHANICAL-TO-ELECTRICAL ENERGY

The D.C. generator (8) is coupled mechanically to the output shaft of the expansion engine through a speed increaser. Since the speed of the generator varies with changes in the solar radiation striking the collectors, its electrical output is also variable and must be governed by a voltage regulator (9) before it can be stored. Twenty-four volt direct current is stored in a 2700 pound lead acid battery.

The final step in this solar-electrical conversion process is to pass the 24 volt direct current from the battery through an inverter (10) where it is converted to 60 cycle, 110 volt A.C. to make it compatible with household electric appliance motors.



SOLAR - ELECTRIC PROCESSES; SOME BENEFITS AND PROBLEMS

The use of solar energy in residential and industrial heating and cooling applications has become a topic of increasing public interest. A new industry is developing around the growing demand for installation services and solar collection hardware. Space heating and cooling and domestic water heating are clearly technological realities but little attention has been paid to the development of hardware that could convert solar energy to electricity. Solar to electrical energy conversion is generally achieved by one or the other of two fundamentally different processes. The simplest, most direct but as yet the most expensive is photovoltaic. This method makes use of solid state semiconductor technology to directly convert solar radiation to D.C. electrical energy.

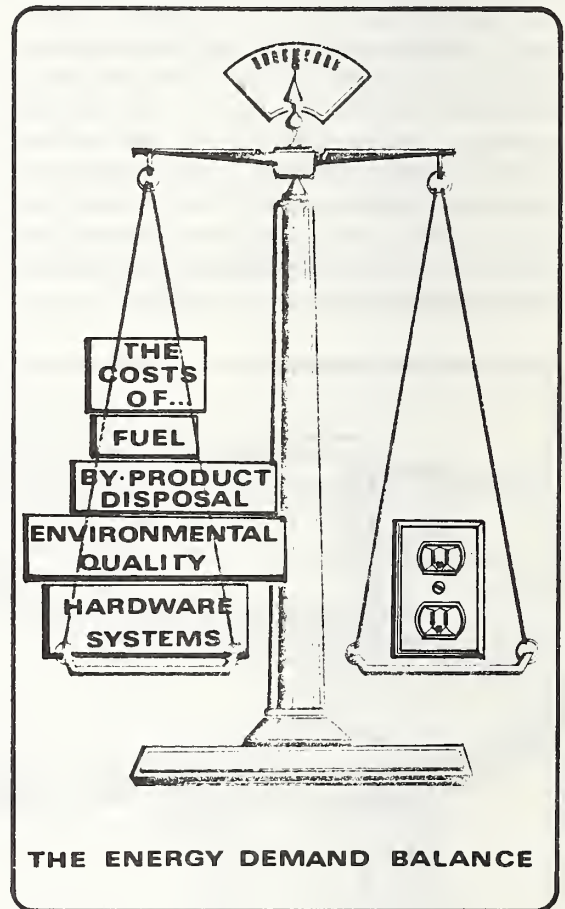
The second method of conversion is a two-stage process which converts solar energy to rotational mechanical energy through an expansion engine of some kind which in turn drives an A.C. or a D.C. generator to produce electricity. This method as noted previously is directly analogous to the fossil fuel process of electrical generation.

COOLING REQUIREMENTS

The dissipation of excess heat is probably the most difficult and controversial of the problems to be faced in the production of electricity. Solar-electrical processes are no exception to this problem. Unfortunately, the efficiencies of all types of heat-to-mechanical-to-electrical energy conversion systems drop off rapidly as the temperature of the inlet gas is lowered. This physical reality requires that the temperature of the inlet gas be as high as possible.

A rough but fairly accurate method of determining the efficiency of a system is to measure the change in the temperature of the gas between the inlet and outlet ends of the expansion engine. This temperature difference is directly related to the portion of the energy released from the fuel which can be converted into mechanical energy.

Since even the best systems produce at only 40 to 50 percent efficiency (only 40 to 50 percent of the heat generated in the combustion stage is actually converted to electrical energy) the gas exhausted from the expander, though no longer hot enough to be useful for electrical generation is still very hot relative to ambient environmental conditions. This excess heat is finally dissipated to the air or to large cooling lakes.



Solar-electrical processes, do however avoid some other problem areas that are becoming major irritations for utility companies because of the pressures applied by environmentalist concerns. The problems of mining and refining fuel and then of disposing of the fossil fuel combustion and nuclear fission by-products are not present with the sun as a heat source. Solar energy is completely clean and produces no by-products other than excess heat.

SUMMARY

The system under development here differs in some important details from the solar-electric systems being developed in Arizona and New Mexico. In those systems, parabolic collectors concentrate the sunlight to produce water or oil at 350 or 400 degrees F. The hot water or oil is then used to boil freon 113 which is expanded through a turbine. The turbine drives an electrical generator or other mechanical device. Because they operate at higher temperatures, concentrating collectors can yield higher system efficiencies. However, much of this advantage is lost by using the hot oil or water to boil the freon in a separate boiler.

Concentrating collectors are more expensive than flat plate collectors. In addition, concentrating collectors work best if they can track a bright sun across the sky on a cloudless day. In North Carolina where only 50% of the days are relatively clear, flat plate collectors may actually collect more energy than parabolic types since they can collect scattered radiation as well as direct. They also have the advantage of having no moving parts.

Large areas must be covered by solar collectors to supply reasonable amounts of energy because (1) the energy available from the sun per unit area is relatively low and (2) the collectors cannot capture all the radiation that does strike them. This means that solar collectors will always be relatively expensive per unit of energy delivered. As technology improves, collector efficiency will increase and perhaps lower the cost to the point where residential installations are economically attractive.

The goal of the present program is to produce a system design suitable for the average North Carolina household and climate and one that the average heating and air conditioning contractor can assemble and maintain.

STATE GOVERNMENT SUPPORT

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1977

RATIFIED BILL

CHAPTER 971

HOUSE BILL 654

AN ACT TO APPROPRIATE FUNDS TO NORTH CAROLINA STATE UNIVERSITY FOR RESEARCH AND DEVELOPMENT ON A SOLAR THERMAL CONVERSION UNIT WHICH WILL PRODUCE A MINIMUM OF 1,000 KWH OF ELECTRICITY PER MONTH, AND BE RELIABLE AND RELATIVELY FREE OF MAINTENANCE.

Whereas, the State of North Carolina, with its outstanding universities, colleges and research facilities, is a recognized leader in the development and dissemination of knowledge; and

Whereas, solar energy is the world's most abundant and renewable energy resource; and

Whereas, the business climate and public welfare of this State would greatly benefit from the development of a unit which would produce at least 1,000 KWH of electricity per month and would be practical for usage by a residence and be of a size and cost to encourage its use by home owners and businesses; Now, therefore,

The General Assembly of North Carolina enacts:

Section 1. There is hereby appropriated from the General Fund to the School of Engineering and the School of Design of North Carolina State University for fiscal year 1977-78 the sum of seventy-five thousand dollars (\$75,000) and the sum of fifty thousand dollars (\$50,000) for fiscal year 1978-79 for the purpose of development and research on a solar thermal conversion unit which will produce a minimum of 1,000 KWH of electricity per month, operating as much as possible independent of any outside energy source, be reliable and relatively free of maintenance. This money is to be used to continue research and development of solar systems and in the 1975-1977 biennium by Chapter 911 of the 1975 Sessions Laws. Such research and development is to be funded in a manner consistent with the purposes set forth in the preamble to this act.

Sec. 2. North Carolina State University is hereby authorized to spend a portion of the funds herein appropriated to design, construct and display at the North Carolina State Fair a solar thermal conversion unit for the purpose of demonstrating, and encouraging the use of solar energy.

Funds for this exhibit were provided by the 1977 North Carolina General Assembly to help inform the public of the state of the status and potential of solar energy for reducing our reliance on fossil fuels and to stimulate the development and installation of improved solar energy systems. For additional information on the system described here call or write.

Dr. Frederick O. Smetana
Dept. of Mechanical and Aerospace
Engineering
North Carolina State University
Raleigh, North Carolina 27607
A/C 919/737-2374

Form 37 NORTH DAKOTA INDIVIDUAL INCOME TAX RETURN 1977

For the year January 1 — December 31, 1977, or other taxable year beginning _____, 1977, end ending _____, 19

NOTE: If information on label is not correct, please make corrections on the label.	Name (if joint return, use first name & initials of both)	Last Name	Your Social Security Number
	Home Address (number end street or rural route)		Spouse's Social Security Number
	City, town or post office, state end Zip Code		PLACE LABEL WITHIN BLOCK
			For Privacy Act Information, see instructions on page 3.

Filing Status — Check only one:

1. Single (PH) Telephone Number _____

2. Married filing joint return (even if only one had income)

3. Married filing separately. If spouse also filing, enter spouse's Social Security Number above and enter spouse's name here ▶

4. Unmarried Head of Household

5. Surviving spouse with dependent child

6. Resident Nonresident

7. County Code (Please read instructions and enter Code Number) _____

8. School District (Please read instructions and enter Code Number) _____

9. Chief Occupation (Please read instructions end enter Code Number) _____

10. Check if this is an amended return

11. Check if an approved Extension is attached

12. Number of Exemptions Claimed _____ x \$750 = _____

13. If filing status is number 2, 4 or 5, enter \$300 - - - - - _____

14. Total amount for personal exemptions (Add lines 12 & 13) - - - - - _____

SCHEDULE 1 — For residents who file Federal Form 1040A, except those who have unusual adjustments or exclusions for State tax purposes (See instructions Which Schedule To Use). Residents who file Federal Form 1040, see instructions. Nonresidents use Schedule 3.

SHORT METHOD	1. Enter adjusted gross income from Form 1040A, line 10 - - - - - (H)	_____
	2. Low income allowance	Single or unmarried head of household — \$1700 Married filing jointly or surviving spouse — \$2100 Married filing separately (See instr.) — \$1050
	3. Standard Deduction	Single or unmarried head of household — limited to \$2400 Married filing jointly or surviving spouse — limited to \$2800 Married filing separately (See instr.) — limited to \$1400
	4. Enter larger of lines 2 or 3 above - - - - - (1K)	_____
	5. Federal Income Tax deduction (Please read instructions before completing) - - - - - (J)	_____
	6. Enter amount for personal exemptions from line 14 above	_____
	7. Total (Add lines 4, 5 and 6) - - - - -	_____
	8. Subtract line 7 from line 1, enter here and on line 9 below - - - - -	_____

To be completed by all taxpayers — TAX COMPUTATION SECTION — To be completed by all taxpayers

9. North Dakota Taxable Income	(Residents from above or from line 35, Schedule 2 Nonresidents from line 16, Schedule 3)	_____ (A)
10. Computation of Tax — Check one: A <input type="checkbox"/> from rate table below, B <input type="checkbox"/> from Schedule 5 (Income Aver.) (Please see instructions)		_____ (I)
11. Solar or wind energy device tax credit (Please read instructions) - - - - -		_____ (J)
12. Tax credit for certain contributions (Please read instructions for specific limitations) (-)		_____ (K)
13. Total of lines 11 and 12		_____ (L)
14. Balance (Line 10 less line 13) - - - - -		_____ (M)
15. Residents enter amount, if any, from line 19, Schedule 4 - - - - - (D)		_____ (N)
16. Net tax liability (Line 14 less line 15) - - - - - (E)		_____ (O)
17. North Dakota Income Tax withheld (Attach copy of supporting W-2) Advance Payments made on your 1977 North Dakota Tax (Form 400ES) _____	ENTER TOTAL (F) (G)	_____ (P)
18. If line 17 is greater than line 16, enter difference as REFUND - - - - - (G)		_____ (Q)
19. If line 17 is less than line 16, enter difference as BALANCE DUE — PAY THIS AMOUNT - - - - - (Z)		_____ (R)

COMPLETE COPY OF FEDERAL RETURN MUST BE ATTACHED — FILE WITH TAX COMMISSIONER, BISMARCK, N.D. 58505

I declare under the penalties of perjury that this return, including any accompanying schedules and statements has been examined by me and to the best of my knowledge and belief is a true, correct and complete return.

(Signature of taxpayer)	(Date)	(Signature of preparer other than taxpayer)	(Date)
(If this is a joint return, spouse's signature)	(Date)	(Address)	

TAXABLE INCOME:	Computed at	1 %	2 %	3 %	5 %	7%	10 %
Up to \$1,000							
\$1,000 to \$3,000	\$ 10.00 plus						\$1,000
\$3,000 to \$5,000	\$ 50.00 plus						\$3,000
\$5,000 to \$6,000	\$110.00 plus						\$5,000
\$6,000 to \$8,000	\$160.00 plus						\$6,000
Over \$8,000	\$310.00 plus						\$8,000

DO NOT WRITE IN THIS SPACE

INSTRUCTIONS FOR TAX COMPUTATION SECTION

Line 10 — (Tax Computation Section) — The North Dakota income tax law was changed in 1977 to limit income averaging to those taxpayers who were residents of North Dakota throughout the computation year (1977) and throughout the base period years (1973 through 1976). You must also have used income averaging on your 1977 Federal income tax return (Federal Schedule G) in order to qualify to income average for state income tax purposes. The income averaging schedule (Schedule 5) which is to be used for this purpose is not included in this booklet. Requests for this schedule may be made to the Office of State Tax Commissioner, State Capitol, Bismarck, North Dakota 58505.

Line 11 — The 1977 Legislature passed a law which allows a tax credit for the cost of a solar or wind energy device installed in a building or on the premises of a building owned by the taxpayer. The credit is limited to an amount equal to five percent of the actual cost of acquisition and installation of the solar or wind energy device. "Solar or wind energy device" means a system or mechanism or series of mechanisms designed to provide heating or cooling or to produce or store electrical or mechanical power by a method which converts the natural energy of the sun or wind. This credit is avail-

able to any taxpayer who installs a solar or wind energy device during any taxable year ending after June 30, 1977. Attach a schedule showing date of purchase, actual cost of acquisition and installation, and your computation of the tax credit.

Line 12 — Effective for taxable years beginning on or after January 1, 1975, the North Dakota Income Tax Law provides a limited credit against the income tax for contributions made to certain nonprofit private institutions of higher education located in the state of North Dakota. The credit is limited to 50% of the contribution but not to exceed 20% of the taxpayer's total income tax (Line 10, Tax Computation Section) or \$50, whichever is less. Contributions to the following institutions qualify for the purposes of computing this credit:

1. Mary College, Bismarck, North Dakota
2. Jamestown College, Jamestown, North Dakota
3. Northwest Bible College, Minot, North Dakota
4. Trinity Bible College, Ellendale, North Dakota

If a credit is being claimed you must attach a receipt or a copy of your cancelled check (front and back) to your tax return to substantiate the amount of your tax credit.

Complete lines 13 through 19. Sign the return where indicated. If this is a joint return, both husband and wife must sign. The date the return is signed should be indicated. The person preparing the return should also sign and give the address and date of signing. Attach your payment and employee earning statements (W-2's).

ATTACH A COMPLETE COPY OF YOUR FEDERAL RETURN TO YOUR NORTH DAKOTA RETURN. Mail to the Office of State Tax Commissioner, State Capitol, Bismarck, North Dakota 58505, before the due date using the green envelope supplied.

INSTRUCTIONS FOR SCHEDULE 2, PAGE 2 OF FORM 37

Schedule 2 is for taxpayers who file as North Dakota residents and who do not qualify or elect to use Schedule 1.

Line 1 — Enter adjusted gross income from line 31, Federal Form 1040 or line 10, Federal Form 1040A or line 10, Separate Filers Schedule.

Married taxpayers who filed a joint Federal return may file separate state returns if each has separate income. Each spouse must recompute his or her own Federal adjusted gross income as though each had filed separate Federal income tax returns. A separate filers schedule has been provided for this purpose on page 7 of these instructions.

Lines 2 - 4 — A husband and wife who file separate state income tax returns and who itemized their deductions on the Federal income tax return must itemize for state tax purposes. Each spouse may claim only his or her separate itemized deductions; that is, those deductions which a married taxpayer would be entitled to claim if a separate Federal return had been filed. As an alternative method, the itemized deductions may be prorated; each spouse taking the percentage that his or her income bears to total combined income. If you did not itemize your deductions for Federal income tax purposes, you must use the low income allowance or percentage standard deduction. If one spouse uses the low income allowance, the other spouse must also use this same method. If one spouse uses the percentage standard deduction, the other spouse must also use this same method.

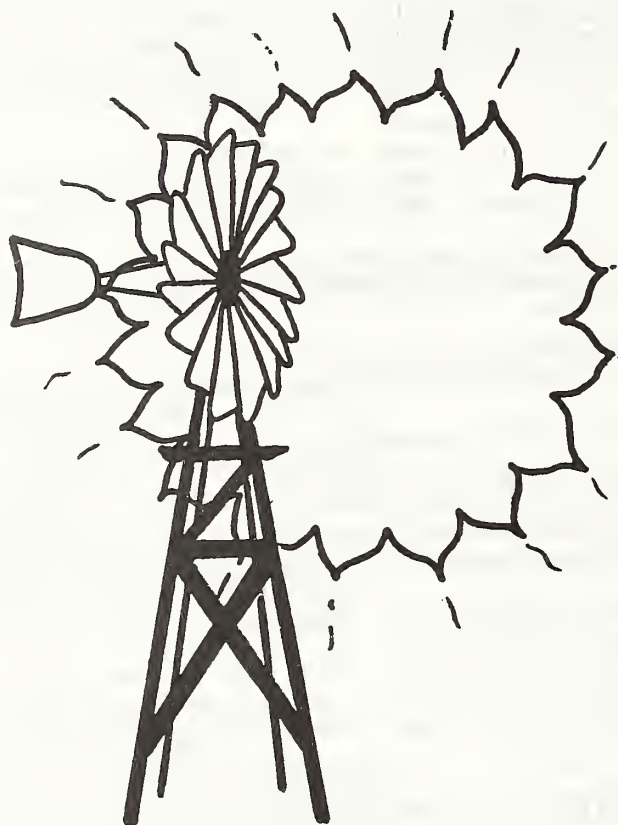
Line 9 — Interest income on state and local government obligations which are exempt for Federal income tax purposes are taxable for state income tax purposes, with the exception of interest on North Dakota obligations.

Line 10 — All state income taxes claimed on the Federal income tax return as itemized deductions are not deductible for state income tax purposes and must be entered on this line.

Line 11 — Enter on this line the amount of any North Dakota domestic dividends received in 1977 from calendar year corporations and which were not included in Federal adjusted gross income for 1977. Domestic dividends received from fiscal year corporations which were distributed within 2½ months after the end of the corporation's fiscal year and within the taxpayer's calendar year must also be included on this line. These dividends must be reported because the North Dakota Income Tax Law was changed in 1975 so as to limit the amount of North Dakota domestic dividends which may be excluded for state income tax purposes. The dividends which qualify for a limited exclusion are to be entered on lines 20 and 21, Schedule 2, Form 37.

Line 12 — Enter on this line your distributive share of losses from a corporation which has filed as a small business corporation for Fed-

Information On
TAX INCENTIVES FOR
SOLAR AND WIND
ENERGY DEVICES



STATE OF NORTH DAKOTA

Issued by: **Office of State Tax Commissioner**
Byron L. Dorgan, Tax Commissioner
State Capitol
Bismarck, North Dakota 58505

THE 1977 LEGISLATURE APPROVED AN INCOME TAX CREDIT FOR THE INSTALLATION OF A SOLAR OR WIND ENERGY DEVICE.

CREDIT:

Any North Dakota taxpayer, whether an individual or a corporation, who installs a solar or wind energy device during any taxable year that ends after June 30, 1977, may claim an income tax credit of .five percent per year for two years for the actual cost of acquisition and installation of such a device.

DEFINITION:

"Solar or wind energy device" means a system or mechanism or series of mechanisms designed to provide heating or cooling or to produce electrical or mechanical power, or any combination of these, or to store any of these, by a method which converts the natural energy of the sun or wind.

REQUIREMENTS:

1. The taxpayer must install the solar or wind energy device in a building or on the premises of a building owned by him or her.
2. If a solar or wind energy device is part of a system which uses another means of energy, only that portion of the system directly attributable to the cost of the solar or wind energy device may be used in determining

the amount of tax credit.

3. The cost of installation may not include costs of redesigning, remodeling, or otherwise altering the structure of a building in which a solar or wind energy device is installed.

This is a direct credit against income tax; it is not just a deductible item. A special section will be provided on the 1977 income tax form for notation of this credit.

THE 1975 LEGISLATURE APPROVED A PROPERTY TAX EXEMPTION FOR SOLAR ENERGY SYSTEMS.

1. An exemption for a solar energy system is valid for five years following the date on which the system was installed.
2. The exemption includes the installation, machinery, and equipment of solar energy systems installed to heat or cool new or existing buildings or structures.
3. If the building or structure has a conventional heating or cooling system, only the solar energy portion of the system is exempt.

Those who wish to apply for this exemption should contact their local assessor or their county director of tax equalization.

OREGON SOLAR TAX CREDIT
 DEPARTMENT OF ENERGY
APPLICATION FORM

Important: Applicant should review the Oregon Department of Energy Performance Criteria for residential alternative energy devices before completing this form. In order to qualify for the tax credit, the device must be certified before it is installed.

I. PROJECT INFORMATION

A. PROJECT PARTICIPANTS

1. Name of Applicant: _____

Address: _____

Telephone No.: _____

2. Project Designer (if different than applicant)

Name: _____

Address: _____

B. DESCRIPTION OF DWELLING

1. Project Location _____

2. Number of persons in Dwelling _____

3. Dwelling Unit Type

- () Single Family
- () Single Family Attached
(Townhouse, Duplex, Condominium, etc.)
- () Mobile Home
- () Other _____
- () Primary Place of Residence
- () Secondary Place of Residence

4. New Construction (); Addition to Existing Residence ();
Retrofit ()

5. Approximate Floor Area of Dwelling _____ sq. ft.

6. Insulation in the Dwelling

Walls _____ R-value

Ceiling _____ R-value

Floor _____ R-value

Double Glazed Windows: Yes _____ No _____

Windows & Doors Weather Stripped: Yes _____ No _____

C. ESTIMATED SOLAR ENERGY SYSTEM COST: (includes materials, equipment, and installation; please attach an itemized cost estimate)

1. Active System Estimated Costs: _____

2. Cost for Passive Systems: _____

D. SOLAR PROJECT SCHEDULE (MONTH and YEAR)

1. Construction Start Date _____

2. Construction Completion Date _____

3. Date the Solar Energy System Will Be Placed in Service

E. ESTIMATE OF ENERGY NEEDS TO BE SATISFIED BY THIS PROJECT

Backup Fuel Supplier

1. Space Heating _____% _____

Space Cooling _____% _____

Hot Water Heating _____% _____

Pool Heating _____% _____

Other _____% _____

2. Estimated Yearly Energy Savings from this Project:

Therms _____ or kwh _____ or gallons of oil _____

Approximate % of total energy use: _____%

II. SOLAR ENERGY SYSTEM DETAILS

A. TYPE OF SOLAR ENERGY SYSTEM

	<u>Active</u>	<u>Passive</u>
Domestic Hot Water Heating	()	()
Space Heating	()	()
Space Cooling	()	()
Swimming Pool Heating	()	()
Other: _____	()	()

NOTE: For each Function, if Active is checked, Complete Section II, B
if Passive is checked, Complete Section II, C

For all Domestic Hot Water Systems Complete Section II, B

For Multiple Functions, more than one application form may
become necessary.

B. ACTIVE SYSTEM DESCRIPTION (including all domestic hot water
heating systems)

System Type: () Space Heating () Domestic Hot Water
() Space Cooling () Swimming Pool Heating

1. Components:

a. Collector

(1) Name of Manufacturer: _____
Home Built ()

(2) Heat Transfer Fluid
Air () Liquid (): _____

(3) Type
Flat Plate ()
Other () Describe: _____

(4) Size
Total Sq. Ft. _____ Gross

(5) Collector Tilt _____^o Tilt from Horizontal

(6) Collector Orientation _____^o West of South
_____ East of South

(7) % of Shading from Adjacent Vegetation or
Structures _____%

(8) Reflector (If Applicable)

(a) Area _____ Total Sq. Ft.

(b) Tilt _____ ° From Horizontal

(c) Material: _____

(9) Stagnation: Describe Method of preventing overheating of collectors if solar energy is not used in summertime: _____

(10) Collector Construction

(a) Glazing Material

1. Outer Glazing _____

2. Inner Glazing _____

(b) Absorber Plate

1. Plate Material and Thickness: _____

2. Tubing Material & Spacing, where applicable

Bond to Plate: () Mechanical
() Solder

3. Surface Material:

Flat Black ()

Selective ()

Other () _____

b. Storage Heat and/or Cool Domestic Hot Water

(1) Storage Type: Rocks () ()
Liquid () ()
Phase Change () ()
Other (describe) _____

(2) Storage Size: _____ Gallons _____
or _____ Cu. Ft. _____

(3) Storage Container Materials: _____

(4) Storage Insulation

(a) Materials _____
(b) Thickness _____

(5) Tank Protection, where applicable

(a) Over Pressure _____
(b) Corrosion _____

c. Controls: Describe System Controls Briefly:

d. For Liquid Systems Describe Method of Freeze Protection

Anti-Freeze () Type: _____
Drain Down ()
Other () Explain _____

e. Collector-Storage Distribution System

(1) No. of Pumps _____ Pump Capacity #1 _____ gpm
Self-Priming: Yes () No () #2 _____ gpm

(2) Expansion Tank (if applicable) Volume _____ gal.

(3) Blowers: No. _____ Capacity #1 _____ CFM
#2 _____ CFM

(4) Thermosiphon ()

f. Space Heating and Cooling Only:

(1) Type of distribution within housing unit

Heat Pump ()
Forced Hot Air ()
Hydronic ()
Other () Explain _____

(2) Auxiliary or Backup-System

Fuel Type:

Gas ()
Oil ()
Electricity ()
Wood ()
Other () Explain _____

g. Domestic Hot Water Only:

(1) Transfer Fluid Type _____

(2) Type Heat Exchanger _____

(3) Backup-System _____

h. Swimming Pool Heating Only:

(1) Pool Surface Area _____ sq. ft.

(2) Pool Volume _____ gal.

(3) Pool Cover _____

i. Space Cooling Only:

Describe cooling equipment: _____

e. Describe Methods of Storing Solar Energy and Removing From Storage (including controls, fans, dampers, if applicable): _____

f. Describe Type and Frequency of Necessary Manual Operations Required to Achieve Optimal Performance:

2. Auxiliary System or Backup System

a. Fuel Type:

Gas ()
Oil ()
Electricity ()
Wood ()
Other () Explain: _____

D. OTHER SOLAR DEVICES:

Solar Cooking () Solar Refrigeration ()
Solar Electric () Other ()

Describe: _____

I certify that I have reviewed the performance criteria of the Department of Energy and believe my solar alternative energy device meets these criteria with:

No Exceptions ()
The following exceptions: _____

Signature

Date

something

new! 1977 weatherization
incentives for
oregon homeowners

something

new! 1977 weatherization
incentives for
oregon homeowners

something

new! 1977 weatherization
incentives for
oregon homeowners

Oregon Department of Energy

household income of less than \$5,000; and 3) are eligible and file for an owner or renter refund from the Department of Revenue.

For refunds granted in October, 1977 and October, 1978, the taxpayer will receive either rental assistance for that year or a renter refund plus fuel and utility rate relief refund for that year, whichever is greater.

The bill calls for \$7 million from the state's General Fund to be appropriated to the Department of Revenue from July 1, 1977 through June 30, 1979. At this time, no additional money has been appropriated to replenish the Fund once monies have been spent.


ALTERNATE ENERGY DEVICES (AEDs)

1. VETERANS' AED

Senate Bill 477 applies to all veterans intending to install solar, wind or geothermal energy devices in their homes. A loan of up to \$3,000 may be granted, provided the alternate energy device will meet or exceed ten percent of the total energy requirements of the home. Along with the Department of Veterans' Affairs, the Department of Energy will establish minimum performance criteria for such systems and use these standards to certify the devices.

Veterans are also eligible to obtain a tax credit for alternate energy devices under SB 339.

2. HOMEOWNERS' AED

 **Senate Bill 339** provides a tax credit to any Oregon homeowner who installs a solar, wind or geothermal energy device in their principal or secondary residence. Twenty-five percent of the investment cost, or a maximum \$1,000 may be claimed provided the alternative energy device meets minimum performance criteria set by the Department of Energy and has been certified by the Department. Taxpayers are eligible for only one credit per year and must claim it during the year the device has been certified. If the amount of the credit exceeds the taxpayer's liability, the credit may be claimed for five successive years until it is fully used. The credit will take effect beginning in tax years after Jan. 1, 1978. A system installed after Oct. 4, 1977 (with prior certification by the Department of Energy) may also qualify if it is placed in operation after Jan. 1, 1978.

The added value of solar energy heating or cooling systems is exempt from ad valorem property taxation, and the exemption applies to any installation made on or after January 1, 1976 but before January 1, 1998.

A veteran who obtains a loan under SB 477 can also receive a tax credit under SB 339. Swimming pool heaters providing 10 percent of the dwelling's total energy requirement may also, upon certification, qualify for the tax credit.

TECHNICAL ASSISTANCE

1. ENERGY EFFICIENCY RATINGS

Senate Bill 370 requires that the Energy Conservation Board adopt a voluntary energy efficiency rating system for single-family homes. Available by January 1, 1978 the ratings will be used by realtors to aid those people buying or selling a home. For example, the more energy efficient a home is, the higher the rating and the more attractive it is to the potential buyer.

The rating system itself will be developed by the Energy Conservation Board, a section of the Department of Commerce. The Department of Energy will be responsible for publicizing the availability of the rating system and encouraging its use. The rating system will be available by January 1, 1978.

2. DESIGN ASSISTANCE

Senate Bill 371 requires all energy suppliers producing, delivering, transmitting or furnishing heat, light and power to provide energy conservation information services. Such services include answers to questions from the general public concerning energy conservation and energy saving devices, providing inspections, and making suggestions concerning the construction and siting of both buildings and residences.

The Public Utility Commissioner will oversee the implementation of the energy conservation information services provided by investor-owned utilities in accordance with prescribed rules for regulated utilities. The Director of the Department of Energy will prescribe rules for publicly-owned utilities and oil heat dealers supplying these services.

3. SOLAR ENERGY ADVICE

➡ **Senate Joint Resolution 18** requires that the Extension Service at Oregon State University, with assistance from the University of Oregon, develop and distribute information to the public about solar energy. Specifically, information relating to the construction and use of solar energy for heating and cooling will be addressed. County extension agents will distribute this information through their existing publications and communication networks.



SECTION V

The Federal Government offers a variety of homeowners' weatherization programs through federal, state and community agencies. The following section outlines the kinds of services provided according to eligibility groups and the addresses and telephone numbers of the various agencies.

FEDERAL PROGRAMS

1. COMMUNITY SERVICE AGENCIES

ELIGIBILITY: Individuals, families, and elderly persons who are poor and near poor. For this program, the near-poor are those persons in families, or unrelated individuals whose incomes are between 100 percent and 125 percent

OREGON DEPARTMENT OF ENERGY

CHAPTER 330

TAX CREDIT ELIGIBILITY CRITERIA FOR RESIDENTIAL
ALTERNATIVE ENERGY DEVICES -- SOLAR AND GEOTHERMAL330-80-010 Purpose

These rules specify factors which will be considered in determining whether or not an alternative energy device will be certified by the Department of Energy under the provisions of Chapter 196, Oregon Laws 1977. It is not the intent of these rules to assure safety, reliability, or performance of alternative energy devices. Rather, their purpose is to direct state incentives towards alternative energy devices which satisfy the law and have a reasonable likelihood of working.

330-80-020 Agency Action

In certifying an alternate energy device, the Department of Energy looks at the following four factors:

1. Is the device for the applicant's primary or secondary place of residence and is it being certified prior to installation?
2. Will the device supply 10 percent of the total energy needs of the dwelling?
3. Is the device designed to be in compliance with applicable standards in OAR 330-80-070 and OAR 330-80-060?
4. Do the items to be installed qualify as parts of an alternative energy device under SB 339?

330-80-030 Amount of Energy Furnished

Alternative energy devices shall meet or exceed 10 percent of the total energy requirements for the dwelling, including space heating, cooling, domestic hot water, cooking, lights, and appliances. In general, the Department of Energy will calculate the total energy needs of the dwelling by summing the multiple of the approximate number of degree days from Figure 2 times the space heating load of the house based on its size from Figure 1A, and the amount of miscellaneous energy from Figure 1B. The amount of energy that needs to be supplied by a device in order to qualify is 10 percent of the resultant value. Examples of the amount of energy that must be supplied in order for a device in different locations to qualify are shown in Figure 3.

For solar devices, the Department of Energy will consider that the 10 percent energy requirement has been met by devices incorporating the amount of collector area and thermal storage specified in Figures 4B, 4C, or 4D. These are based on the size of the dwelling and the area in the state as shown in Figure 4A.

The Department of Energy recognizes that these values represent an approximation which is not valid in all cases. In the event that a showing can be made by an applicant that particular circumstances apply in the use of their dwelling or energy device, an individual determination may be made as to whether the 10 percent requirement is met.

330-80-040 Compliance With Other Rules, Regulations, Codes, and Standards

Alternative energy devices must comply with all applicable state, federal, and local rules, regulations, codes, and standards. These rules in no way relieve the applicant of the responsibility for such compliance.

330-80-050 Exceptions

It is recognized that alternative energy devices frequently include innovative and creative projects. In the event that there are extraordinary circumstances in the case of a particular applicant, exceptions may be granted to the following specific standards (Rules 330-80-060 and 070). The applicant must, in this case, demonstrate why the rules are unduly burdensome. It is not the purpose of these rules to discourage home built systems. Such systems are encouraged and the Department will, whenever possible, qualify them for the tax credit.

330-80-060 Specific Standards for Solar Energy Alternative Energy Devices

1. Special considerations must be given to assure that elements of the solar system do not create a hazardous or undesirable living environment. Items requiring special attention include:
 - a. The projection of sharp edges which influence the movement of people near collectors;
 - b. The proximity of solar components to recognized architectural hazards such as stairs, exterior overhangs, ramps, landings, and doors;
 - c. The need to restrain or deflect sliding snow and ice masses which may slide off elevated solar system components onto pedestrians or vehicles;

- d. Avoiding impairment of the normal movement of occupants of the building or emergency personnel; and
- e. Avoiding any increase in fire hazard or interfering with the means of egress in the event of a fire.

Further, consideration should be given to potential adverse effects from reflected sunlight.

- 2. Materials installed shall be of such kind and quality as to assure that the solar energy system will provide: (a) adequate structural strength, (b) adequate resistance to weather, moisture, corrosion, and fire, (c) acceptable durability and economy of maintenance. No material, form of construction, fixture, appurtenance or item of equipment shall be employed that will introduce toxic substances, impurities, bacteria, or toxic chemicals into potable water and air circulation systems in quantities sufficient to cause disease or harmful physiological effects, or impart undesirable tastes or odors.
- 3. All glazing materials shall be of adequate strength and durability to withstand the loads and forces they may experience. Glazing materials with slopes less than 45 degrees which extend below 6'0" (from ground level) shall be safety glazed or otherwise protected against impact of falling bodies.
- 4. Solar components exposed to the wind will be adequately secured to prevent excessive movement and possible damage.
- 5. Heat transfer fluids which require special handling (e.g., toxic, combustible, corrosive, explosive, etc.) shall not be used unless the systems in which they are used are designed to avoid unnecessary or unreasonable hazards. Combustible solids adjacent to solar equipment or an integral part of a solar component shall not be exposed to elevated temperatures which may cause ignition.
- 6. Materials used for insulation shall be of sufficient proven effectiveness and durability under the expected operating conditions to assure that required design conditions concerning heat losses, sound control, and fire rating are attained.
- 7. Components of solar systems which are accessible, located in the areas normally subjected to occupant traffic, and which are maintained at elevated temperatures shall either be insulated to maintain their surface temperatures at or below 140 degrees F at all times during their operation or suitably isolated. Any other exposed accessible components that are maintained at temperatures above 140 degrees F shall be identified with appropriate warnings. Consideration should be given to equipping the domestic hot water systems with a means of limiting the temperature of hot water for personal use at fixtures to 140 degrees F.

8. Where access for service of cleaning of solar subsystems requires a person to balance on a narrow or (steeply) sloping surface, provisions shall be made for securing a life-line, guard-rail, or other personal protective devices.
9. The total system shall be protected against excessive pressures, vacuums, and temperatures.
10. Solar energy systems (including piping, fixtures, appliances and other equipment) shall not contribute significantly to the entry or growth of vermin or rodents, fungi, mold, or mildew.
11. The design and installation of the solar system, its subsystems and components shall be accomplished in such a manner as to provide complete protection of the potable water supply. Circulation loops of subsystems utilizing toxic heat transfer fluids shall be separated from the potable water system in such a manner that a minimum of two walls or interfaces is maintained between the nonpotable liquid and the potable water supply, or otherwise protected in such a manner that equivalent safety is provided. Backflow of nonpotable heat transfer fluids into the potable water system shall be prevented; the pressure in the potable water system should always exceed that of the circulation loop.
12. Storage tanks shall be designed and fabricated to standards embodying principles recognized as good engineering design and fabrication practice for the materials used. Pressurized vessels should meet special criteria, such as ASME Boiler and Pressure Vessel Code, Section 8. Each liquid storage tank shall be tested to prove that leakage does not occur. Storage tanks designed to contain only dry heat storage material need not be leak tested unless a safety hazard can result from a storage tank failure.
13. Provision for expansion and contraction without undue strain or distortion shall be made as required by means of offset branches, expansion compensators, expansion chambers, or flexible pipes. Piping shall be adequately supported to prevent undue strain on the flexible pipes and branches.
14. For systems subject to freezing of the heat transfer fluid, freeze protection by draining, circulation of an anti-freeze agent, or other means shall be provided. Recirculating systems should have provision for alternative freeze protection in the event of a power failure. In closed systems, adequate provisions should be made to prevent air locking of pumps.
15. Gutters or other means of controlling runoff shall be provided on solar collectors when the soil is of such a nature that excessive erosion or expansion may occur as a result of increased runoff.

16. Solar energy components shall be accessible for cleaning, adjusting, servicing, examination, replacement, or repair without trespassing on adjoining property. Also, solar energy equipment shall be accessible for routine maintenance without disassembling any major structural or mechanical element.

330-80-070 Specific Standards for Geothermal Energy Alternative Energy Devices

1. Geothermal systems shall be designed and operated such that waste of the geothermal resource is minimized. Systems which withdraw water from the ground, whether reinjected into the ground or not, should beneficially utilize temperature drops according to Figure 5.
2. Systems shall be designed, installed, and operated so that they do not adversely affect either:
 - a. The performance of existing nearby geothermal systems; or
 - b. The water quality of surface or groundwater as defined by existing or future Department of Environmental Quality regulations.
3. Buildings housing geothermal system components shall be located and designed in such a manner as to harmonize with the surrounding community.
4. Special considerations must be given to assure that elements of the geothermal system do not create a hazardous or undesirable living environment. Items requiring special attention include but are not necessarily limited to:
 - a. Steam or water vapor emission;
 - b. Undesirable or hazardous vapors or odors;
 - c. Excessive noise levels;
 - d. Hazardous wellhead construction or equipment.
5. Materials installed shall be of such kind and quality to assure that the geothermal energy system will provide:
 - a. Adequate structural strength;
 - b. Adequate resistance to weather, moisture, corrosion and fire; and
 - c. Acceptable durability and ease of maintenance.

6. No material, form of construction, fixture, appurtenance or item of equipment shall be employed that will introduce toxic substances, impurities, bacteria, or toxic chemicals into potable water and air circulation systems in quantities sufficient to cause disease or harmful physiological effects, or impart undesirable tastes or odors.
7. Heat transfer fluids which require special handling (e.g., toxic combustible, corrosive, explosive, etc.) shall not be used unless the systems in which they are used are designed to avoid unnecessary or unreasonable hazards. Combustible materials adjacent to geothermal equipment or an integral part of a geothermal component shall not be exposed to elevated temperatures which may cause ignition.
8. Materials used for insulation shall be of sufficient proven effectiveness and durability under the expected operating conditions to assure that required design conditions concerning heat losses, surface temperature, sound control, and fire rating are attained.
9. Components of geothermal systems which are accessible, located in the areas normally subjected to occupant traffic and which are maintained at elevated temperatures shall either be insulated to maintain their surface temperature at or below 140 degrees F at all times during their operation or be suitably isolated. Any other exposed accessible components that are maintained at temperatures above 140 degrees F shall be identified with appropriate warnings. Consideration should be given to equipping the domestic hot water systems with a means of limiting the temperature of hot water for personal use at fixtures to 140 degrees F.
10. The total system shall be protected against excessive pressures, vacuums and temperatures.
11. Geothermal energy systems (including piping, fixtures, appliances and other equipment) shall not contribute significantly to the entry or growth of vermin or rodents, fungi, mold, or mildew.
12. The design and installation of the geothermal system, its subsystems and components shall be accomplished in such a manner as to provide complete protection of the potable water supply. Circulation loops of subsystems utilizing nonpotable heat transfer fluids shall either be separated from the potable water system in such a manner that a minimum of two walls or interfaces is maintained between the nonpotable liquid and the potable water supply or otherwise protected in such a manner that equivalent safety is provided. Backflow of nonpotable heat transfer fluids into the potable water supply shall be prevented.
13. Storage tanks shall be designed and fabricated to standards embodying principles recognized as good engineering design and fabrication practice for the materials used. Each liquid storage tank shall be tested to prove that leakage does not occur.

14. Provisions for thermal expansion and contraction without undue strain or distortion shall be made as required.
15. Systems subject to freezing of the heat transfer fluid shall be provided with freeze protection by draining, antifreeze agents, insulation, or other means.

330-80-080 Items Qualifying as a Solar or Geothermal Device

The following are intended as guidelines and are not to exclude other items which the applicant is able to justify to the satisfaction of the Department of Energy as comprising part of an alternative energy system.

1. Solar devices eligible for the tax credit:
 - a. Solar energy collectors, including costs associated with designs incorporating the collector into the architecture of the house itself.
 - b. Moveable insulation.
 - c. Trombe walls, including costs associated with the need for increased supporting structures.
 - d. Attached solariums provided they are exposed to the winter sun and can be isolated from the heated space to prevent heat loss during non-sunny periods.
 - e. Thermal mass located within the insulated shell of the building. The cost of added structural footings or bracing required to support the additional mass may be included.
 - f. Solar assisted heat pumps, provided they are added at the time of the solar device and will lead to a 10 percent reduction in electrical demand over the use of heat pumps alone.
 - g. Ductwork, piping, fans, pumps, and controls involved with moving heat from solar collection devices to storage and to areas of heating demand.
 - h. Southern facing windows based upon the following equation:

$$\frac{(SG-OG)}{SG} (SGC) = EC$$

where;

SG = square feet of glazing that faces south plus or minus 45 degrees;

OG = square feet of glazing that faces north plus or minus 45 degrees;

SGC = solar glazing cost;

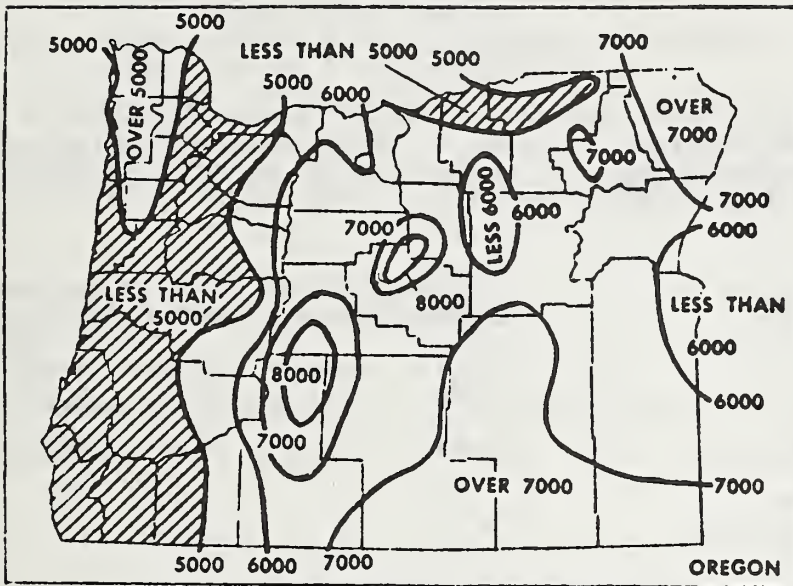
EC = eligible cost for the tax credit.

2. Geothermal devices eligible for tax credit:
 - a. Well drilling, casing, and down-hole heat exchangers.
 - b. Piping, control devices, and pumps involved with moving the heat from the geothermal well to the place where it is utilized for space heating or cooling.
 - c. Geothermal assisted heat pumps, provided they are added at the time of the geothermal well and will lead to a 10 percent reduction in electrical demand over the use of heat pumps alone.
 - d. Reworking of existing wells when the result of such work will result in a 10 percent reduction in usage of electricity and/or fossil fuels within the residence, or that the well would be abandoned if the work were not carried out and its use satisfies at least 10 percent of the total energy needs of the dwelling.
 - e. Liquid to air heat exchanger, ductwork, and fans installed with a geothermal well to distribute heat from the well throughout the dwelling.
3. Devices not eligible for the tax credit:
 - a. Conventional furnaces.
 - b. Wood stoves or wood furnaces.

FIGURE 1
Assumptions for Typical Residences

<u>A. Space Heating Energy</u>		<u>B. Miscellaneous Energy (all Other Purposes)</u>	
<u>Sq. Ft. (Approx. Heated Area)</u>	<u>Space Heating Load BTU/Degree Day*</u>	<u>Number of Persons in Residence</u>	<u>Yearly BTU x 10⁶</u>
1,000	6,850	1	18.6
1,500	10,350	2	29.8
2,000	13,800	3	41.0
2,500	17,260	4	52.3
3,000	20,700	5	63.5
		6	74.7

FIGURE 2



ANNUAL HEATING DEGREE DAY NORMALS

*Degree Day is a unit, based upon temperature difference and time, used in estimating fuel consumption and specifying nominal heating load of a building in winter. For any one day, when the mean temperature is less than 65 degrees F., there exists as many degree days as there are Fahrenheit degrees difference in temperature between the mean temperature for the day and 65 degrees F.

FIGURE 4A

ZONE DESIGNATIONS

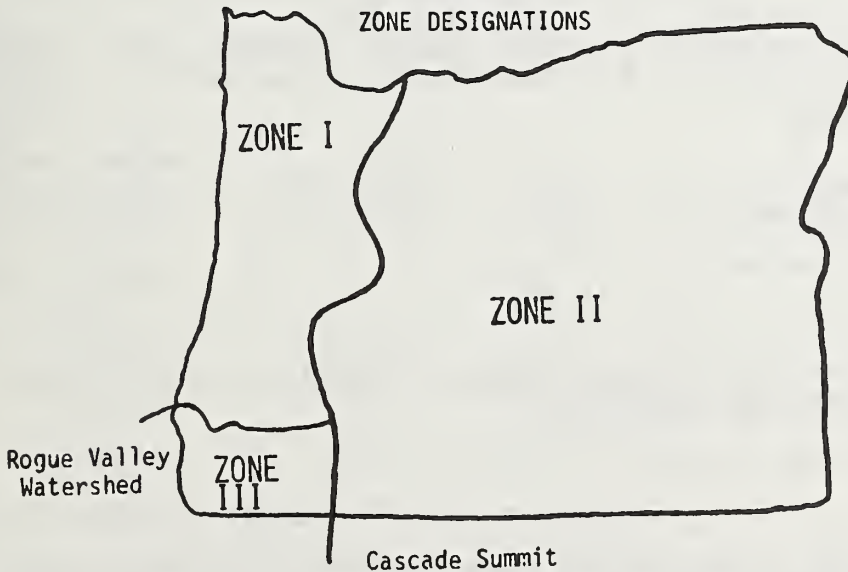


FIGURE 3

Unless an applicant shows that their dwelling is more energy efficient than estimated by the Department of Energy, an Alternative Energy Device must be designed to provide at least this many million BTU (or BTU x 10⁶ degrees) yearly, to qualify for the Oregon Tax Credit:

Annual Degree Days	Locations	Approx. Floor Area of Heated Residence (Square Feet; and Number of Residents*)				
		1,000 (2)	1,500 (3)	2,000 (3.5)	2,500 (4)	3,000 (4.5)
4200	Brookings	5.9	8.5	10.5	12.5	14.5
4400	Grants Pass Portland (Center) Roseburg	6.0	8.7	10.7	12.8	14.9
4700	Coos Bay, Eugene, Corvallis Forest Grove, Medford Portland (Airport)	6.2	9.0	11.2	13.3	15.5
5100	Astoria, Dallas Estacada, Newport Pendleton	6.5	9.4	11.7	14.0	16.4
5500	Dayville, Heppner Hood River, Huntington Valsetz	6.8	9.8	12.3	14.7	17.2
6000	LaGrande, Silver Creek Falls, Vale, Ontario	7.1	10.3	12.9	15.6	18.2
6500	Elgin, Klamath Falls, Madras, Paisley	7.4	10.8	13.6	16.5	19.3
7000	Baker, Bend, Burns Halfway, Lakeview	7.8	11.3	14.3	17.3	20.3
7500	Enterprise, Wallowa	8.1	11.9	15.0	18.2	21.3

*Minimum collector sizes not usually greatly affected by a lesser or greater number of residents than shown above.

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FIGURE 4B

Estimated* Active Collector Area for
Solar Hot Water Heating
(Collector Assumed @ 45 degree Tilt to Horizontal; Performance
Predictions by F chart Simulations)
1.5 gal. Storage per s.f. Collector

<u>Approx. Residential Heated Area</u>	<u>(# Residents)</u>	<u>Zone I</u>	<u>Zone II</u>	<u>Zone III</u>
1,000 s.f.	(2)	45 s.f.	45 s.f.	40 s.f.
1,500 s.f.	(3)	65 s.f.	60 s.f.	50 s.f.
2,000 s.f.	(3.5)	85 s.f.	85 s.f.	70 s.f.
2,500 s.f.	(4)	100 s.f.	100 s.f.	85 s.f.
3,000 s.f.	(4.5)	125 s.f.	125 s.f.	100 s.f.

*These are based on the estimates made by the Department of Energy. An individual determination may be made as to whether the 10 percent requirement is met, if an applicant feels their dwelling uses less energy or their collector is more efficient than assumed in the derivation of these tables.

FIGURE 4C

Estimated* Active Solar Collector Area or Passive Solar
South-facing Glass Area for Space Heating Only
(Collector assumed @ 60 degree tilt to horizontal; efficiency
for Total Insolation Assumed at 30 percent for Oct.-April
Heating Season)

Storage: Active Collectors -- 2 gal. water or 1/2 cu. ft. rock per sq. ft. collector. Passive designs -- 4 gal. water or 1 cu. ft. rock per sq. ft. glazing.

<u>Approx. Residential Heated Area</u>	<u>(# Residents)</u>	<u>Zone I</u>	<u>Zone II</u>	<u>Zone III</u>
1,000 s.f.	(2)	90 s.f.	70 s.f.	65 s.f.
1,500 s.f.	(3)	135 s.f.	100 s.f.	95 s.f.
2,000 s.f.	(3.5)	165 s.f.	125 s.f.	120 s.f.
2,500 s.f.	(4)	200 s.f.	150 s.f.	140 s.f.
3,000 s.f.	(4.5)	230 s.f.	175 s.f.	165 s.f.

Note: See map on Figure 4A for zone designations.

*These are based on the estimates made by the Department of Energy. An individual determination may be made as to whether the 10 percent requirement is met, if an applicant feels their dwelling uses less energy or their collector is more efficient than assumed in the derivation of these tables.

FIGURE 4 D
Estimated* Pool Heating Collector Area
for Solar Pool Heating
Collector Assumed at 30 Degrees Tilt to Horizontal
60 Percent Efficiency May-September Heating Season

<u>Approx. Residential Heated Area</u>	<u>(# Residents)</u>	<u>Zone I</u>	<u>Zone II</u>	<u>Zone III</u>
1,000 s.f.	(2)	40 s.f.	35 s.f.	35 s.f.
1,500 s.f.	(3)	55 s.f.	55 s.f.	50 s.f.
2,000 s.f.	(3.5)	70 s.f.	65 s.f.	60 s.f.
2,500 s.f.	(4)	85 s.f.	80 s.f.	70 s.f.
3,000 s.f.	(4.5)	100 s.f.	95 s.f.	80 s.f.

Note: See map on Figure 4A for zone designations.

*These are based on the estimates made by the Department of Energy. An individual determination may be made as to whether the 10 percent requirement is met, if an applicant feels their dwelling uses less energy or their collector is more efficient than assumed in the derivation of these tables.

FIGURE 5

Required Temperature Drops

<u>Temperature Range</u>		<u>Minimum Temperature Drop</u>		
Below 38°C	Below 100°F	ΔT	\geq	8°F
38 - 54	100 - 130	ΔT	\geq	12°F
54 - 71	130 - 160	ΔT	\geq	15°F
71 - 88	160 - 190	ΔT	\geq	20°F
88 - 104	190 - 220	ΔT	\geq	30°F
104 - 121	220 - 250	ΔT	\geq	45°F
over 121°	over 250°	ΔT	\geq	60°F



SOLAR ENERGY

CRITERIA FOR TAX EXEMPTION

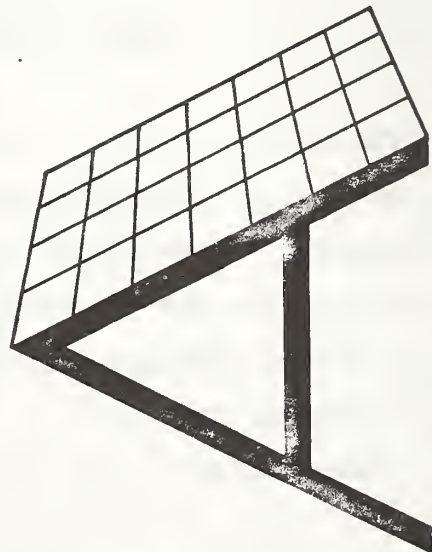
VIRGINIA STATE BOARD OF HOUSING

OCTOBER 1977

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**THE VIRGINIA ENERGY OFFICE
ANSWERS SOME IMPORTANT QUESTIONS
ABOUT SOLAR ENERGY.**



Can solar energy help reduce high fuel or electric bills?



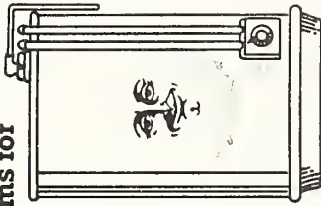
A solar hot water or space heating system can reduce fuel and electric bills, but the system itself is likely to be expensive.

Solar space heating systems almost always require a conventional backup system, and may cost between \$3,500 and \$18,000 more than a conventional system alone. The price range is wide because the systems vary in size, quality and efficiency.

If a reasonable payback period is expected on the money invested in a solar space heating system, and if government assistance is not available the cost of the energy delivered by a solar system today is usually **greater** than that delivered by

a competing system using oil, a heat pump, natural gas or even electric resistance heat in some cases. For this reason, solar space heating is not often considered except for a house which would be efficient and relatively inexpensive to heat with any system. Insulation and other improvements to the thermal efficiency of a home normally have a substantially better payback than a solar heating system. This is likely to remain true even with Federal assistance which may become available for solar heating.

Is the same true of solar systems for household hot water?



Solar hot water heating systems can potentially yield a better return on their cost than solar space heating systems, since hot water use continues in the summer when solar radiation is greatest and, in much of Virginia, rates for electricity are highest. Effective solar hot water systems require expensive controls and plumbing, however, and may cost \$2,000 or more. Consumers should be cautious in evaluating claims of short payback times for hot water or space heating systems.

Finally, one should remember that the reasons for installing a solar energy system in a new or existing home need not be monetary. They may include the personal satisfaction of having an innovative, non-polluting energy source which reduces the drain on national resources.

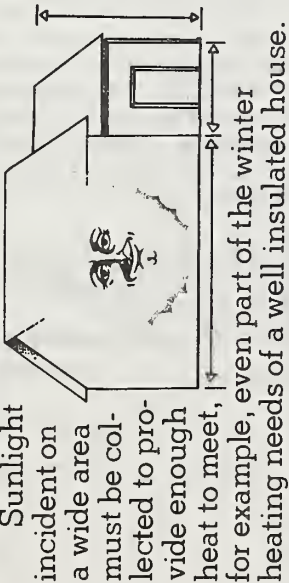
How do solar energy systems operate?

A wide variety of solar systems are available. The most common type uses a flat-plate collector consisting of a glass or transparent plastic material above a blackened surface. This box-like system acts as a green house. The glass transmits solar light waves to the blackened absorbing surface and prevents the generated heat waves from passing back out of the box, thereby retaining maximum heat.

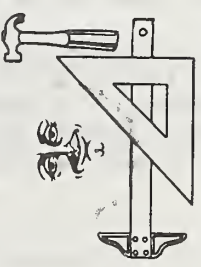


Pipes run through the collector to carry heated water or air to a circulating system for immediate use or to a storage container for future use. To eliminate the need for large collector and storage facilities, conventional auxiliary energy systems are normally used to provide additional heat during long cloudy periods or very cold weather.

If solar systems are so simple, why are they often expensive?



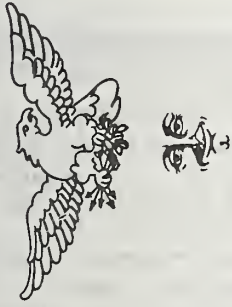
Sunlight incident on a wide area must be collected to provide enough heat to meet, for example, even part of the winter heating needs of a well insulated house. Such a house with 1500 square feet of floor might use 700 square feet of collector surface. The collector must be rugged enough to be exposed to the weather for many years. Extensive plumbing, temperature controls, and a heat storage system are normally required.



Where can I find the names of engineers and contractors who design and install solar systems?

Simply write the Solar Energy Center at the Virginia Energy Office, 823 East Main Street, Richmond, Virginia 23219.

Is government assistance available to help pay for a solar system?



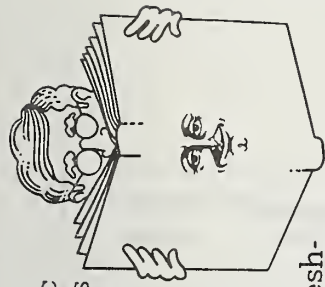
None was available as of September first, but a program of substantial Federal assistance has been proposed by President Carter. His energy legislation includes a tax credit for homeowners and businesses which invest in solar energy. The credit would be 40% for the first \$1,000 spent and 25% for the next \$6,500. It would begin in 1978 and decline gradually through 1984 when it would expire.

The proposed tax credit may be substantially altered, or even defeated in Congress, however.

Virginia law permits localities to exempt all or part of the value of solar energy systems from real property taxes. As yet no local government has exercised this option. The State Office of Housing is developing standards which solar systems must meet to qualify for this tax break.

How can I learn more about solar energy?

Your local public library will have books on the subject. Three books which are available at bookstores are: The Solar Home Book, by Bruce Anderson with



Michael Riordan, Cheshire Books, Harrisville, New Hampshire. Distributed by R.P.M. Distributors, P.O. Box 1785, Rockville, Md. 20950; Designing and Building a Solar House, by Donald Watson, Garden Way Publishing, Charlotte, Vermont 05445; and Direct Use of the Sun's Energy, by Farrington Daniels, Ballentine Books Division of Random House, 201 E. 50th St., New York, NY 10022.

You may also want to join the Virginia Solar Energy Association, a group of people — many with technical backgrounds, who have a lively interest in Solar energy. Membership is \$15 a year, which includes a newsletter. Their address is P.O. Box 12442, Richmond, Va 23241. Or you may write the Solar Energy Center, Virginia Energy Office, 823 East Main Street, Richmond, Va 23219.



**THE VIRGINIA ENERGY OFFICE.
VIRGINIANS WORKING TOGETHER
TO KEEP VIRGINIA STRONG.**

VIRGINIA ENERGY INFORMATION CENTER

ANNOTATED SOLAR BIBLIOGRAPHY

April, 1978

By Georgeen Melanson Newland

The Division of Energy does not distribute the publications listed below. Requests and orders for copies should be addressed to those publishers listed in the citation.

Active and Passive Solar Heating of Buildings. Balcomb, J. D., Los Alamos Scientific Laboratories. 1977, 13p. Available from National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161

An overview of both active and passive solar heating approaches for buildings is presented. Passive solar heating concepts - in which the thermal energy flow is by natural means - are described according to fine classifications: direct gain, thermal storage wall, solar greenhouses, roof ponds, and connective loops. Results of simulation analysis are presented for a variety of climates. Active systems utilizing both liquid-heating collectors are described. Trends in the recent development of solar heating are discussed.

Analysis of Policy Options for Accelerating Commercialization of Solar Heating and Cooling Systems. Bezdek, Roger. 1977, 467p. George Washington Univ. Report. Available from National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161

The solar energy incentive options summarized in ERDA 77-62, "Interim Policy Options for Removing Barriers and Implementing Incentives to Accelerate Market Penetration of Solar Heating Cooling and Systems," are amplified and analyzed. Alternative methods for enhancing the effect of the Solar Heating and Cooling Demonstration Program are presented. The costs and benefits of different policy options are estimated quantitatively and qualitatively. Information is presented for use by the Administration, Congress, state and local officials, researchers, and others interested in facilitating solar energy development. Topics include: economic and financial incentives; the solar energy/public utility interface; legal and regulatory issues; ERDA's patent policy; building codes, standards, and warranties; marketing, labor, consumer, and environmental issues; and regional aspects of the incentives program. (2 diagrams, 2 graphs, 1 map, 27 tables)

Applied Solar Energy. An Introduction. Meinel, A. B., Meinel, M. P., 1976, 666p. Available from Addison-Wesley Publishing Co.

This book is an introduction into the theory that must be mastered in order to engineer and evaluate the performance of solar energy systems. An important goal in solar energy applications is the ability to calculate output from a proposed design application and thereby establish the value of the energy delivered and a fair price for the system. To this end the authors build the necessary background and information in successive chapters, culminating in a section on representative applications.

Barriers to, and Incentives for, the Widespread Utilization of Solar Energy: A Framework for Analysis. Bezdek, R. H. 1976, Available from U. S. Department of Energy, Technical Information Center, P. O. Box 62, Oak Ridge, Tenn. 37830

From 2. southeastern conference on application of solar energy; Baton Rouge, Louisiana, United States of America (USA) (19 Apr 1976).

APPLICATION FOR EXEMPTION ON SOLAR ENERGY SYSTEMS
REAL PROPERTY
CHAPTER 364 LAWS 1977 EX. SESS.

Application Number _____
(Assessor's Use Only)

PROPERTY OWNER: _____ DATE: _____
ADDRESS: _____ PHONE: _____

ASSESSOR'S PARCEL NUMBER: _____
LEGAL DESCRIPTION: _____

PROPERTY ADDRESS: _____

DESCRIBE SOLAR ENERGY SYSTEM (IF ONLY SUPPLEMENTAL, INCLUDE ONLY THE SOLAR ENERGY COMPONENTS):

APPLICATION IN USE (FOR SPACE HEATING, WATER HEATING, ETC.): _____

TYPE OF COLLECTION: _____
TYPE OF STORAGE: _____
TYPE OF BACKUP SYSTEM: _____
DESCRIBE THE BUILDING ON WHICH THE SOLAR ENERGY SYSTEM WAS INSTALLED: _____

SQUARE FOOTAGE OF COLLECTOR: _____ BTU OUTPUT OF UNIT: _____
COST OF SOLAR ENERGY SYSTEM: _____
DATE INSTALLATION WAS BEGUN: _____ DATE SYSTEM WAS OPERATIONAL: _____
CONTRACTOR: _____ PHONE: _____
ADDRESS: _____

I HEREBY CERTIFY THAT THE FOREGOING INFORMATION IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE:
DATE: _____ OWNER: _____
AGENT: _____

ASSESSOR'S USE ONLY
EXEMPTION CLAIM DENIED ON: _____ REASON FOR DENIAL: _____

CLAIMANT NOTIFIED ON: _____ EXEMPTION CLAIM APPROVED ON: _____
AMOUNT OF EXEMPTION: _____ ASSESSMENT YEAR EXEMPTION TO BEGIN: _____
LAST ASSESSMENT YEAR OF EXEMPTION: _____

Date _____ Assessor _____

INFORMATION AND INSTRUCTIONS FOR APPLICATION FOR
EXEMPTION OF SOLAR ENERGY SYSTEMS

SOLAR ENERGY SYSTEM DEFINED

"Solar Energy System" means that equipment designed and installed to capture the energy received from the sun and the conversion of that energy to the purposes of water heating, space heating or cooling, or any other application which would require a conventional source of energy.

WHAT SYSTEMS QUALIFY

Any solar energy system which collects and uses solar energy for water heating, space heating or cooling, or uses which would otherwise require a conventional energy source, (petroleum products, natural gas, electricity), may be qualified for property tax exemption. In addition, solar energy components which collect and transfer solar energy as a supplement to conventional energy systems are qualified for this exemption.

This exemption shall not apply to components of a building which utilizes the energy of the sun in a passive way, (extra window areas, walls designed to absorb and retain heat, etc.). To qualify, the system shall actively collect, store, and utilize the sun's energy. The system must be installed as an improvement to real property.

WHO MAY FILE

Any property owner or contract purchaser who installs or has installed a solar energy system as an improvement to real property.

WHERE TO FILE

The property owner, using the application form provided by the county assessor, shall file the application with the assessor of the county where the real property and solar energy system is located.

FILING PERIOD

Applications for exemption must be made between January 1 and May 31, both dates inclusive, for the exemption to apply during that assessment year. The exemption shall apply to those solar energy components installed and operational through April 30 of that assessment year.

Claims filed May 31 through December 31 shall qualify for exemption for the following assessment year, providing the system is operational by April 30.

No claims for the solar energy system exemption may be filed after December 31, 1981.

APPROVAL OF CLAIM

The assessor shall approve claims that he or she finds to be qualified under this law. If solar energy is used only in a supplemental way, the assessor shall only exempt those components which collect and transfer solar energy.

PERIOD OF EXEMPTION

Upon approval, the solar energy system shall be exempt for seven assessment years, not to be renewed on those components previously exempted.

DETERMINATION OF AMOUNT OF EXEMPTION

The amount of value to be exempted shall be determined by the assessor by appraising the added value as a result of the solar energy improvement. The added value of the solar improvement may or may not represent the cost of the improvement.

REVALUATION OF PROPERTY DURING THE EXEMPTION PERIOD

In a revaluation of the property, the assessor shall separately determine the value of the solar energy system and shall allow exemption of that amount.

APPEALS

If the property owner disagrees with the assessor's determination of the amount or qualification of the exemption, the determination may be appealed to the next regular July session of the county Board of Equalization.

SUMMARY OF PROPOSED RULE CREATION
WISCONSIN ADMINISTRATIVE CODE CHAPTER IND 18
ALTERNATIVE ENERGY TAX CREDIT
DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS

Chapter 313, Laws of 1977 directed the department to promulgate by rule, performance standards for alternative energy systems to determine eligibility for state tax benefits.

The proposed rules establish those standards and the administrative procedures for the certification of solar, wind and waste conversion energy systems for the applicable tax benefit.

PART I - SCOPE AND PURPOSE

This part of the proposed code contains information on the scope of the rules and how the rules will be applied, administered and enforced.

PART II - DEFINITIONS

This part of the chapter contains the definitions specified in the law and those definitions needed to understand the individual sections of the chapter and the intent of those rules.

PART III - ELIGIBILITY AND BENEFITS

This part includes the limitations of the law regarding the costs of the systems and the maximum amount of tax benefit permitted. It specifies those costs which may be included and those which must be excluded when making the required calculations.

PART IV - CERTIFICATION REQUIREMENTS FOR THE
BUSINESS/CORPORATE AND INDIVIDUAL APPLICANT

This part details the documentation and data which must be submitted by the applicant. The economic parameters (discount and fuel inflation rates) needed to make the financial payback calculations required in the law are specified. The requirements for warranties of manufactured equipment are included as well as the procedures and requirements for obtaining the optional approval for manufactured equipment.

APPENDIX

The appendix includes a partial listing of devices, equipment, systems and applications which are not eligible for the tax credit.

CHAPTER IND 18

ALTERNATIVE ENERGY TAX CREDIT

PART I SCOPE AND PURPOSE

- Ind 18.001 Scope
- Ind 18.002 Purpose
- Ind 18.01 Health and Safety
- Ind 18.02 Design

PART II DEFINITIONS

- Ind 18.10 Definitions

PART III ELIGIBILITY AND BENEFITS

- Ind 18.20 Eligibility Criteria
- Ind 18.21 Tax Benefits

PART IV CERTIFICATION REQUIREMENTS FOR THE BUSINESS/CORPORATE
AND INDIVIDUAL APPLICANT

- Ind 18.30 Documentation
- Ind 18.31 Installer's Warranty
- Ind 18.32 Optional Approval of Manufactured Equipment

APPENDIX A

Chapter Ind 18, Alternative Energy Tax Credit, is created to read:

CHAPTER IND 18

ALTERNATIVE ENERGY TAX CREDIT

Part I Scope and Purpose

IND 18.001 SCOPE. The Alternative Energy System Tax Credit Law's declaration of policy states that "it is in the interest of the state to use renewable, in state sources of energy which do not pollute the environment and which diversify the supplies of energy now used in this state." It is the purpose of the law "that the expedient development of alternative sources of energy not now economically competitive should be fostered by providing temporary state financial incentives.. which encourage the use of such sources."

(1) DEPARTMENT DUTIES. Section 71.09(12) of the Wisconsin Statutes provides that the Department of Industry, Labor and Human Relations, in consultation with the Department of Administration, establish performance standards for alternative energy systems to:

- (a) *Energy*. Produce the maximum practical amount of energy.
- (b) *National Standards*. Conform, where feasible, with national performance standards.
- (c) *Energy Savings*. Produce present value energy savings which, within 25 years, pay for the present value cost of the design, construction, equipment and installation of the alternative energy system.
- (d) *Innovative Systems*. Not hamper individual development of innovative alternative energy systems.

All alternative energy systems as defined in Ind 18.10(2), shall comply with the requirements of this chapter in order to qualify for tax benefits. Those systems for which a tax benefit is not sought, need not comply with the requirements of this chapter.

IND 18.002 PURPOSE The purpose of this chapter is to establish the criteria for certifying alternative energy systems for individual income or corporate/franchise income tax benefits, as specified in the Law. Compliance with the criteria may be demonstrated by the submission of the necessary documentation required by Ind 18.30 and through detailed calculations or by use of the appropriate application forms available through the Department of Industry, Labor and Human Relations.

IND 18.01 HEALTH AND SAFETY. This chapter is not a health and safety code or a design manual, but specifies minimum requirements for alternative energy systems applying for tax benefits. The requirements of this chapter do not relieve responsibility for compliance with any health or safety codes. Where conflict between requirements occurs, health and safety requirements shall govern.

NOTE: One and two family dwellings are subject to the requirements of the Wisconsin Uniform Dwelling Code were applicable.

18.02 DESIGN. All alternative energy systems shall be designed using recognized engineering techniques and principles. All alternative energy systems shall comply with all applicable national standards.

NOTE: The Department recognizes the following National Standards:

Department of Housing and Urban Development (HUD) 4930.2 Intermediate minimum property standards for Solar Heating and Domestic Hot Water Systems.

National Bureau of Standards (NBS) Interim Performance criteria for solar heating and combined heating/cooling systems and dwellings.

PART II DEFINITIONS

IND 18.10 DEFINITIONS. (1) ACTIVE THERMAL SOLAR ENERGY SYSTEM. An active thermal solar energy system is a thermal solar energy system in which the collector and storage subsystems are thermally isolated from the load, and a working fluid and distribution subsystem must be utilized to transfer thermal energy to the load.

- (2) ALTERNATIVE ENERGY SYSTEM. An alternative energy system is a solar energy system, waste conversion energy system, or a wind energy system that is used to supplement or replace a conventional energy system, exclusive of all equipment or components which would be present as part of a conventional energy system.
- (3) AUXILIARY. An auxiliary is a conventional energy system, or component thereof, which supplies all of the energy required by the load that cannot be supplied by the alternative energy system.
- (4) CONVENTIONAL ENERGY SYSTEM. A conventional energy system is an energy system supplied with conventional fuels or energy derived from conventional fuels.
- (5) CONVENTIONAL FUELS. A conventional fuel is any depletable fuel or energy resource exclusive of waste, such as coal, petroleum products, natural gas, propane, cord wood, or any fuel or energy purchased from a public or private utility.
- (6) DEPARTMENT. The Department is the Department of Industry, Labor and Human Relations.
- (7) DESIGN LIFE. The design life is the period during which an alternative energy system or component thereof is expected to perform its intended function and operate correctly without requiring replacement or major overhaul.
- (8) EQUIPMENT. Equipment is a mechanical or electrical, as opposed to biological, device.
- (9) LOAD. A load is the energy requirements of a useful system, device or process.

- (10) PASSIVE THERMAL SOLAR ENERGY SYSTEM. A passive thermal solar energy system is a thermal solar energy system in which the collector and storage subsystems are thermally coupled to the load, and working fluid and distribution subsystem are not necessary to transfer thermal energy from the collectors or storage to the load.
- (11) PHOTOVOLTAIC SOLAR ENERGY SYSTEM. A photovoltaic solar energy system is a solar energy system that converts radiant solar energy directly into electrical energy.
- (12) SOLAR ENERGY SYSTEM. A solar energy system is the equipment (active thermal, passive thermal or photovoltaic) which converts and then transfers or stores solar energy into usable forms of energy for space heating or cooling, crop drying, electricity generation, hot water heating, or swimming pool heating.
- (13) WASTE. Waste is the solid, liquid, or gas by-products of a residential, institutional, commercial, industrial, or agricultural process that may be used as, or processed to become a fuel.
- (14) WASTE CONVERSION ENERGY SYSTEM. A waste conversion energy system is the equipment which converts wastes into usable forms of energy, but does not include conventional fuel consuming devices, or solid fuel consuming devices for residential purposes.
- (15) WIND ENERGY SYSTEM. A wind energy system is the equipment which converts and then transfers or stores energy from the wind into usable forms of energy, but does not include vehicles which utilize wind power.

PART III ELIGIBILITY AND BENEFITS

IND 18.20 ELIGIBILITY CRITERIA. (1) PERIOD OF APPLICATION. Only those expenses for the alternative energy system that were incurred on or after April 20, 1977 and before January 1, 1985 shall be eligible for tax benefits.

- (2) COSTS. The cost eligible for tax benefit shall be as follows:
 - (a) *Businesses and Corporations.* The total cost of an alternative energy system for corporations, joint stock companies or associations, which shall include the design, construction, installation, and equipment of the system.
 - (b) *Individuals.* The cost of an alternative energy system for an individual, which shall include the design, construction, installation and equipment of the system. The expenses shall exceed \$500 in a single year but shall not exceed \$10,000 per system. If the total cost of the alternative energy system exceeds \$10,000, only \$10,000 is eligible.
- (3) CLAIMS. An alternative energy system may be certified for tax benefits only once. Once an owner has received tax benefits for an alternative

energy system, all subsequent owners may not claim benefits for the same system. An owner may apply for certification of more than one alternative energy system provided that each system performs a different function or is installed at a different site and no cost is claimed twice. Additions to existing alternative energy systems are eligible for certification as long as no cost from the existing alternative energy system is claimed twice.

- (4) **EQUIPMENT COSTS.** Only the cost of alternative energy system equipment shall be eligible for tax benefits. If an existing conventional energy system is modified to allow it to utilize a nondepletable fuel or nondepletable energy resource, the cost of the modification and the cost of the equipment needed to produce the alternative fuel shall be eligible for tax benefits. If new equipment normally used in a conventional energy system is employed in an alternative energy system, and is supplied solely with a nondepletable fuel or nondepletable energy resource, the cost of that equipment shall be eligible for tax benefits.

NOTE: See Appendix A for further explanatory material.

- (5) **LABOR EXCLUSIONS.** The cost of any labor or time of an individual applicant is not eligible, regardless of whether that time or labor was used to design, construct or install the alternative energy system.

IND 18.21 TAX BENEFITS. (1) **BUSINESSES AND CORPORATIONS.** The total eligible cost of the alternative energy system for businesses and corporations may be deducted in the year paid, may be depreciated over the system's design life, or may be amortized over a period of five years. The election, once made, may not be changed.

- (2) **INDIVIDUALS.** An individual may credit against state income taxes due a percentage of the eligible cost of the alternative energy system, in accordance with the percentages in Table 18.21

TABLE 18.21

Real Property Improvements appearing on the local tax rolls.	COSTS INCURRED DURING			
	1977-1978	1979-1980	1981-1982	1983-1984
Prior to April 20, 1977 (Existing Buildings)	30%	24%	18%	12%
On or after April 20, 1977 (New Construction)	20%	16%	12%	8%

PART IV CERTIFICATION REQUIREMENTS FOR THE
BUSINESS/CORPORATE AND INDIVIDUAL APPLICANT

IND 18.30 DOCUMENTATION. All persons applying for a tax credit shall submit the following documentation:

- (1) **ENERGY SAVINGS INFORMATION.** Information shall be submitted to the Department demonstrating that the alternative energy system produces present value savings within a 25 year period. The following parameters shall be considered: the average annual load; the percent of the load supplied by the alternative energy system; the design life of the system; the conventional and auxiliary energy costs; and the first costs of the design, construction, equipment and installation of the system. The economic parameters given in Table 18.30 shall be used in the analysis, unless otherwise justified.

NOTE: Application forms may be obtained from the Department and may be submitted to meet the above requirements.

TABLE 18.30

Discount Rate	
a. Individual	7%
b. Business or Corporation	20%
Fuel Inflation rate	
c. Gas	15%
d. Fuel Oil, propane, LP	15%
e. Electricity	12%
f. Other	10%

- (2) **SCHEMATIC DRAWING.** A schematic drawing shall be submitted to the department that illustrates how the system functions. The schematic drawing shall also illustrate all electrical and plumbing components. Such information shall include, but is not limited to, the location of all electrical controls, switches, safety devices, and all fluid back flow preventers, bypass valves, pressure and temperature relief valves, drain valves, the water main connection, expansion tanks, water hammer arresters, and all other valves and connections in the system. The specific properties of the heat transfer fluid, such as type, toxicity and flammability shall be documented. If a toxic fluid is used in conjunction with potable water, the means of protecting the potable water supply shall be described.

NOTE #1: Compliance with the above requirements does not eliminate the applicant's responsibility to comply with the requirements of Wisconsin Administrative Code Chapter Ind 62--Design, Construction, Installation, Supervision and Inspection of Plumbing.

NOTE #2: All alternative energy systems using a toxic fluid in connection with the potable water supply must be approved by the Department of Health and Social Services according to the requirements of the Wisconsin Administrative Code, Chapter, H62.

(3) PERFORMANCE AND DURABILITY INFORMATION. The performance and durability of all manufactured alternative energy systems and major components shall be documented. All nonmanufactured alternative energy systems or major components need not comply with this requirement.

(a) *Performance.* The performance of the manufactured alternative energy system and major components shall be documented by design data, test results, the manufacturer's informational product bulletin or other substantiating evidence.

(b) *Durability.* The design life of manufactured alternative energy systems and major components shall be demonstrated to be at least one year. The materials, workmanship and corrosion resistance of the system or major components shall be proven to be durable and reliable for a minimum of one year of service use. Compliance shall be demonstrated by design data, test results, a product warranty, or other substantiating evidence.

1. EXCEPTION. Solar collectors shall have a minimum design life of 3 years. The materials, workmanship and corrosion resistance of a solar collector shall be proven to be durable and reliable for a minimum of 3 years of service use.

NOTE #1: Major components of alternative energy systems include, not exclusively, such devices as solar collectors, heat exchangers, thermal energy storage devices, wind turbine generators, wind turbine support towers, electrical storage batteries, and methane gas generators. Such devices as pumps, valves, and control mechanisms are not considered major components.

NOTE #2: This submittal requirement may be waived if the alternative energy system or major component has a manufacturer's approval number issued by the Department, according to the requirements in IND 18.32.

(4) WARRANTY INFORMATION. A copy of the installer's warranty which meets the requirements of Ind 18.31 shall be submitted. An individual property owner who chooses to install his own manufactured or site built system need not comply with this requirement.

(5) ADDITIONAL DOCUMENTATION. When requested, additional data pertaining to the design, construction, equipment, materials and component function shall be submitted to demonstrate compliance with the rules.

IND 18.31 INSTALLER'S WARRANTY. (1) WARRANTY REQUIREMENTS. Every alternative energy system installed by a person(s) other than the owner shall be warranted by the installer. An individual property owner who chooses to install his own manufactured or site built system need not comply with this requirement. The warranty shall contain, but shall not be limited to the following conditions:

- (a) *Defects.* The installation of the alternative energy system shall be free from defects in workmanship and materials for a minimum of one year.
- (b) *Repair or Replacement.* The installer shall remedy instances of defects in materials and workmanship in the installation of the alternative energy system or its components which become evident within one year of the date of installation completion. This shall include the repair or replacement of components damaged by, or as a result of faulty installation. Any damaged component that cannot be repaired at the site shall be replaced. All such warranty remedies, including component repair or replacement, shall be within a reasonable time and without charge to the owner.
- (c) *Inspection.* The installer shall provide for at least one field inspection of the system or components within a period of one year from the date of installation completion. The field inspection shall be made, without charge to the buyer, to insure that the system is functioning as designed without any malfunctions.

IND 18.32 OPTIONAL APPROVAL OF MANUFACTURED EQUIPMENT A manufacturer of alternative energy systems or major components has the option of applying for a system or major component approval by the Department. The Department approval relieves the responsibility of the tax benefit applicant to document the performance and durability/reliability of the manufactured equipment. To be issued an approval number by the Department, the manufacturer of alternative energy systems and major components shall submit performance and durability/reliability documentation, a copy of the maintenance manual and documentation describing the system or components. All approvals shall be in effect only until January 1, 1985. If the equipment, materials or design of the system or components is changed, then new data shall be submitted by the manufacturer for review. Fees shall be submitted by the manufacturer according to Ind 69.09(2) for each approval number. An approval number shall not be issued until the fees are received. The following information and supporting data shall be submitted:

- (1) PERFORMANCE DOCUMENTATION. The performance of the alternative energy system and major components shall be documented by design data, test results, or other substantiating evidence. Such substantiating documentation shall be verified by an accredited testing laboratory, a certifying agency or a Wisconsin registered engineer, architect or designer.

NOTE: Major components of alternative energy systems include, not exclusively, such devices as solar collectors, heat exchangers, thermal energy storage devices, wind turbine generators, wind turbine support towers, electrical storage batteries and methane gas generators. Such devices as pumps, valves and control mechanisms are not considered major components.

- (a) *Solar Collector Testing.* The minimum test requirements for solar collectors are the thermal performance, time constant, and angle incidence modifier tests specified in the ASHRAE 93-77 standard. Solar collectors shall be tested by accredited testing laboratories and a copy of the test report shall be submitted.
- (2) DURABILITY/RELIABILITY DOCUMENTATION. The design life of manufactured alternative energy systems and major components shall be demonstrated by the manufacturer to be at least one year. The materials, workmanship and corrosion resistance of a product shall be proven to be durable and reliable for a minimum of one year of service use. Compliance with the durability/reliability minimum requirements shall be demonstrated by design data, test results or other substantiating evidence. Such substantiating evidence shall be verified by an accredited testing laboratory, a certifying agency, or a Wisconsin registered engineer, architect or designer. A copy of the manufacturer's product warranty may be submitted that shows compliance with the minimum requirements of this section.
 - (a) *Exception.* Solar collectors shall have a minimum design life of 3 years. The materials, workmanship and corrosion resistance of a solar collector shall be proven to be durable and reliable for a minimum of 3 years of service use.
 - (3) MAINTENANCE MANUAL. A copy of the maintenance manual shall be submitted.
 - (4) PRODUCT AND SYSTEM DESCRIPTION DOCUMENTATION. The manufacturer shall submit all of the following information that is applicable for the manufacturer's product:
 - (a) *Product Description.* The function of the system or component shall be described. Assembly drawings, a bill of materials and specifications shall be submitted. Any use restrictions or application limits of the product shall be noted.
 - (b) *Structural Analysis.* A structural analysis which indicates the dead, live, hail, snow; wind and hydrostatic load ratings of the product shall be submitted. An analysis of the loads which result on a structure from installation of the system or component shall also be provided.
 - (c) *Electrical Schematic Drawings.* Electrical schematic drawings or circuit diagrams which indicate the wiring, controls and safety devices of the system or component shall be submitted.

- (d) *Fluid Flow Schematic Drawings.* Fluid flow schematic drawings which detail fluid transfer operations, equipment and controls shall be submitted.
- (e) *Safety Considerations.* A description of the safety considerations and precautions shall be provided.
- (f) *Additional Information.* The Department may require additional information to check compliance with the requirements of Chapter Ind 18.

APPENDIX A

Partial list of systems or components which DO NOT qualify for income tax benefits.

(1) Passive Thermal Solar Energy

- (a) Structural elements which provide shade, such as awnings, eaves and wing walls.
- (b) Trees and shrubbery.
- (c) Thermal mass not within the insulated envelope of the building.
- (d) Thermal mass not illuminated by sunlight.
- (e) Glazing not provided with thermal mass or insulation.
- (f) Greenhouses not connected to a building that requires space heating.
- (g) Curtains or drapes.
- (h) Dark paint on exterior surfaces or conventional interior surfaces.
- (i) Swimming pools.
- (j) Building insulation

(2) Active Thermal Solar Energy

- (a) Heat pumps.
- (b) Humidifiers.
- (c) Evaporative coolers.
- (d) Any furnace, heater or fireplace that relies on a conventional fuel as defined in Ind 18.10(5).
- (e) Pool filtration or cleaning equipment.
- (f) Heat Recovery equipment.
- (g) Water Softener units.

(3) Wind Energy Systems

- (a) Sailboats, iceboats, or other wind powered vehicles.
- (b) Mechanical water pumping devices.

(4) Waste Conversion Energy System

- (a) Wood burning stoves, furnaces or fireplaces for residential applications.
- (b) Trash compactors.
- (c) Heat recovery equipment.

Appendix B

State Legislation

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LAWS OF ALASKA

1977

Source

Chapter No.

CSHB 329 am S

94

AN ACT

Relating to taxation; and providing for an effective date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 43.20 is amended by adding new sections to read:

Sec. 43.20.038. RESIDENTIAL FUEL CREDIT. (a) An individual is allowed as a credit against the tax due under this chapter five per cent of his residential fuel expenses paid during the year, but not less than a minimum credit of \$10. For married taxpayers filing separate returns, the minimum credit is \$5 for each return. Part-year resident and nonresident individual taxpayers shall prorate the credit allowed in this section according to the number of months resided in the state.

(b) For purposes of this section, "residential fuel expenses" means the actual or accrued payments by an individual taxpayer for wood, coal, heating oil, gas, electricity or other fuel consumed in the state for a residential housing unit.

Sec. 43.20.039. RESIDENTIAL FUEL CONSERVATION CREDITS. (a) An individual is allowed as a credit against the tax due under this chapter 10 per cent of his expenses for residential fuel conservation capital improvements paid or accrued during the year, subject to a maximum credit of \$200. For married taxpayers filing separate returns, the maximum credit is \$100 for each return.

(b) The provisions of this section are applicable only to a personal residence of the taxpayer that is located in the state.

(c) Part-year resident and nonresident individuals shall prorate the credits provided in this section according to the number of months during which the taxpayer resided in the state.

(d) In this section, "expenses for residential fuel conservation improvements" means

(1) the costs of additional insulation or insulating materials installed in the residence of the taxpayer if the residence was in existence on the effective date of this Act;

(2) the cost of insulating windows;

(3) costs of labor for the installation of the materials set out in (1) and (2) of this subsection; and

(4) expenses of installation of alternate sources of power generation not dependent on fossil fuels for energy supply, including but not limited to wind, tidal, solar or geothermal sources.

* Sec. 3. This Act is retroactive to January 1, 1977, and relates only to expenditures incurred after December 31, 1976.

* Sec. 4. The provisions of secs. 1 - 3 of this Act terminate on December 31, 1982.

* Sec. 5. AS 43.50.090 is amended by adding a new subsection to read:

(c) The tax imposed under (a) of this section does not apply to cigarettes imported or acquired in the state by an exchange, commissary, or ship's stores operated by one of the uniformed services of the United States as defined in 5 U.S.C. 2101.

* Sec. 6. AS 29.53.055 is amended to read:

Sec. 29.53.055. NO LIMITATION ON TAXES TO PAY BONDS. The limitations provided for in sec. 45 or 50 of this chapter do not apply to taxes levied or pledged to pay or secure the payment of the principal and interest on bonds. Taxes to pay or secure the payment of principal and interest on bonds may be levied without limitation as to rate or amount, regardless of whether the bonds are in default or in danger of default.

* Sec. 7. AS 29.58.180(a) is amended to read:

(a) The full faith and credit of a municipality are pledged for the payment of principal and interest on general obligation bonds. The municipality may levy ad valorem taxes for payment without limitation of rate or amount to pay or secure the payment of the principal and interest on bonds, regardless of whether the bonds are in default or in danger of default.

* Sec. 8. Sections 6 and 7 of this Act are retroactive to January 1, 1976.

* Sec. 9. This Act takes effect immediately in accordance with AS. 01.10.070(c).

Approved by the Governor: June 4, 1977
Actual Effective Dates: June 5, 1977; Sections 6 and 7 retroactive to January 1, 1976

**SOLAR ENERGY RESEARCH—COMMISSION;
DIRECTOR**

CHAPTER 58

HOUSE BILL 2062

An Act relating to state government; providing for annual reports by executive director of solar energy research commission; prescribing contract authority; prescribing term for members of commission; repealing termination date; amending sections 41-572 and 41-574, Arizona Revised Statutes, and repealing Laws 1975, chapter 20, section 4.

Be it enacted by the Legislature of the State of Arizona:

Section 1. Section 41-572, Arizona Revised Statutes, is amended to read: § 41-572. Solar energy research commission; members; vacancies; appointment; compensation; meetings

A. There is established a solar energy research commission consisting of the following members:

1. The chairman of the Arizona power authority.
2. A member of the faculty at Arizona state university, who shall be appointed by the governor.
3. A member of the faculty at the university of Arizona, who shall be appointed by the governor.
4. A member of the faculty at northern Arizona university, who shall be appointed by the governor.
5. Eleven additional persons, appointed by the governor, who shall either be knowledgeable of specific solar energy technologies or representatives of private industry involved in the application of solar energy to commercial, industrial or residential use.
6. The president of the Arizona senate and the speaker of the house of representatives or their representatives; shall be ex officio members.

B. ~~Appointments~~ Initial appointments made by the governor shall be for a term which expires on the ~~terminating date of this article~~ third Monday in January, 1978. Any appointment ~~to this vacancy~~ made thereafter shall be made pursuant to the provisions of § 38-211 for a term of three years.

C. Members of the commission serving by virtue of their office shall serve without compensation. Appointed members shall receive compensation as determined pursuant to § 38-611 for each day of attendance upon meetings.

D. The chairman of the commission shall be selected by the governor from among the members.

E. The commission shall meet upon call of the chairman.

Sec. 2. Section 41-574, Arizona Revised Statutes, is amended to read:

§ 41-574. Powers and duties

The executive director, in consultation with the solar energy research commission, shall:

1. Initiate and develop a systematic plan designed to meet all of the requirements of a national solar energy research institute pursuant to the United States solar energy research and demonstration act of 1974.
2. Cooperate, when in the best interests of the state, with all federal government agencies responsible for implementation of the United States solar energy research and demonstration act of 1974 to coordinate and encourage the support of all solar and advanced alternate energy systems research, development and demonstration in order to encourage the final decision to locate such institute within this state.

3. Encourage efforts by research institutions, local government institutions and home builders in obtaining technical and financial support from the federal government for their activities in solar and advanced alternate energy systems.

4. Collect, assemble and analyze information and data relating to solar energy technology, including the following:

(a) Federal legislation and federal agency sponsored programs and projects.
(b) Legislation enacted and programs or projects undertaken by this state and other states.

(c) Projects undertaken or to be undertaken by private firms and nonprofit institutions, foundations and laboratories.

(d) Innovations and uses developed by other countries.

5. Identify and describe the solar energy technologies that are feasible and practical in terms of short term application of retrofit, new construction and conservation projects within five years.

6. Identify and describe long-range programs that are feasible and require significant technological development. Programs having similar technological gradients shall be formulated to encompass the period of time from the present through the year 2020.

7. Recommend an organizational structure for the institute that will provide the functional priorities necessary to execute the development of research requirements, analysis of federal contract plans, identification of educational curricula requirements, legislation emphasis and ~~and~~ a collection needs of the institute.

8. Encourage the cooperation and direct involvement of academic, business, professional and industrial sectors that are determined to have special expertise or knowledge of solar energy technology.

9. Prepare ~~the~~ annual reports and submit copies thereof to the legislature and the governor during June, 1975, June, 1976 and June, 1977 and a final report during December, 1978 not later than June 30 each year. Such reports shall include specific recommendations necessary for the support of the institute ~~and any of its activities~~.

10. Enter into contracts which support the development of solar energy and aid the commission in the execution of its duties.

~~40-~~ 11. If Arizona is selected as a site for the institute, fully cooperate for the provision of a suitable permanent site and transitional needs during the time the institute facilities are under construction.

Sec. 3. Repeat

Laws 1975, chapter 20, section 4 is repealed.

Sec. 4. Emergency

To preserve the public peace, health and safety it is necessary that this act become immediately operative. It is therefore declared to be an emergency measure, to take effect as provided by law.

Approved by the Governor, May 18, 1977.

Filed in the Office of the Secretary of State, May 19, 1977.

SOLAR ENERGY—TAX EXEMPTIONS

CHAPTER 42

HOUSE BILL, 2063

An Act relating to taxation; providing exemptions from transaction privilege and use taxes for certain solar energy devices, and amending sections 42-1312.01 and 42-1409, Arizona Revised Statutes.

Be it enacted by the Legislature of the State of Arizona:

Section 1. Section 42-1312.01, Arizona Revised Statutes, is amended to read:

§ 42-1312.01. Exemptions.

A. In addition to the exemptions prescribed by the terms of § 42-1312, the following categories shall also be exempt:

1. Manufacturing or processing. Machinery or equipment, used directly in manufacturing, processing, fabricating, job printing, refining or metallurgical operations. The terms "manufacturing", "processing", "fabricating", "job printing", "refining" and "metallurgical" as used in this paragraph refer to and include those operations commonly understood within their ordinary meaning. "Metallurgical operations" includes leaching, milling, precipitating, smelting and refining.

2. Mining. Machinery or equipment used directly in the process of extracting ores or minerals from the earth for commercial purposes, including equipment required to prepare the materials for extraction and the handling, loading or transportation of such extracted material to the surface. "Mining" includes underground, surface and open-pit operations for the extraction of ores and minerals.

3. Telephone and telegraph companies. Tangible personal property consisting of central office switching equipment, switchboards, private branch exchange equipment, ~~micro-wave~~ microwave radio and carrier equipment, and coaxial cable.

4. Electric power production and transmission. Tangible personal property consisting of machinery, equipment or transmission lines used directly in the production or transmission of electrical power, but not including distribution and, in addition, transformers and control equipment used at transmission substation sites.

5. Pipelines. Pipes or valves four inches in diameter or larger used for transporting oil, natural gas, artificial gas, water or coal slurry.

6. Airlines. Airlines holding a federal or state certificate of public convenience and necessity or foreign air carrier permit for air transportation. Tangible personal property consisting of airplanes, navigational and communication instruments and other accessories and related equipment acquired and used in conjunction with or becoming a part of aircraft to be used in transportation of persons, property or U. S. mail in intrastate, interstate or foreign air transportation for hire.

7. Railroads. Tangible personal property consisting of rolling stock, rails, ties, signal control equipment used directly in the transportation of persons or property in intrastate or interstate transportation for hire.

8. Oil or gas. Machinery or equipment used directly in the drilling for oil or gas or used directly in the process of extracting oil or gas from the earth for commercial purposes.

9. Solar energy devices. A system or series of devices designed primarily to provide heating or cooling or both, or to produce electrical or mechanical power or both, or to pump irrigation water by means of collecting and transferring solar generated energy including devices having the capacity for storing solar energy.

B. The exemptions provided in subsection A of this section shall not include:

1. Expendable materials.
2. Janitorial equipment and hand tools.
3. Office equipment, furniture and supplies.
4. Tangible personal property used in selling or distributing activities.
5. Tangible personal property used in research.
6. Motor vehicles required to be licensed by the this state of Arizona

without regard to the use of such motor vehicles.

7. Shops, buildings, docks, depots and all other materials of whatever kind or character not specifically included as exempt.

Sec. 2. Section 42-1409, Arizona Revised Statutes, is amended to read: § 42-1409. Exemptions

A. The tax levied by this article does not apply to the storage, use or consumption in this state of the following described tangible personal property:

1. Tangible personal property sold in this state, the gross receipts from the sale of which are required to be included in the measure of the tax imposed by article 1 of this chapter.

2. Tangible personal property the sale or use of which has already been subjected to an excise tax equal to or in excess of that imposed by this article under the laws of some other state of the United States.

3. Tangible personal property, the storage, use or consumption of which the constitution or laws of the United States prohibit this state from taxing.

4. Tangible personal property which directly enters into and becomes an ingredient or component part of any manufactured, fabricated or processed article, substance or commodity for sale in the regular course of business.

5. Motor vehicle fuel the sales or distribution of which in this state are subject to the tax imposed under the provisions of article 1, chapter 9 of title 28.2

6. Tangible personal property sold to a person licensed as a contractor under chapter 10 of title 323 and holding a privilege tax license for engaging or continuing in the business of contracting under the provisions of article 1 of this chapter, when the tangible property so sold is by the contractor incorporated or fabricated into any structure, project, development or improvement in fulfillment of a contract therefor.

7. Tangible personal property brought into the state by a nonresident for his own storage, use or consumption while temporarily within the state, unless such property is used in conducting a business in this state.

8. Livestock, poultry, seed, feed and supplies for use or consumption in the businesses of farming, ranching and feeding livestock or poultry, not including equipment, fertilizer, herbicides and insecticides.

9. Tangible personal property not exceeding two hundred dollars in any one month purchased by an individual at retail outside the continental limits of the United States for his personal use and enjoyment

10. All personal property purchased outside this state by any hospital organized and operated exclusively for charitable purposes, no part of the

net earnings of which inure to the benefit of any private shareholder or individual, or operated by the state or any political subdivision of the state.

B. In addition to the exemptions prescribed by the terms of subsection A, the following categories shall also be exempt:

1. Manufacturing or processing. Machinery or equipment used directly in manufacturing, processing, fabricating, job printing, refining or metallurgical operations. The terms "manufacturing", "processing", "fabricating", "job printing", "refining", and "metallurgical", as used in this paragraph refer to and include those operations commonly understood within their ordinary meaning. "Metallurgical operations" includes leaching, milling, precipitating, smelting and refining.

2. Mining. Machinery or equipment used directly in the process of extracting ores or minerals from the earth for commercial purposes, including equipment required to prepare the materials for extraction and the handling, loading or transportation of such extracted material to the surface. "Mining" includes underground, surface and open-pit operations for the extraction of ores and minerals.

3. Telephone and telegraph companies. Tangible personal property consisting of central office switching equipment, switchboards, private branch exchange equipment, ~~base~~-base-wave microwave radio and carrier equipment, and coaxial cable.

4. Electric power production and transmission. Tangible personal property consisting of machinery or equipment used directly in the production or transmission of electrical power, but not including distribution and, in addition, transformers and equipment used at transmission substation sites.

5. Pipelines. Pipes or valves four inches in diameter or larger used in the transmission and distribution of oil, natural gas, artificial gas, water or coal slurry.

6. Airlines. Airlines holding a federal or state certificate of public convenience and necessity or foreign air carrier permit for air transportation. Tangible personal property consisting of airplanes, navigational and communication instruments and other accessories and related equipment acquired and used in conjunction with or becoming a part of aircraft to be used in transportation of persons, property or U. S. mail in intrastate, interstate or foreign air transportation for hire.

7. Railroads. Tangible personal property consisting of rolling stock, rails, ties, signal control equipment used directly in the transportation of persons or property in intrastate or interstate transportation for hire.

8. Oil or gas. Machinery or equipment used directly in the drilling for oil or gas or used directly in the process of extracting oil or gas from the earth for commercial purposes.

9. Solar energy devices. A system or series of devices designed primarily to provide heating or cooling or both, or to produce electrical or mechanical power or both, or to pump irrigation water by means of collecting and transferring solar generated energy including devices having the capacity for storing solar energy.

C. The exemptions provided in subsection B of this section shall not include:

1. Expendable materials.
2. Janitorial equipment and hand tools.
3. Office equipment, furniture and supplies.
4. Tangible personal property used in selling or distributing activities.
5. Tangible personal property used in research.

6. Motor vehicles required to be licensed by the state of Arizona, without regard to the use of such motor vehicles.

7. Shops, buildings, docks, depots and all other materials of whatever kind or character not specifically included as exempt.

¹ Section 42-1301 et seq.
² Section 28-1501 et seq.
³ Section 32-1101 et seq.

Sec. 3. Expiration date

The provisions of § 42-1312.01, subsection A, paragraph 9 of section 1 of this act and the provisions of § 42-1409, subsection B, paragraph 9 of section 2 of this act shall expire with the taxable year beginning from and after December 31, 1984.

Approved by the Governor, May 10, 1977.

Filed in the Office of the Secretary, May 10, 1977.

SOLAR TAX CREDIT ACT OF 1977

CHAPTER 81

HOUSE BILL 2068

An Act relating to taxation of income; providing an income tax credit for installation of certain solar heating and cooling devices; prescribing effect on deduction; prescribing credit allowed taxpayers for installation of certain residential insulation and devices; amending sections 42-123.01 and 43-123.37, Arizona Revised Statutes, and amending title 43, chapter 1, article 1, Arizona Revised Statutes, by adding sections 43-128.03 and 43-128.04.

Be it enacted by the Legislature of the State of Arizona:

Section 1. Short title

This act may be cited as "The Solar Tax Credit Act of 1977."

Sec. 2. Section 42-123.01, Arizona Revised Statutes, is amended to read: § 42-123.01. Alternate powers and duties of department

A. Notwithstanding the provisions of § 42-123 and until December 31, 1984, the department shall:

1. Exercise general supervision over county assessors in the administration of the state property tax laws of the state for the purpose of insuring that all property is uniformly valued for state property tax purposes.
2. Prescribe rules and regulations relating to the enforcement of the powers and duties of the department under the provisions of this title.
3. Require the use by the county assessors of prescribed forms for the listing and valuing of property for tax purposes, the reporting of changes in valuations and for such other purposes as may be required by the department under the provisions of this title.
4. Require county assessors to maintain uniform maps and records.
5. Adopt standard appraisal methods and techniques for use by the department and county assessors in determining the valuation of property, and prepare and maintain manuals and other necessary guidelines reflecting such methods and techniques in order to perpetuate a current inventory of all property subject to taxation and the valuation thereof. In the standard appraisal methods and techniques adopted current usage shall be included in the formula for reaching a determination of full cash value and when the methods and techniques adopted prescribe the use of market data as an indication of market value, the price paid for future anticipated property value

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increments and any solar energy device, as defined in subdivision (4) of § 43-123.37, shall be excluded.

6. Require the county assessors to meet with the director at the state capitol, or at a place designated by him, at least twice a year for the purpose of considering matters relating to property taxation. The traveling expenses of assessors in attending such meetings shall be paid by the respective counties.

7. Investigate property valuations and any matters relating to property taxes and require the production of any private or public record relating to such valuations or property taxes. The director or his agent may enter upon and examine any and all property within the state for the purpose of determining its full cash value and require any officer whose duties relate to assessment or collection of taxes to report to him at such time and in such manner as he prescribes. In the event the owner or possessor of property refuses entrance to the director or his agents, the valuation of such property may be estimated by the director.

8. Require the use by county assessors of such a data processing system as the department may prescribe, provided that any county assessor having a data processing system compatible with the system prescribed by the department may continue to use his own system as long as it is coordinated with the system prescribed by the department.

9. Contract with the counties to furnish electronic data processing equipment in instances where the counties do not have the equipment necessary to meet the requirements of the department.

10. Furnish assistance to the county assessors in order to implement placement on the rolls of the valuations determined under article 2.1 of this chapter and to assure a uniform valuation of all property throughout the state for property tax purposes, including but not limited to the providing of services of department personnel to the counties, provided that subsequent to June 30, 1968 the cost of providing the services of department personnel to the counties shall be charged to the county served.

11. Furnish the state board with such information as it may request.

12. At such time as the state acquires maps from the national aeronautics and space administration orthophoto base maps for use by all departments of Arizona state government and others in need of such maps, charge for duplication and sale of these maps and deposit such revenues in the state general fund.

B. The department may:

1. Examine into all alleged violations of the provisions of this title relating to the valuation of property and the assessment and collection of taxes and request the attorney general or the county attorney in their respective counties to commence and prosecute actions and proceedings or to represent the department in litigation to enforce the laws relating to taxation and orders, or the rules and regulations of the department. When in the opinion of the director and in the opinion of the attorney general or the county attorney in which the public official serves, a public official, who performs valuing, taxing or equalizing functions, is guilty of official misconduct or neglect of duty, the director shall take whatever steps are necessary to insure that complaints are filed and prosecutions commenced against such officials for their removal from office. A complaint by the director charging official misconduct or neglect of duty of a public officer shall be delivered to the county attorney or to the attorney general who shall file the original with the superior court in the county in which the public official serves and cause a copy thereof to be served upon such public official. Proceedings upon such complaints shall be in accordance with the provisions of subsections B and C of § 38-332, and §§ 38-343 and 38-345.
2. Study the tax systems of other states.

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Changes or additions in text are indicated by underline

3. Employ technical experts and assistants and make contracts for services as may be required to carry out its duties.

4. Appoint advisory committees representative of various classes of property.

5. Request the attorney general to initiate a mandamus action if any assessor fails to follow any regulation, rule, order or direction of the director or the department or if the director determines that an assessor, or a county board of equalization has practiced discrimination in the valuation of property. For the purposes of this section, county boards of equalization and the county assessors are state officers within the meaning of article 6, § 5 of the Constitution of Arizona.

6. Contest any proposed valuation or classification or any proposed change in valuations or classifications before any county board of equalization or before the state board of tax appeals. If any decision of any county board of equalization or of the state board of tax appeals is, in the opinion of the director, erroneous, the director may appeal such decision to the superior court in the manner provided in § 42-151, on or before the final date a taxpayer may file an appeal from the valuation or classification of his property.

7. Sell contact prints of any national aeronautics and space administration orthophoto base maps acquired by the department and deposit such revenues in the state general fund.

Sec. 3. Section 43-123.37, Arizona Revised Statutes, is amended to read:
§ 43-123.37. Election to amortize expenditures incurred in the acquisition of any solar energy device designed to produce heat or electricity

(a) **General Rule.** Any taxpayer may elect to amortize the adjusted basis of any solar energy device, whether for residential, commercial, industrial or governmental installations or experimental or demonstration projects, designed to produce heat or electricity based upon a period of thirty-six months. In computing net income, such amortization shall be allowed as a deduction ratably over the period allowed under this subsection beginning with the month in which such device is completed or acquired and is placed in service by the taxpayer. This election shall be indicated by the taxpayer in an appropriate statement in the taxpayer's income tax return for the taxable year of the acquisition or completion and placement in service of such device. An election to discontinue amortization with respect to the remainder of the amortization period is permitted and shall be indicated by an appropriate statement in the taxpayer's income tax return for the taxable year of discontinuance.

(b) **Deduction in lieu of depreciation.** The deduction provided under subsection (a) shall be in lieu of any allowance for the exhaustion, wear and tear of property used in a trade or business, or of property held for the production of income, including a reasonable allowance for obsolescence as provided under § 43-123.14.

(c) **Deduction in lieu of credit.** The deduction provided pursuant to subsection (a) shall be in lieu of any credit allowed for installation of a solar heating and cooling device in the taxpayer's residence pursuant to § 43-128.03.

(d) **Determining the adjusted basis.** In determining the adjusted basis for the purposes of subsection (a), such device, shall include only an amount that is properly attributable to the construction, reconstruction, remodeling, installation or acquisition of such device.

(e) **Definition.** In this section and § 42-123.01, "solar energy device" means a system or a series of mechanisms designed primarily to provide heating, to provide cooling, to produce electrical power, to produce mechanical power, or any combination thereof, by means of collecting and transferring

deletions by strikeouts

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solar-generated energy into such uses and which also may have the capability of storing such energy for future utilization.

Sec. 4. Title 43, chapter 1, article 1, Arizona Revised Statutes, is amended by adding sections 43-128.03 and 43-128.04, to read:

§ 43-128.03. Credit allowed taxpayers for solar heating and cooling devices

A. There shall be allowed to each resident who is not a dependent of another taxpayer a tax credit against the taxes imposed by this title for a taxable year for installation of any solar heating and cooling device or combined solar heating and cooling device in the taxpayer's residence located in Arizona. Such credit shall be equal to thirty-five per cent of the cost of such device in 1978 and such credit shall decrease at a rate of five per cent per year. The maximum credit shall not exceed one thousand dollars. The person providing such device shall furnish the taxpayer with an accounting of the cost to the taxpayer.

B. A taxpayer may claim the credit provided by the provisions of this section only once in a taxable year, and only once for a given residence.

C. If the allowable tax credit exceeds the income taxes otherwise due on the claimant's income, or if there are no state income taxes due on the claimant's income, the amount of the claim not used as an offset against income taxes may be carried forward as a tax credit against subsequent years' income tax liability for a period not to exceed five years.

D. A husband and wife who file separate returns for a taxable year in which they could have filed a joint return may each claim only one-half of the tax credit that would have been allowed for a joint return.

E. The credit provided pursuant to subsection A shall be in lieu of any deduction allowed for installation of a solar energy device in the taxpayer's residence pursuant to § 43-123.37.

F. For the purposes of this section, "solar heating and cooling device" and "combined solar heating and cooling device", with respect to any building or apartment structure, mean the use of solar energy to provide both such portion of the total heating needs of such building or apartment structure, including hot water, and such portion of the total cooling needs of such building, or such portion of the needs of such building for hot water where its remaining heating needs are met by other methods and such portion of the total cooling needs of such building or apartment structure, or may be required under performance criteria so prescribed, and include cooling by means of nocturnal heat radiation, by evaporation or by other methods of meeting peakload energy requirements at nonpeakload times.

§ 43-128.04. Credit allowed taxpayers for installation of residential insulation and devices

A. There shall be allowed to each resident who is not a dependent of another taxpayer a tax credit against the taxes imposed by this title for a taxable year for installation during such taxable year of additional loose fill insulation, roll insulation, wind driven turbine ventilators, mechanically driven ventilation devices or passive roof vents, to such taxpayer's residence. The credit for the total amount of all such improvements shall be equal to twenty-five per cent of the cost of such improvements, not to exceed one hundred dollars.

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Changes or additions in text are indicated by underline

B. A taxpayer may claim the credit provided by the provisions of this section only once in a taxable year, and only once for a given principal residence.

C. A husband and wife who file separate returns for a taxable year in which they could have filed a joint return may each claim only one-half of the tax credit that would have been allowed for a joint return.

D. For the purposes of this section:

1. "Insulation" means any material or combination of materials which retards the flow of heat energy.
2. "Loose fill insulation" means any blown or poured loose fill insulation used in attic spaces of residences.
3. "Roll insulation" means any roll form insulation used in attic spaces of residences.
4. "Wind driven turbine ventilators" means any nonmechanical device installed on the roof to aid in ventilating attic spaces of residences.
5. "Mechanically driven ventilation devices" means any power utilizing device which aids in ventilating attic spaces of residences.
6. "Passive roof vents" means nonmechanical devices which allow the natural ventilation of attic spaces of residences.

Sec. 5. Effective date

The provisions of section 4 become effective from and after December 31, 1977.

Sec. 6. Expiration date

A. The provisions of sections 2, 3 and 4 of this act shall expire with the taxable year beginning from and after December 31, 1984.

B. The department of revenue shall maintain a list of the number of claimants for the solar tax credit.

Approved by the Governor, May 23, 1977.

Filed in the Office of the Secretary of State, May 24, 1977.

State of Arkansas
Seventy-First General Assembly
Regular Session, 1977

A Bill SENATE BILL
As engrossed 2/23/77
As engrossed 3/15/77

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By: Senator Howell

For An Act To Be Entitled

1 "AN ACT TO PROVIDE FOR A DEDUCTION FROM GROSS INCOME
2 ON ARKANSAS INCOME TAX RETURNS BY HOMEOWNERS OF THE
3 COST OF PURCHASING AND INSTALLING ENERGY-SAVING DEVICES;
4 AND FOR OTHER PURPOSES."

5
6 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

7
8 SECTION 1. Any individual homeowner taxpayer may deduct from gross income
9 the entire cost of the purchase and installation of energy-saving equipment
10 in any structure which is located in Arkansas. The cost shall not include
11 interest and finance charges. 'Energy-saving equipment' is defined as
12 improved insulation, storm doors or windows, motor-driven power vents and
13 solar heating and cooling equipment. The persons furnishing and installing
14 the equipment shall furnish the individual homeowner taxpayer with an accounting
15 of the cost.

16
17 SECTION 2. The individual homeowner taxpayer shall deduct from gross income
18 all expenditures for purchase and installation of energy-saving equipment made
19 during the calendar year of 1977 on the 1977 tax return. In each year
20 following December 31, 1977, the individual homeowner taxpayer shall deduct
21 from gross income the entire cost of such equipment incurred in that year on
22 that year's tax return, and no other.

23
24 SECTION 3. The Commissioner of Revenues is hereby authorized to
25 promulgate procedures, rules and regulations for the administration of this
26 Act.

27
28 SECTION 4. All laws and parts of laws in conflict with this Act are
29 hereby repealed.

30
31
32

Signed by: Senator Howell

ACT 748 1977

State of Arkansas
Seventy-First General Assembly
Regular Session, 1977

AS ENGROSSED 3/9/77

A Bill

HOUSE BILL

809

By: Representatives R. Smith
Streett and Mahony

For An Act To Be Entitled

1 "AN ACT TO ENCOURAGE THE CONSERVATION OF ENERGY IN THE STATE;
2 AND TO AUTHORIZE THE PUBLIC SERVICE COMMISSION TO APPROVE AND
3 IMPLEMENT PROGRAMS DESIGNED TO CONSERVE OIL, NATURAL GAS, AND
4 OTHER FUELS."

5
6 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

7
8 SECTION 1. SHORT TITLE. This Act shall be known, and may be cited
9 as the "Energy Conservation Endorsement Act of 1977."

10
11 SECTION 2. The Legislature hereby finds that the United States is
12 confronted with a severe and very real energy crisis. Simply stated, the
13 demand for fuels has outstripped the available supplies. The President
14 of the United States has established energy conservation as a high priority
15 national goal and has called on all Americans to participate in and
16 perhaps makes sacrifices toward attaining that goal. The Legislature
17 recognizes that enormous amounts of energy are wasted by consumer of all
18 classes and economic levels due to inadequate insulation of buildings and
19 other inefficiencies in the use of energy. The overriding public interest
20 in the conservation of natural gas and oil, as well as alternative forms
21 of energy, is indisputable.

22
23 SECTION 3. CONSERVATION A PROPER UTILITY FUNCTION. It shall
24 hereafter be considered a proper and essential function of public utilities
25 *regulated by the Public Service Commission to engage in energy conservation*
26 *programs, projects and practices which conserve, as well as distribute,*
27 *electrical energy and supplies of natural gas, oil, and other fuels. The*
28 *Public Service Commission is hereby authorized to propose, develop, solicit,*
29 *approve, require, implement, and monitor measures by utility companies which*
30 *cause said companies to incur costs of service and investments which conserve,*
31 *as well as distribute, electrical energy and existing supplies of natural*
32 *gas, oil, and other fuels. After proper notice and hearings, such programs*

R. P. Streett

R. P. Streett

1 and measures may be approved and ordered into effect by the Commission if it
 2 determines they will be beneficial to the ratepayers of such public utilities
 3 and to the utilities themselves. In such instances, the Commission shall
 4 declare that the cost of such conservation measures is a proper cost of pro-
 5 viding utility service, and, at the time any such programs or measures are
 6 approved and ordered into effect, the Commission shall also order that the
 7 affected public utility company be allowed to increase its rates or charges
 8 as necessary to recover any costs incurred by the public utility company as
 9 a result of its engaging in any such program or measure.

10

11 SECTION 4. ENERGY CONSERVATION PROGRAMS AND MEASURES. As used in this
 12 Act, "energy conservation programs and measures" may include, but shall not
 13 be limited to: programs of residential, commercial, or industrial insula-
 14 tion, including measures to facilitate the financing of such insulation;
 15 programs which result in the improvement of load factors, contribute to re-
 16 ductions in peak power demands, and promote efficient load management, in-
 17 cluding the adoption of interruptible service equipment and alternative or
 18 additional metering equipment designed to implement new rate structures; and
 19 programs which encourage the use of renewable energy technologies or sources,
 20 including solar energy, wind power, geothermal energy, biomass conversion,
 21 or the energy available from municipal, industrial, silvicultural, or agri-
 22 cultural wastes.

23

24 SECTION 5. Nothing in this Act shall be construed as limiting or
 25 cutting down the authority of the Public Service Commission to order, re-
 26 quire, promote, or engage in other energy conserving actions or measures.

27

28 SECTION 6. All laws and parts of laws in conflict with this Act are
 29 hereby repealed.

30

31 SECTION 7. If any provision of this Act or the application thereof to
 32 any person or circumstance is held invalid, such invalidity shall not affect
 33 other provisions or applications of the Act which can be given effect with-
 34 out the invalid provisions or application, and to this end the provisions of
 35 this Act are declared to be severable.

36

APPROVED AND PASSED: *[Signature]*
 COMMISSIONER

/s/ Ray S. Smith, Jr., et al

RECEIVED
 3/10/77
 PUBLIC SERVICE COMMISSION
 STATE OF MISSISSIPPI

J. P. Rudder

CHAPTER 103

An act to add Section 234 to the Revenue and Taxation Code, relating to taxation.

(Approved by Governor June 15, 1977. Filed with Secretary of State June 15, 1977.)

LEGISLATIVE COUNSEL'S DIGEST

SB 146, Alquist. Property tax exemption.

Under existing property tax law, there is no exemption for taxation of property on the basis that property is used as a solar energy system.

This bill would exempt from property taxation any equipment which is attached to a residential or nonresidential building or swimming pool as part of a solar energy system. Such exemption would apply only to lien dates for fiscal years commencing in 1979 to 1983, inclusive.

This bill would prohibit the reimbursement of property tax revenues lost by reason of the property tax exemption contained in this act pursuant to Section 2229 of the Revenue and Taxation Code, for a specified reason.

This bill would also specify that there are no state-mandated local costs in this act that require reimbursement under Section 2231 of the Revenue and Taxation Code, because there are no new duties, obligations or responsibilities imposed on local government by this act.

This bill would become operative only if Senate Constitutional Amendment No. 15 of the 1977-78 Regular Session of the Legislature is approved by the voters at the primary election to be held in 1978.

The people of the State of California do enact as follows:

SECTION 1. Section 234 is added to the Revenue and Taxation Code, to read:

234. (a) Any equipment attached to a residential or nonresidential building or swimming pool as part of a solar energy system shall be exempt from taxation, and assessors shall not consider the value of such equipment in assessing the value of such buildings. This exemption shall only apply if the solar energy system is intended for actual use.

(b) This exemption shall be allowed if the owner of such property files with the assessor of the county in which such property is located a certified application for exemption on forms prescribed by the State Board of Equalization.

(c) The application required in subdivision (b) shall be filed with the county assessor after the last day of February and prior to the first

Monday in May immediately preceding the fiscal year for which the exemption is claimed.

(d) The assessor shall review such exemption claim and make appropriate adjustments to the assessed value of property on which such solar energy systems are installed.

(e) Any solar energy system not in use for a period of 12 months shall be ineligible for the exemption specified in this section.

(f) Actions by the assessor pursuant to subdivision (d) shall be subject to appeals in the same manner as other assessments.

(g) For the purposes of this section:

(1) Solar energy system means any devices used to heat or cool the interior of a structure or swimming pool or to heat water for use within a structure or swimming pool that uses the heat of the sun as its primary energy source. Solar energy systems include but are not limited to, systems utilizing solar collectors, solar cells, and passive roof ponds.

(2) Residential building means any building heated or cooled in its interior and is of an occupancy type of Type H or I, as defined in the Uniform Building Code, 1974 edition, as adopted by the International Conference of Building Officials.

(3) Nonresidential building means any building which is heated or cooled in its interior, and is of an occupancy type other than Type H, I, or J, as defined in the Uniform Building Code, 1974 edition, as adopted by the International Conference of Building Officials.

(h) This section shall apply only to lien dates for fiscal years commencing in 1979 to 1983, inclusive.

SEC. 2. Notwithstanding Section 2229 of the Revenue and Taxation Code, there shall be no reimbursement by reason of the exemption granted by Section 234 of the Revenue and Taxation Code, as added by this act, nor is any appropriation made by this act, because the additional costs, if any, imposed on local government by this act are insignificant in nature and will not cause any financial burden on local government.

SEC. 3. There are no state-mandated local costs in this act that require reimbursement under Section 2231 of the Revenue and Taxation Code because there are no new duties, obligations or responsibilities imposed on local government by this act.

SEC. 4. This act shall become operative only if Senate Constitutional Amendment No. 15 of the 1977-78 Regular Session of the Legislature is approved by the voters at the primary election to be held in 1978.

O

CALIFORNIA SB 146
(not approved by the voters)

Senate Bill No. 150

CHAPTER 773

An act to add Chapter 5.9 (commencing with Section 25487) to Division 15 of the Public Resources Code, relating to energy resources.

[Approved by Governor September 13, 1977. Filed with Secretary of State September 13, 1977.]

LEGISLATIVE COUNSEL'S DIGEST

SB 150, Alquist. Energy systems: public buildings.

1. Existing law does not require the State Energy Resources Conservation and Development Commission to prepare a manual outlining methodology by which governmental agencies and the general public may compare the life cycle costs of various building design alternatives, to develop guidelines for new construction which include energy conserving plans, or to develop and make available to governmental agencies and the general public lighting standards for existing buildings.

This bill would require the commission to do so and it would permit the guidelines and cost analysis prepared by the commission to be considered by governmental agencies, at their option, for ultimate selection of a building design in the competitive building process.

2. Existing law does not require new structures of government agencies to comply with nonresidential building standards developed by the commission.

This bill would prohibit any governmental agency, as defined by the bill, from commencing construction on or after January 1, 1979, on any building which has more than 10,000 square feet of floor area and which has a heating, cooling, water heating or lighting system that is designed to provide lighting and space conditioning more than 1,000 hours per year, unless the structure complies with nonresidential building standards developed by the commission. The bill would declare that such provision does not constitute a change in, but is declaratory of, the existing law.

3. Existing law does not require every new state-owned building, which has more than 10,000 square feet of floor area and which has a heating, cooling, water heating, or lighting system that is designed to provide lighting and space conditioning more than 1,000 hours per year, to have a supplementary solar water heating system.

This bill would require every such new state-owned building have such a system unless specifically exempted by the State Architect for reasons of economic or physical infeasibility.

4. Also, the bill would require the commission to provide not to exceed \$40,000, from the funds appropriated for the support of the

commission for the 1977-78 fiscal year, for purpose of conducting the Helio Science Institute Energy Conference and Exhibit, dealing with the use of solar, wind, and geothermal energy, to be held in January 1978, at Palm Springs, California.

5. The bill would also provide that there are no state-mandated local costs in this bill that require reimbursement under Section 2231 of the Revenue and Taxation Code for a specified reason.

The people of the State of California do enact as follows:

SECTION 1. Chapter 5.9 (commencing with Section 25487) is added to Division 15 of the Public Resources Code, to read:

CHAPTER 5.9. ENERGY SYSTEMS

Article 1. Definitions

25487. Unless the context otherwise requires, the definitions in this article govern the construction of this chapter.

25488. "Title 24 Standards" refers to the nonresidential building standards developed by the commission.

25489. "Lifecycle cost" means an estimate of the total cost of acquisition, operation, maintenance, and construction of any energy system within or related to a structure over the design life of the structure. "Life cycle cost" includes, but is not limited to, the cost of fuel, materials, machinery, ancillary devices, labor, service, replacement, and repairs.

25491. "Governmental agency" means any public agency, including any agency of the state, each county, city, district, association of governments, and joint power agency.

25492. "Structure" means any building which has more than 10,000 square feet of floor area and which has a heating, cooling, water heating, or lighting system which is designed to provide lighting and space conditioning more than 1,000 hours per year.

25493. On or after January 1, 1979, no governmental agency shall commence construction on any new structure unless the new structure complies with Title 24 Standards.

25494. Not later than July 31, 1978, the commission shall prepare a manual outlining a methodology by which governmental agencies and the general public may at their option compare the lifecycle costs of various building design alternatives. This manual will provide the information and procedures necessary to evaluate a building's lifecycle costs in the microclimate and utility service area where it is to be built.

25495. No later than July 31, 1978, the commission shall develop design guidelines for new construction which include energy conserving options, including, but not limited to, the use of daylighting, heating ventilation and air conditioning economizer

cycles, natural ventilation, building envelope solar heat gain control mechanisms, and alternative energy systems such as solar energy for space heating and water heating and load management strategies. These guidelines and the cost analysis done pursuant to Section 25494 may be considered by government agencies at their option for ultimate selection of a building design in the competitive bidding process.

25496. No later than July 1, 1978, the commission shall develop and make available to government agencies and the general public to be utilized at their option lighting standards for existing buildings. These standards shall address, but not be limited to, task and general area lighting levels, light switching and control mechanisms, and lighting energy budgets. The commission may provide advice and recommendations to the public or any governmental agency as to the standards.

25498. In addition to any other requirements applicable to such structure, no new state-owned structure shall be constructed which is not equipped with a supplementary solar water heating system, unless such structure is specifically exempted from this requirement by the State Architect for reasons of economic or physical infeasibility.

SEC. 2. The State Energy Resources Conservation and Development Commission shall provide not to exceed forty thousand dollars (\$40,000), from the funds appropriated for the support of the commission for the 1977-78 fiscal year, for purpose of conducting the Helio Science Institute Energy Conference and Exhibit, dealing with the use of solar, wind, and geothermal energy, to be held in January 1978, at Palm Springs, California.

SEC. 3. There are no state-mandated local costs in this act that require reimbursement under Section 2231 of Revenue and Taxation Code because the only duty, obligation, and responsibility imposed on local government is the duty to conform to building standards that have been found to reduce the life cycle costs of buildings.

SEC. 4. The Legislature finds and declares that the provisions of Section 25493 of the Public Resources Code, as added by Section 1 of this act, does not constitute a change in but is declaratory of, the existing law.

CHAPTER 1081

An act to amend and renumber Sections 25600, 25601, 25602, 25603, and 25604 of, and to add Sections 25605, 25606, 25607, 25608, and 25609 to, the Public Resources Code, relating to energy.

[Approved by Governor September 26, 1977. Filed with Secretary of State September 26, 1977.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1512, Fazio. Solar energy and solar devices: thermal systems. Under existing law, the State Energy Resources Conservation and Development Commission is required to develop and coordinate a program of research and development in alternative sources of energy supply, consumption and conservation and technology of siting facilities. It is required to give priority to those forms of research and development which are of particular importance to the state, including, among other things, expansion and accelerated development of alternative sources of energy, including geothermal and solar resources.

This bill would require the commission to do all of the following also:

(1) To develop and adopt, on or before November 1, 1978, in cooperation with affected industry and consumer representatives, regulations governing equipment associated with the collection, transfer, storage and control of solar energy.

(2) To prepare, no later than December 31, 1978, for the mass market deployment of systems involving the integrated use of building components for the functions of collection, storage, and distribution of solar energy or coolness, by developing designs and specifications for prototype housing to utilize such systems for heating, or heating and cooling purposes.

(3) To develop, on or before December 31, 1979, a manual of design types, costs, performance and evaluation procedures for systems involving the integrated use of building components for the functions of collection, storage, and distribution of solar energy and to also procure thermal performance data from monitoring a number of such existing systems in buildings in California to generate data for the manual.

The bill would also prescribe a procedure for enforcing any violation of any regulation adopted by the commission pursuant to the provisions which would be enacted by the bill.

The people of the State of California do enact as follows:

SECTION 1. Section 25600 of the Public Resources Code is

amended and renumbered to read:

25601. The commission shall develop and coordinate a program of research and development in energy supply, consumption, and conservation and the technology of siting facilities and shall give priority to those forms of research and development which are of particular importance to the state, including, but not limited to, all of the following:

- (a) Methods of energy conservation specified in Chapter 5 (commencing with Section 25400).
- (b) Increased energy use efficiencies of existing thermal electric and hydroelectric powerplants and increased energy efficiencies in designs of thermal electric and hydroelectric powerplants.
- (c) Expansion and accelerated development of alternative sources of energy, including geothermal and solar resources, including, but not limited to, participation in large-scale demonstrations of alternative energy systems sited in California in cooperation with federal agencies, regional compacts, other state governments, and other participants. For purposes of this subdivision, "participation" shall be defined as any of the following: (1) direct interest in a project, (2) research and development to insure acceptable resolution of environment and other impacts of alternative energy systems, (3) research and development to improve siting and permitting methodology for alternative energy systems, (4) experiments utilizing the alternative energy systems, and (5) research and development of economically useful alternative energy systems. Large-scale demonstrations of alternative energy systems are exempted by the 100KW_e to 100MW_e range demonstrations of solar, wind, and geothermal systems contemplated by federal agencies, regional compacts, other state governments, and other participants.
- (d) Improved methods of construction, design, and operation of facilities to protect against seismic hazards.
- (e) Improved methods of energy-demand forecasting.
- (f) To accomplish the purposes of subdivision (c), an amount not more than one-half of the total state funds appropriated for the solar energy research and development program as proposed in the budget prepared pursuant to Section 25604 shall be allocated for large-scale demonstration of alternative energy systems.

SEC. 2. Section 25600 is added to the Public Resources Code, to read:

25600. As used in this chapter:

- (a) "Passive thermal system" means a system which utilizes the structural elements of a building and is not augmented by mechanical components to provide for collection, storage and distribution of solar energy or coolness.
- (b) "Semipassive thermal system" means a system which utilizes the structural elements of a building and is augmented by

mechanical components to provide for collection, storage, and distribution of solar energy or coolness.

- (c) "Solar device" means the equipment associated with the collection, transfer, distribution, storage, and control of solar energy.
- (d) "Solar system" means the integrated use of solar devices for the functions of collection, transfer, storage, and distribution of solar energy.

(e) "Standard" means a specification of design, performance, and procedure, or of the instrumentation, equipment, surrounding conditions, and skills required during the conduct of a procedure. SEC. 3. Section 25601 of the Public Resources Code is amended and renumbered to read:

25602. The commission shall carry out technical assessment studies on all forms of energy and energy-related problems, in order to influence federal research and development priorities and to be informed on future energy options and their impacts, including, in addition to those problems specified in Section 25601, but not limited to, the following:

- (a) Advanced nuclear powerplant concepts, fusion, and fuel cells.
- (b) Total energy concepts.
- (c) New technology related to coastal and offshore siting of facilities.
- (d) Expanded use of wastewater as cooling water and other advances in powerplant cooling.
- (e) Improved methods of power transmission to permit interstate and interregional transfer and exchange of bulk electric power.
- (f) Measures to reduce wasteful and inefficient uses of energy.
- (g) Shifts in transportation modes and changes in transportation technology in relation to implications for energy consumption.
- (h) Methods of recycling, extraction, processing, fabricating, handling, or disposing of materials, especially materials which require large commitments of energy.
- (i) Expanded recycling of materials and its effect on energy consumption.
- (j) Implications of government subsidies and taxation and ratesetting policies.
- (k) Utilization of waste heat.
- (l) Use of hydrogen as an energy form.
- (m) Use of agricultural products, municipal wastes, and organic refuse as an energy source.

Such assessments may also be conducted in order to determine which energy systems among competing technologies are most compatible with standards established pursuant to this division.

SEC. 4. Section 25602 of the Public Resources Code is amended and renumbered to read:

25603. For research purposes, the commission shall, in cooperation with other state agencies, participate in the design, construction, and operation of energy-conserving buildings using data developed

operating and maintaining solar devices. The commission shall reassess the regulations as often as it deems necessary, based upon the value of the regulations in terms of benefits and disadvantages to the widespread adoption of solar energy systems and the need to encourage creativity and innovative adaptations of solar energy. The commission may amend or repeal these regulations based on such reassessment.

(d) Under no circumstances may the commission preclude any person from developing, installing, or operating a solar device on his or her own property.

(e) Any violation of any regulation adopted by the commission pursuant to this section may be enjoined in the same manner as is prescribed in Chapter 10 (commencing with Section 25900) of this division for enjoining a violation of this division.

SEC. 8. Section 25606 is added to the Public Resources Code, to read:

25606. No later than December 31, 1978, the commission shall prepare for mass market deployment of solar systems by developing designs and specifications for prototype housing to utilize passive or semipassive thermal systems for heating or cooling and cooling purposes.

SEC. 9. Section 25607 is added to the Public Resources Code, to read:

25607. On or before December 31, 1979, the commission shall develop a manual of design types, costs, performance and evaluation procedures for passive and semipassive thermal systems. The evaluation procedures shall be such as will facilitate the determination of the performance of different passive and semipassive designs in different climatic regions of California. The commission shall also procure thermal performance data from monitoring a number of existing passive or semipassive thermal systems in buildings in California to generate data for the manual.

SEC. 10. Section 25608 is added to the Public Resources Code, to read:

25608. The commission shall confer with officials of federal agencies, including the National Aeronautics and Space Administration, the National Bureau of Standards, the Energy Research and Development Administration and the Department of Housing and Urban Development, to coordinate adoption of regulations pursuant to Sections 25603, 25605, and 25606.

SEC. 11. Section 25609 is added to the Public Resources Code, to read:

25609. The commission may, in adopting regulations pursuant to this chapter, specify the date when the regulations shall take effect. The commission may specify different dates for different regulations.

pursuant to Section 25401, in order to demonstrate the economic and technical feasibility of such designs.

SEC. 5. Section 25603 of the Public Resources Code is amended and renumbered to read:

25604. The commission shall submit to the Governor for inclusion in the state budget for each fiscal year an integrated program of proposed research and development and technical assessment projects set forth on an item-by-item basis including the priority items established in Sections 25601, 25602, and 25603. The commission shall describe for each item the objectives and anticipated end product of each project, funding and staff requirements, timing and other information which is necessary to describe the projects adequately. As part of each submission, the commission shall describe the progress of its programs.

SEC. 6. Section 25604 of the Public Resources Code is amended and renumbered to read:

25610. For purposes of carrying out the provisions of this chapter, the commission may contract with any person for materials and services that cannot be performed by its staff or other state agencies, and may apply for federal grants or any other funding.

SEC. 7. Section 25605 is added to the Public Resources Code, to read:

25605. On or before November 1, 1978, the commission shall develop and adopt, in cooperation with affected industry and consumer representatives, and after one or more public hearings, regulations governing solar devices. The regulations shall be designed to encourage the development and use of solar energy and to provide maximum information to the public concerning solar devices. The regulations may include, but need not be limited to, any or all of the following:

- (a) Standards for testing, inspection, certification, sizing, and installation of solar devices.
- (b) Provisions for the enforcement of the standards. Such provisions may include any or all of the following:
 - (1) Procedures for the accreditation by the commission of laboratories to test and certify solar devices.
 - (2) Requirements for onsite inspection of solar devices, including specifying methods for inspection, to determine compliance or noncompliance with the standards.
 - (3) Requirements for submission to the commission of any data resulting from the testing and inspection of solar devices.
 - (4) Prohibitions on the sale of solar devices which do not meet minimum requirements for safety and durability as established by the commission.
 - (5) Dissemination of the results of the testing, inspection, and certification program to the public.
- (c) In adopting the regulations, the commission shall give due consideration to their effect on the cost of purchasing, installing,

CHAPTER 1082

An act to amend Section 44541.2 of the Health and Safety Code, to amend and repeal Sections 17052.5 and 23601 of the Revenue and Taxation Code, and to repeal Section 4 of Chapter 168 of the Statutes of 1976, relating to solar energy and antipollution facilities.

[Approved by Governor September 26, 1977. Filed with Secretary of State September 26, 1977.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1558, Hart. Solar energy and antipollution facilities. Under existing law, the California Pollution Control Financing Authority in specified circumstances has power to issue bonds not exceeding \$200,000,000 in value to finance certain antipollution facilities.

This bill would change such amount to \$160,000,000.

Existing State Personal Income Tax Law and Bank and Corporation Tax Law authorize every taxpayer to elect to deduct from such taxes a credit of an amount equal to the lesser of 10% of the cost, or \$1,000, of the acquisition cost of any solar energy device on premises owned and controlled by the taxpayer at the time of such installation, for the taxable year or the income year of installation of such device, in lieu of any other deduction to which such taxpayer may be entitled until January 1, 1981.

This bill would increase the credit to a specified percentage of amount of the acquisition cost of a solar energy system, including certain energy conservation measures in conjunction with the system, would allow unused portions of the credit to be carried forward to certain future years until used, and would eliminate the requirement that the original use of such system commence with the taxpayer.

The bill would also require the Energy Resources Conservation and Development Commission to establish guidelines and criteria for solar energy systems eligible for the credit.

This bill would remain in effect only until January 1, 1981 and would require the Franchise Tax Board to make a report concerning the bills effect.

The people of the State of California do enact as follows:

SECTION 1. Section 44541.2 of the Health and Safety Code, as added by Chapter 650 of the Statutes of 1977, is amended to read: 44541.2. (a) The authority may separately issue bonds to provide financing for projects to alleviate pollution from facilities for the generation of electrical energy which are or will be owned and

operated in this state by a public utility subject to the jurisdiction of the Public Utilities Commission.

(b) At such times as the authority desires to issue bonds to separately finance projects pursuant to this section and Section 44532.2, it shall adopt a resolution specifying the total amount of such bonds proposed to be issued. The amount of bonds specified in any such resolution shall not exceed one hundred sixty million dollars (\$160,000,000) of new debt. Such resolution shall be submitted to the Legislature and shall be subject to review as provided in Section 44541.

(c) The proceeds of bonds authorized shall be used solely to finance projects specified in this section and shall be issued as otherwise provided in this chapter.

SEC. 1.3. Section 17052.5 of the Revenue and Taxation Code is amended to read:

17052.5. (a) (1) There shall be allowed as a credit against the amount of "net tax" (as defined in subdivision (e)), an amount equal to the amount determined in paragraph (2) or (3).

(2) Except as provided in paragraph (3), the amount of the credit allowed by this section shall be 55 percent of the cost (including installation charges but excluding interest charges) incurred by the taxpayer of any solar energy systems on premises in California which are owned and controlled by the taxpayer at the time of installation. Such credit shall not exceed three thousand dollars (\$3,000).

(3) With regard to premises in California which are owned and controlled by the taxpayer, other than single-family dwellings, on which the cost (including installation charges but excluding interest charges) exceeds six thousand dollars (\$6,000), the amount of the credit allowed by this section shall be the greater amount of three thousand dollars (\$3,000) or 25 percent of the cost of the solar energy system.

(4) Condominium owners, who install solar energy systems on such California premises which is owned cooperatively by them, shall be eligible to receive the credit provided by this section, in proportion to the number of households served by the system.

(5) Energy conservation measures applied in conjunction with solar energy systems to reduce the total cost or backup energy requirements of such systems shall be considered part of the systems, and shall be eligible for the tax credit. Eligible conservation measures applied in conjunction with solar space heating shall include, but not be limited to, ceiling, wall, and floor insulation above that required by law at the time of original construction. Eligible conservation measures applied in conjunction with solar water heating shall include, but not be limited to, water heater insulation jackets, and shower and faucet flow reducing devices. Energy conservation measures which shall be eligible for the tax credit when applied in conjunction with solar energy systems shall be defined by the Energy Resources Conservation and Development Commission as part of

the solar energy system eligibility criteria.

(b) The credit for such cost shall be in lieu of any deduction under this part to which the taxpayer otherwise may be entitled, if any.

(c) The basis of any system for which a credit is allowed shall either be reduced to its salvage value at the end of its useful life, or reduced by the amount of the credit, whichever results in the lesser basis.

(d) In the case of a husband or wife who files a separate return, the credit may be taken by either or equally divided between them.

(e) For the purposes of this section, the term "net tax" means the tax imposed under either Section 17041 or 17048 minus the credit for retirement income provided for in Section 17053, the credits for personal exemption provided for in Section 17054, and the credits for taxes paid other states provided for in Chapter 12 (commencing with Section 18001).

(f) The tax credit provided by this section shall not apply to trusts or estates subject to tax under this part.

(g) The term "solar energy system" means equipment—

(1) Which uses solar energy to heat or cool or produce electricity; and

(2) Which has a useful life of at least three years.

(h) In the case where the credit allowed under this section exceeds the "net tax" for the taxable year, that portion of the credit which exceeds such "net tax" may be carried over to the "net tax" in succeeding taxable years, with respect to which this section shall remain in effect for purposes of carrying over excess credit, until such credit is used. The credit shall be applied first to the earliest years possible.

(i) On or before January 1, 1978, the Energy Resources Conservation and Development Commission shall, after one or more public hearings, establish guidelines and criteria for solar energy systems which shall be eligible for the credit provided by this section. The Franchise Tax Board shall prescribe such regulations as may be necessary to carry out the purposes of this section.

(j) Subject to the dollar limitations provided in paragraphs (2) and (3) of subdivision (a), if a federal income tax credit is enacted for costs incurred by a taxpayer for the purchase and installation of solar energy systems, then to the extent such credit is allowed for a solar energy system as defined in this section, the state credit provided by this section shall be reduced so that the combined effective credit shall not exceed 55 percent of such costs, notwithstanding the carryover provisions of subdivision (f).

SEC. 1.5. Section 17052.5 of the Revenue and Taxation Code is amended to read:

17052.5. (a) (1) There shall be allowed as a credit against the amount of "net tax" (as defined in subdivision (e)), an amount equal to the amount determined in paragraph (2) or (3).

(2) Except as provided in paragraph (3), the amount of the credit

allowed by this section shall be 55 percent of the cost (including installation charges but excluding interest charges) incurred by the taxpayer of any solar energy systems on premises in California which are owned and controlled by the taxpayer at the time of installation. Such credit shall not exceed three thousand dollars (\$3,000).

(3) With regard to premises in California which are owned and controlled by the taxpayer, other than single-family dwellings, on which the cost (including installation charges but excluding interest charges) exceeds six thousand dollars (\$6,000), the amount of the credit allowed by this section shall be the greater amount of three thousand dollars (\$3,000) or 25 percent of the cost of the solar energy system.

(4) Condominium owners, who install solar energy systems on such California premises which is owned cooperatively by them, shall be eligible to receive the credit provided by this section, in proportion to the number of households served by the systems.

(5) Energy conservation measures applied in conjunction with solar energy systems to reduce the total cost or backup energy requirements of such systems shall be considered part of the systems, and shall be eligible for the tax credit. Eligible conservation measures applied in conjunction with solar space heating shall include, but not be limited to, ceiling, wall, and floor insulation above that required by law at the time of original construction. Eligible conservation measures applied in conjunction with solar water heating shall include, but not be limited to, water heater insulation jackets, and shower and faucet flow reducing devices. Energy conservation measures which shall be eligible for the tax credit when applied in conjunction with solar energy systems shall be defined by the Energy Resources Conservation and Development Commission as part of the solar energy system eligibility criteria.

(b) The credit for such cost shall be in lieu of any deduction under this part to which the taxpayer otherwise may be entitled, if any.

(c) The basis of any system for which a credit is allowed shall either be reduced to its salvage value at the end of its useful life, or reduced by the amount of the credit, whichever results in the lesser basis.

(d) In the case of a husband or wife who files a separate return, the credit may be taken by either or equally divided between them.

(e) For the purposes of this section, the term "net tax" means the tax imposed under either Section 17041 or 17048 minus the credit for dependent care services expenses provided for in Section 17052.6, the credits for personal exemption provided for in Section 17054, and the credits for taxes paid other states provided for in Chapter 12 (commencing with Section 18001).

(f) The tax credit provided by this section shall not apply to trusts or estates subject to tax under this part.

(g) The term "solar energy system" means equipment---

(1) Which uses solar energy to heat or cool or produce electricity;

and

(2) Which has a useful life of at least three years.

(h) In the case where the credit allowed under this section exceeds the "net tax" for the taxable year, that portion of the credit which exceeds such "net tax" may be carried over to the "net tax" in succeeding taxable years, with respect to which this section shall remain in effect for purposes of carrying over excess credit, until such credit is used. The credit shall be applied first to the earliest years possible.

(i) On or before January 1, 1978, the Energy Resources Conservation and Development Commission shall, after one or more public hearings, establish guidelines and criteria for solar energy systems which shall be eligible for the credit provided by this section. The Franchise Tax Board shall prescribe such regulations as may be necessary to carry out the purposes of this section.

(j) Subject to the dollar limitations provided in paragraphs (2) and (3) of subdivision (a), if a federal income tax credit is enacted for costs incurred by a taxpayer for the purchase and installation of solar energy systems, then to the extent such credit is allowed for a solar energy system as defined in this section, the state credit provided by this section shall be reduced so that the combined effective credit shall not exceed 55 percent of such costs, notwithstanding the carryover provisions of subdivision (f).

SEC. 2. Section 23601 of the Revenue and Taxation Code is amended to read:

23601. (a) (1) There shall be allowed as a credit against the taxes imposed by this part (except the minimum franchise tax and the tax on preference income), an amount equal to the amount determined in paragraph (2) or (3).

(2) Except as provided in paragraph (3), the amount of the credit allowed by this section shall be 55 percent of the cost (including installation charges but excluding interest charges) incurred by the taxpayer of any solar energy systems on premises in California which are owned and controlled by the taxpayer at the time of installation. Such credit shall not exceed three thousand dollars (\$3,000).

(3) With regard to premises in California which are owned and controlled by the taxpayer, other than a single-family dwelling, on which the cost (including installation charges but excluding interest charges) exceeds six thousand dollars (\$6,000), the amount of the credit allowed by this section shall be the greater amount of three thousand dollars (\$3,000) or 25 percent of the cost of the solar energy system.

(4) Condominium owners, who install solar energy systems on such California premises which is owned cooperatively by them, shall be eligible to receive the credit provided by this section, in proportion to the number of households served by the systems.

(5) Energy conservation measures applied in conjunction with solar energy systems to reduce the total cost or backup energy

(g) On or before January 1, 1978, the Energy Resources Conservation and Development Commission shall, after one or more public hearings, establish guidelines and criteria for solar energy systems which shall be eligible for the credit provided by this section. The Franchise Tax Board shall prescribe such regulations as may be necessary to carry out the purposes of this section.

(h) Subject to the dollar limitations provided in paragraphs (2) and (3) of subdivision (a), if a federal income tax credit is enacted for costs incurred by a taxpayer for the purchase and installation of solar energy systems, then to the extent such credit is allowed for a solar energy system as defined in this section, the state credit provided by this section shall be reduced so that the combined effective credit shall not exceed 55 percent of such costs, notwithstanding the carryover provisions of subdivision (f).

SEC. 3. Section 4 of Chapter 168 of the Statutes of 1976 is repealed.

SEC. 4. The provisions of Sections 1.3, 1.5, and 2 of this act shall have no force or effect in the computation of taxes for taxable years and income years which begin after December 31, 1980; provided, however, that any unused credit may be used beyond that date on the same basis and to the same extent as permitted under the law immediately prior to January 1, 1981.

Section 1.3 or 1.5 and Section 2 of this act shall remain in effect only until January 1, 1981, and as of such date are repealed, unless a later enacted statute, which is chaptered before such date, deletes or extends such date.

SEC. 4.5. It is the intent of the Legislature, if this bill and Assembly Bill No. 302 are both chaptered and amend Section 17052.5 of the Revenue and Taxation Code, and this bill is chaptered after Assembly Bill No. 302, that Section 17052.5 of the Revenue and Taxation Code, as amended by Section 13 of Assembly Bill No. 302 be further amended on the operative date of this act in the form set forth in Section 1.5 of this act to incorporate the changes in Section 17052.5 proposed by this bill. Therefore, Section 1.5 of this act shall become operative only if Assembly Bill No. 302 is chaptered before this bill and amends Section 17052.5, and in such case Section 1.5 of this act shall become operative on the operative date of this act and Section 1.3 of this act shall not become operative.

SEC. 5. The Franchise Tax Board shall report to the Legislature before January 15, 1980, as to the impact of this act, including the number and amounts of credits, an estimate of the distribution of the credit by income class, distribution of the credit between single-family dwellings and other premises, and the state revenue loss attributable to such credits.

O

requirements of such systems shall be considered part of the systems, and shall be eligible for the tax credit. Eligible conservation measures applied in conjunction with solar space heating shall include, but not be limited to, ceiling, wall, and floor insulation above that required by law at the time of original construction. Eligible conservation measures applied in conjunction with solar water heating shall include, but not be limited to, water heater insulation jackets, and shower and faucet flow reducing devices. Energy conservation measures which shall be eligible for the tax credit when applied in conjunction with solar energy systems shall be defined by the Energy Resources Conservation and Development Commission as part of the solar energy system eligibility criteria.

(b) The credit for such cost shall be in lieu of any deduction under this part to which the taxpayer otherwise may be entitled, if any.

(c) The basis of any system for which a credit is allowed shall either be reduced to its salvage value at the end of its useful life, or reduced by the amount of the credit, whichever results in the lesser basis.

(d) When either (1) the income from sources within this state of two or more corporations which are commonly owned or controlled is determined in accordance with Chapter 17 (commencing with Section 25101) of this part or Part 18 (commencing with Section 38001) of this division, or (2) two or more commonly owned or controlled corporations derive income from sources solely within this state, whose business activities are such that if conducted within and without this state, the income derived from sources within this state would be determined in accordance with Chapter 17 (commencing with Section 25101) of this part or Part 18 (commencing with Section 38001) of this division (hereinafter referred to as "wholly intrastate corporations"), then such corporations shall determine the credit prescribed in subdivision (a) as if such corporations were one corporation. As to wholly intrastate corporations, the amount of the credit prescribed in subdivision (a) shall be prorated among them in the ratio to which the cost of such system to each corporation bears to the total cost of such systems for all corporations.

(e) The term "solar energy system" means equipment—

(1) Which uses solar energy to heat or cool or produce electricity; and

(2) Which has a useful life of at least three years.

(f) In the case where the credit allowed under this section exceeds the taxes imposed by this part (except the minimum franchise tax and the tax on preference income) for the income year, that portion of the credit which exceeds such taxes may be carried over to the taxes imposed by this part (except the minimum franchise tax and the tax on preference income) in succeeding income years, with respect to which this section shall remain in effect for purposes of carrying over excess credit, until such credit is used. The credit shall be applied first to the earliest years possible.

(not approved by the voters)

Senate Constitutional Amendment No. 15

RESOLUTION CHAPTER 29

Senate Constitutional Amendment No. 15—A resolution to propose to the people of the State of California an amendment to the Constitution of the state, by adding Section 38 to Article XIII, relating to taxation.

[Filed with Secretary of State June 16, 1977.]

LEGISLATIVE COUNSEL'S DIGEST

SCA 15, Alquist. Property tax exemption.

Existing constitutional law provides that all property is subject to property taxation, unless an exemption is otherwise provided in the Constitution. There is no provision in the Constitution which would exempt property on the basis that it is used as a solar energy system.

This measure would authorize the Legislature to exempt from property taxation all or any portion of property which is used as an alternative energy system which is not based on fossil fuels or nuclear fuels.

Resolved by the Senate, the Assembly concurring. That the Legislature of the State of California at its 1977-78 Regular Session commencing on the sixth day of December 1976, two-thirds of the members elected to each of the two houses of the Legislature voting therefor, hereby proposes to the people of the State of California that the Constitution of the state be amended by adding Section 38 to Article XIII, to read:

SEC. 38. In addition to such exemptions as are now provided in this Constitution, the Legislature may exempt from taxation all or any portion of property used as an alternative energy system which is not based on fossil fuels or nuclear fuels.

O

An Act

HOUSE BILL NO. 1055. BY REPRESENTATIVES Strahle, Valdez, Baca-Barragan, Poley, Brinton, Brown, Burford, Castro, DeHerrera, DeMoulin, DeNier, Dick, Dittemore, Eckelberry, Frank, Gustafson, Hamlin, Hefley, Hilsmeier, Hume, Jones, Kirscht, Knox, Lloyd, Lucero, Massari, Neale, Orten, Reeves, Showalter, Smith, Spano, Taylor, Waldow, Wayland, Winkler, Witherspoon, and Zakhem; also SENATORS Anderson, Kogovsek, Schieffelin, Cooper, H. Fowler, Gallagher, Harding, Hatcher, Kinnic, Meiklejohn, Phelps, Smedley, Stockton, and Wunsch.

AUTHORIZING THE CONVEYANCE OF STATE LANDS TO THE FEDERAL GOVERNMENT FOR THE ESTABLISHMENT OF A SOLAR ENERGY RESEARCH INSTITUTE.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. Article 82 of title 24, Colorado Revised Statutes 1973, as amended, is amended BY THE ADDITION OF A NEW PART to read:

PART 5

SOLAR ENERGY RESEARCH INSTITUTE

24-82-501. Short title. This part 5 shall be known and may be cited as the "Solar Energy Research and Development Act of 1977".

24-82-502. Legislative declaration. The general assembly hereby finds and declares that the enactment of this part 5 is in the interest of the people of the state of Colorado and of the United States and is for a public purpose; that the selection of a site within the state of Colorado for the construction and operation of a federal facility for the purpose of conducting

Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.

solar energy research and development and other related forms of energy research is desirable and consistent with scientific, industrial, and commercial development of this state; and that the state should facilitate research which will protect and enhance the preservation of natural resources and the environment of the state, including its land, air, and water and the health and welfare of its citizens. It is the purpose of this part 5 to facilitate the acquisition and use of land or interests in land, which may be needed or desirable for a permanent site suitable for a federal facility to conduct solar energy research and development. It is further declared that the development of renewable, fuel resource-conserving, and nonpolluting forms of energy is a matter of statewide concern and affected with the public interest and that the provisions of this part 5 are enacted in the exercise of the police powers of this state for the purpose of protecting the health, peace, safety, and general welfare of the people of this state.

24-82-503. Conveyance of state lands authorized - description. (1) Any other provision of law to the contrary notwithstanding, including, but not limited to, section 28-3-106, C.R.S. 1973, the adjutant general and the governor, assisted by the attorney general, may enter into an option agreement, exercisable by the federal government at any time within a five-year period, to convey, and may convey within such period, to the federal government, without compensation, the real property interest of the state of Colorado in section thirty-six, township three south, range seventy west of the sixth principal meridian, located in Jefferson county, or so much thereof as the governor, in consultation with the appropriate federal agency, deems necessary for purposes of a solar energy research institute. The state's interest in this property shall not be conveyed in any other manner or for any other purpose.

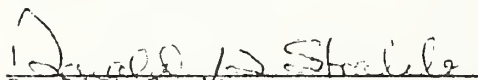
(2) A conveyance made pursuant to subsection (1) of this section shall be made only when the federal government is prepared to accept the conveyance according to a schedule for site preparation and construction of the facility as it deems appropriate. Any such conveyance may contain provisions for a reversion of title to the property to the state of Colorado if said property is not used or ceases to be used for or in connection with the purposes and functions of a solar energy research institute.

(3) The provisions of this section shall not apply to any interest in such property retained as state school land indemnity interest, but the state board of land commissioners, in a manner consistent with federal law and the constitution of the state, may lease, subordinate, grant, or otherwise dispose of such interest to the federal government for the purposes of guaranteeing the uninterrupted and sole use of such land for the life of its use for a solar energy research institute by the federal government. The procedural requirements of article 1 of


title 36, C.R.S. 1973, regarding leasing or sale of state lands shall not apply to such lease, subordination, grant, or other disposal. The state school indemnity interest in such property shall not be leased, subordinated, granted, or otherwise disposed of, or utilized in any other manner or for any other purpose other than that which is necessary for the on-site development of the institute.

24-82-504. Siting of institute. Any other provision of law to the contrary notwithstanding, including, but not limited to, article 23 of title 31, article 28 of title 30, article 65.1 of title 24, and part 3 of article 1 of title 34, C.R.S. 1973, use of the property described in section 24-82-503 (1) is authorized and approved for purpose of a solar energy research facility by the federal government, but, insofar as feasible, the facility shall conform to the substantive standards of any state or local building, fire, safety, health, and environmental control code or any other requirement which would otherwise be applicable.

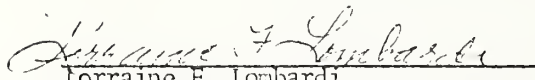
SECTION 2. Safety clause. The general assembly hereby finds, determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.



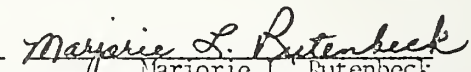
Ronald H. Strahle
SPEAKER OF THE HOUSE
OF REPRESENTATIVES



Fred E. Anderson
PRESIDENT OF
THE SENATE



Lorraine F. Lombardi
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES



Marjorie L. Rutenbeck
SECRETARY OF
THE SENATE

APPROVED _____

Richard D. Lamm
GOVERNOR OF THE STATE OF COLORADO

An Act

HOUSE BILL NO. 1519. BY REPRESENTATIVES Zakhem, Hume, Brinton, Tancredo, Durham, Hilsmeier, Witherspoon, Yost, Massari, Baca-Barragan, Brown, Cantrell, Castro, DeMoulin, Dick, Dittemore, Frank, Gorsuch, Jones, Knox, Lloyd, McElderry, Schaefer, Sears, Strahle, Taylor, Wayland, and Webb; also SENATORS Anderson, Bishop, Comer, L. Fowler, Gallagher, Groff, Hatcher, Hughes, Kadlecek, Kinnie, Kogovsek, MacManus, McCormick, Meiklejohn, Phelps, P. Sandoval, Schieffelin, Stewart, Stickland, and Woodard.

CONCERNING THE STATE INCOME TAX, AND PROVIDING FOR A DEDUCTION FOR TAXPAYERS WHO CAUSE ALTERNATIVE ENERGY DEVICES TO BE INSTALLED IN ANY BUILDING OWNED BY SAID TAXPAYERS.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. 39-22-113 (4), Colorado Revised Statutes 1973, is amended BY THE ADDITION OF A NEW PARAGRAPH to read:

39-22-113. Colorado itemized deduction of a resident individual. (4) (c) (I) An amount equal to the cost that is properly attributable to the installation, construction, reconstruction, remodeling, or acquisition of an alternative energy device for use in any building owned by the taxpayer, to the extent such device is completed or acquired and is placed in service by the taxpayer during the taxable year. For the purpose of this section, the alternative energy device is not deemed to be placed into service until the premises are occupied by the owner or tenant.

(II) For the purposes of this paragraph (c), "alternative energy device" means any system or mechanism or series of systems or mechanisms using solar radiation, wind or geothermal resources. "Alternative energy device" includes the use of a

Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.

fluid-to-air heat pump operating on a fluid reservoir heated by solar radiation or a geothermal resource.

(III) Except as otherwise provided in this article, in the case of taxpayers who jointly own property and who qualify for the deduction allowed under the provisions of this paragraph (c), said deduction shall be split between said taxpayers in the same proportion as their ownership interests in said property.

SECTION 2. 39-22-304 (3), Colorado Revised Statutes 1973, is REPEALED AND REENACTED, WITH AMENDMENTS, to read:

39-22-304. Net income of corporation. (3) There shall be subtracted from federal taxable income:

(a) The modifications enumerated in paragraphs (a), (b), and (d) to (h) of section 39-22-110 (3); except that as to paragraph (3) (f) thereof, no subtraction shall be allowed for state income tax refunds from states other than Colorado; and

(b) The modification enumerated in section 39-22-113 (4) (c). If an itemized deduction for an alternative energy device is claimed pursuant to section 39-22-113 (4) (c), depreciation on the same alternative energy device shall not be allowed.

SECTION 3. 39-22-402 (2), Colorado Revised Statutes 1973, is amended to read:

39-22-402. Share of a resident estate, trust, or beneficiary in Colorado fiduciary adjustments. (2) The Colorado fiduciary adjustment shall be the net amount of the modifications described in section 39-22-110, including subsection (4) thereof if the estate or trust is a beneficiary of another estate or trust, and in section 39-22-113 (3) ~~{4}-{a}~~; ~~and-{4}-{b}~~ AND (4). The net amount of such modifications shall not include any modification described in section 39-22-110 (3) (d) or (3) (e) to the extent such items are excluded from federal distributable net income of the estate or trust.

SECTION 4. 39-22-112 (1), Colorado Revised Statutes 1973, is amended, and the said 39-22-112 is further amended BY THE ADDITION OF A NEW SUBSECTION, to read:

39-22-112. Colorado standard deduction of a resident individual. (1) The Colorado standard deduction for a resident individual or a husband and wife whose Colorado taxable income is determined jointly as though one taxpayer shall be the percentage standard deduction or the low income allowance, whichever is greater, plus the deduction for federal income tax as defined in section 39-22-113 (4) (a), PLUS A DEDUCTION FOR AN ALTERNATIVE ENERGY DEVICE PURSUANT TO SECTION 39-22-113 (4) (c).

(8) When a husband and wife who file a joint federal income

tax return file separate Colorado returns and do not itemize deductions, a deduction for an alternative energy device pursuant to section 39-22-113 (4) (c) may be taken by either of them or divided between them, as they may elect.

SECTION 5. Applicability. This act shall apply to provide such deductions with respect to devices placed into service on or after January 1, 1977.

SECTION 6. Safety clause. The general assembly hereby finds, determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.

 Ronald H. Strahle
 SPEAKER OF THE HOUSE
 OF REPRESENTATIVES

 Fred E. Anderson
 PRESIDENT OF
 THE SENATE

 Lorraine F. Lombardi
 CHIEF CLERK OF THE HOUSE
 OF REPRESENTATIVES

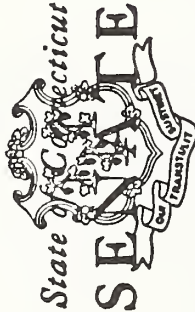
 Marjorie L. Rutenbeck
 SECRETARY OF
 THE SENATE

APPROVED _____

 Richard D. Lamm
 GOVERNOR OF THE STATE OF COLORADO

File No. 1153
(Reprint of File No. 1073)

Substitute Senate Bill No. 175
As Amended by Senate Amendment
Schedule "A"



Approved By The Legislative Commissioner

AN ACT CONCERNING PROPERTY TAX EXEMPTION FOR SOLAR ENERGY SYSTEMS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:
Section 1. Subsection (56) of section 12-81 of the general statutes is repealed and the following is substituted in lieu thereof:
(56) (a) Subject to authorization of the exemption by ordinance in any municipality, any building [or addition to a building], the construction of which is commenced on or after October 1, 1976, and before October 1, 1991, which is equipped with a solar energy heating or cooling system, OR ANY BUILDING TO WHICH A SOLAR ENERGY HEATING OR COOLING SYSTEM IS ADDED ON OR AFTER OCTOBER 1, 1976, AND BEFORE OCTOBER 1, 1991, to the extent of the amount by which the assessed valuation of such real property equipped with such solar heating or cooling system exceeds the assessed valuation of such real property equipped with the conventional portion of the heating or cooling system, exclusive of any portion of such system related to solar energy, provided this exemption shall only apply to the first fifteen assessment years following construction of such building or addition OF ANY SUCH SYSTEM TO A BUILDING.

(b) AS used in this subsection, "solar energy heating or cooling system" means equipment[, including windmills and waterwheels,] which provides for the collection, transfer, storage and use of incident solar energy for water heating, space heating or cooling which absent such solar energy system would require a conventional energy resource, such as petroleum products, natural gas or electricity, and which meets standards established by regulation by the commissioner of planning and energy policy.

(c) Any person who desires to claim the exemption provided in this subsection shall file with the assessor or board of assessors in the town in which such real property is located, within thirty days following the annual assessment date, written application claiming such exemption on a form as prescribed by the tax commissioner. Failure to file such application in said manner and form within the time limit prescribed shall constitute a waiver of the right to such exemption for the assessment year.

Sec. 2. Section 12-81 of the general statutes is amended by adding a new subsection (57) as follows:

(NEW) (57) (a) Subject to authorization of the exemption by ordinance in any municipality, any solar energy electricity generating system installed for the generation of electricity for private residential use, provided such installation occurs on or after October 1, 1977 and before October 1, 1991. This exemption shall only be applicable in the first fifteen assessment years following the installation of such system. (b) AS used in this subsection, a "solar energy electricity generating system" means equipment which is designed, operated and installed as a system at any private residential location, which utilizes solar energy to produce electricity for consumption at such location and which meets standards established by regulation by the commissioner of planning and energy policy.

(c) Any person who desires to claim the exemption provided in this subsection shall file with the assessor or board of assessors in the town in which such system is located, within thirty days following the annual assessment date, written application claiming such exemption on a form as prescribed by the tax commissioner. Failure to file such application in said manner and form within the time limit prescribed shall constitute a waiver of the right to such exemption for the assessment year.

File No. 1138
(Reprint of File No. 1053)

Substitute House Bill No. 5266
As Amended by House Amendment
Schedule "A"



Approved By The Legislative Commissioner

AN ACT PROVIDING A SALES TAX EXEMPTION FOR SOLAR ENERGY SYSTEM COLLECTORS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1 Section 12-412 of the general statutes is
2 amended by adding a new subsection (dd) as
3 follows:

4 (NEW) (dd) Sales of and the storage, use or
5 other consumption of solar collectors, as defined
6 herein, prior to September 30, 1982. For purposes
7 of this exemption, a solar collector is that
8 portion of a solar energy system, as defined in
9 subsection (56) of section 12-81 of the general
10 statutes, which receives the direct or diffuse
11 solar radiation to convert it to thermal energy to
12 be ultimately used for space heating or cooling or
13 domestic water heating.

ENERGY EXTENSION SERVICE
PROGRAM AUTHORIZED.

No. 29 (House Resolution No. 208-823).

A Resolution.

Directing the Georgia Office of Energy Resources to establish an Energy Extension Service Program for the purposes of providing information and technical assistance to the State's residential, commercial, industrial and institutional establishments relating to energy conservation measures, energy efficient technologies, and available alternate energy technologies.

Be it resolved by the General Assembly of Georgia:

Section 1. The Georgia Office of Energy Resources shall:

(1) Develop and administer an Energy Extension Service Program; and

(2) Utilize to the maximum extent possible existing organizations and their networks at the State and Substate levels for program implementation.

Section 2. The Energy Extension Service Program shall provide, but not be limited to, the following:

(1) Technical assistance to industrial, commercial and institutional establishments for the purpose of facilitating the use of energy conservation techniques, energy efficient technologies, and available alternate energy technologies;

(2) An advisory service to residential, commercial, industrial, and institutional energy consumers on energy conservation measures, energy efficient technologies, and available alternate energy systems;

(3) Public education and training workshops on energy conservation and available alternate energy systems; and

(4) A feedback mechanism to maintain awareness of energy research and development needs at the local level.

Approved March 30, 1977.

A RESOLUTION

1 Urging the President and the Energy Research and 22
 2 Development Administration to favorably consider location in 23
 3 Georgia of the National Solar Energy Research Institute. 24

4 WHEREAS, as our nation moves into the last quarter 26
 5 of the 20th Century, one of our major goals is the 27
 6 development and commercialization of renewable energy 28
 7 resources; and

8 WHEREAS, the development of solar energy is one of 30
 9 the more promising energy resources at our disposal for 31
 10 solving the energy problems of the United States and the 32
 11 World; and

12 WHEREAS, Georgia has emerged as a national leader 34
 13 in solar energy research and development through the efforts 35
 14 of the Georgia Institute of Technology; and 36

15 WHEREAS, the Executive Branch, the Georgia General 38
 16 Assembly, and the people of Georgia have evidenced their 39
 17 commitment to the development of solar energy by enacting 40
 18 State laws providing major incentives for the manufacture 41
 19 and utilization of solar energy systems; and 42

20 WHEREAS, as a demonstration of regional interest in 44
 21 solar energy and recognition of Georgia's efforts and 45
 22 commitment to the research, development and deployment of 46
 23 solar technology, the Governors of Kentucky, Louisiana and 47
 24 Mississippi have formally endorsed the location of the 48
 25 National Solar Energy Research Institute in Georgia; and 49

1 WHEREAS, Georgia has proposed as a management 51
2 consortium for the national solar energy research a unique 52
3 blend of internationally recognized industrial, engineering, 53
4 management and academic talents which represent the key 54
5 components necessary to support and complement the nation's 55
6 total solar energy program; and

7 WHEREAS, the balanced geographic representation of 57
8 the management consortium reflects Georgia's commitment to 58
9 establishing an Institute which will utilize expertise 59
10 throughout the nation and the world. 60

11 NOW, THEREFORE, BE IT RESOLVED BY THE GENERAL 62
12 ASSEMBLY OF GEORGIA that the Energy Research and Development 63
13 Administration is hereby urged to favorably consider the 64
14 location of the National Solar Energy Research Institute 65
15 within the State of Georgia.

16 BE IT FURTHER RESOLVED that the General Assembly of 67
17 Georgia and the Executive Department of the State of Georgia 68
18 should take every possible action to assist and encourage 69
19 the location of such Institute within our State. 70

20 BE IT FURTHER RESOLVED that an appropriate copy of 72
21 this Resolution be transmitted to the President of the 73
22 United States of America and to the Energy Research and 74
23 Development Administration, and to each and every member of 75
24 the Georgia Congressional Delegation.

To be made one and twelve copies)
THE SENATE B-535
.....NINTH..... LEGISLATURE, 19 77.
STATE OF HAWAII

S.B. NO. 995, S.D. 2

A BILL FOR AN ACT

RELATING TO THE UTILIZATION OF ELECTRICITY GENERATED FROM
NON-FOSSIL FUELS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that electricity
2 generated from the combustion of bagasse presently constitutes
3 a substantial source of power in the State of Hawaii; that
4 the combustion of non-fossil materials including bagasse,
5 wood materials and combustible solid waste materials constitute
6 a significant potential source of additional power available
7 for public use; and that encouraging utilization of non-fossil
8 fuel sources of energy offers advantages to the State that
9 would:

10 (a) Promote an important reduction of State dependence
11 upon imported petroleum products and other rapidly depleting
12 fossil fuel sources, which consequently would reduce the State's
13 vulnerability to economic dislocation and public inconvenience
14 resulting from sudden or long-term unavailability of fossil
15 fuels by reason of adverse action by foreign oil suppliers,
16 shipping industry strikes, or exhaustion of fossil fuel

17
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SMA 049-057

1 supplies;

2 (b) Improve the State balance of payments posture by
3 reducing purchases of fuel from extra-State sources and circulate
4 into the State economy the funds expended for power generated
5 from State fuel sources that otherwise would have entered other
6 economies;

7 (c) Create jobs in the State by encouraging development
8 of non-fossil fuel power production industry;

9 (d) Encourage utilization of alternative renewable fuel
10 sources such as bagasse, wood materials and combustible solid
11 waste materials, which currently are not being employed to their
12 full potential;

13 (e) Promote expanded use of technology which presently
14 exists and is being utilized currently by the State sugar industry
15 in the generation of power from combustion of bagasse and which
16 therefore does not require the research for development of
17 technology or public financial assistance necessary for other
18 non fossil fuel energy alternatives such as solar, wind,
19 geothermal and nuclear power, and which does not pose the degree
20 of health, safety or environmental risks concomitant with
21 nuclear power and transportation of fuel oil;

22 (f) Contribute to the viability of the State sugar
23 industry by encouraging the sale and utilization of excess
24

25

SMA 548-610

1 power generated from combustion of bagasse; and

2 (g) Would not require installation of costly equipment or
3 applicances by individual users as would be required for the
4 utilization of solar energy.

5 SECTION 2. Section 269-1, Hawaii Revised Statutes, is
6 amended to read:

7 "Sec. 269-1 Definitions. As used in this chapter:

8 "Public utility" means and includes every person who may
9 own, control, operate, or manage as owner, lessee, trustee,
10 receiver, or otherwise, whether under a franchise, charter,
11 license, articles of association, or otherwise, any plant or
12 equipment, or any part thereof, directly or indirectly for
13 public use, for the transportation of passengers or freight,
14 or the conveyance or transmission of telephone or telegraph
15 messages, or the furnishing of facilities for the transmission
16 of intelligence by electricity by land or water or air within
17 the State, or between points within the State, or for the
18 production, conveyance, transmission, delivery, or furnishing
19 of light, power, heat, cold, water, gas, or oil, or for the
20 storage or warehousing of goods, or the disposal of sewage;
21 provided that the term (1) means and includes any person, insofar
22 as such person owns or operates an aerial transportation
23 enterprise as a common carrier; (2) means and includes any

24

25

1 person, insofar as such person owns or operates a private sewer
2 company or sewer facility; (3) shall not include persons owning
3 or operating taxicabs, as defined herein; (4) shall not include
4 common carriers transporting only freight on the public highways,
5 unless operating within localities or along routes or between
6 points which the public utilities commission finds to be
7 inadequately serviced without regulation under this chapter;
8 (5) shall not include persons engaged in the business of
9 warehousing or storage unless the commission finds that
10 regulation thereof is necessary in the public interest; [and]
11 (6) shall not include the business of any carrier by water to
12 the extent that such carrier enters into private contracts for
13 towage, salvage, hauling, or carriage between points within
14 the State and the carriage is not pursuant to either an
15 established schedule or an undertaking to perform carriage
16 services on behalf of the public generally, and also shall not
17 include the business of any carrier by water, substantially
18 engaged in interstate or foreign commerce, transporting
19 passengers on luxury cruises between points within the State
20 or on luxury round-trip cruises returning to the point of
21 departure; and (7) shall not include any person who controls,
22 operates or manages plants or facilities for production,
23 transmission or furnishing of power primarily or entirely
24
25

1 from non-fossil fuel sources for its internal uses but who also
2 provides, sells or transmits the portion of such power not used
3 for such purposes directly to a public utility for transmission to
4 the public.

5 In the event the application of this chapter is ordered by
6 the commission in any case provided in (3) and (4) the business
7 of any public utility which presents evidence of bona fide
8 operation on the date of the commencement of the proceedings
9 resulting in the order shall be presumed to be necessary to
10 public convenience and necessity, but any certificate issued
11 under this proviso shall nevertheless be subject to such terms
12 and conditions as the commission may prescribe, as provided
13 by section 269-20.

14 "Taxicab" means and includes:

- 15 (1) Any motor vehicle used in the movement of passengers
16 on the public highways under the following
17 circumstances, namely, the passenger hires the vehicle
18 on call or at a fixed stand, with or without baggage
19 for transportation, and controls the vehicle to the
20 passenger's destination; and
21 2) Any motor vehicle having seating accommodations for
22 eight or less passengers used in the movement of
23 passengers on the public highways between a
24 terminal, i.e., a fixed stand, in the city of Honolulu,
25

1 and a terminal in a geographical district outside the
2 limits of the city of Honolulu, and vice versa, without
3 picking up passengers other than at the terminals or
4 fixed stands; provided that passengers may be unloaded
5 at any point between the terminals; and provided
6 further, that this definition relating to motor
7 vehicles operating between terminals shall pertain
8 only to those motor vehicles whose operators or owners
9 were duly licensed (under section 445-222 and any other
10 applicable provision of law or ordinance) and doing
11 business between such terminals on January 1, 1957.

12 "Public highways" has the meaning defined by section 264-1,
13 including both state and county highways, but operation upon
14 rails shall not be deemed transportation on public highways."

15 SECTION 3. Chapter 269, Hawaii Revised Statutes, is
16 amended by adding a new section to be appropriately designated
17 to read:

18 "Sec. 269- Utilization of electricity generated from
19 non-fossil fuels. (a) The public utilities commission shall
20 investigate and determine the extent to which electricity
21 generated from non-fossil fuel sources is available to
22 public utilities which supply electricity to the
23 public, which electricity is in excess of that utilized or
24
25

1 otherwise needed by the producers for their internal
2 uses and which such producers are willing to make
3 available to such public utilities.

4 (b) The public utilities commission may direct public
5 utilities which supply electricity to the public to arrange
6 for the acquisition of and to acquire such electricity generated
7 from non-fossil fuel sources as is available from and which the
8 producers of same are willing and able to make available to
9 such public utilities, and to employ and dispatch such non-fossil
10 fuel generated electricity in a manner consistent with the
11 availability thereof to maximize the reduction in consumption
12 of fossil fuels in the generation of electricity to be provided
13 to the public.

14 (c) The rate payable by the public utility to the
15 producer for such non-fossil fuel generated electricity supplied
16 to the public utility shall be as agreed between the public
17 utility and the supplier and as approved by the public
18 utilities commission; provided, however, that in the event the
19 public utility and the supplier fail to reach an agreement
20 for such rate, such rate shall be as prescribed by the public
21 utilities commission according to the powers and procedures
22 provided in this chapter.

23 (1) In the exercise of its authority to determine the
24 just and reasonable rate for the non-fossil fuel
25

(To be made one and twelve copies)

THE SENATE
NINTH..... LEGISLATURE, 1977...
STATE OF HAWAII

S.C.R. NO. 86

SENATE CONCURRENT RESOLUTION

REQUESTING A STUDY OF THE IMPEDIMENTS TO THE DEVELOPMENT AND USE OF SOLAR ENERGY SYSTEMS AND A RECOMMENDATION OF REMEDIAL ACTION.

WHEREAS, the energy crisis of 1974 which caused severe economic hardships throughout the State demonstrated Hawaii's extreme vulnerability to dislocations in world energy supplies; and

WHEREAS, the development and use of alternate energy resources should be a prime goal of the State in recognition of our almost complete dependence on imported petroleum products for our energy needs; and

WHEREAS, Hawaii is blessed with various potential alternate energy sources including geothermal, wind, ocean current and tide, solar, and others, the harnessing of which can reduce our dependence on imported petroleum products; and

WHEREAS, of the various indigenous energy sources, solar energy appears to be one of the most viable and promising alternatives for the State; and

WHEREAS, the advantages and attractions of solar energy are apparent: it does not pollute or damage the environment; it is particularly suitable for development in Hawaii because of the long hours of sunlight; it is readily available and essentially unlimited in supply; it cannot be embargoed; it is the least amenable to control by cartels; and it is virtually inflation proof once the basic costs are met; and

WHEREAS, in addition, solar energy systems are now practical for space and water heating purposes and many have already been installed with favorable results in commercial and residential buildings throughout the United States, including Hawaii; and

WHEREAS, despite the attractiveness and great potential for solar energy development and use in Hawaii, various obstacles have retarded the widespread use of solar energy systems; and

WHEREAS, one of the major obstacles appears to be government policies (e.g., land use laws, zoning codes, building codes) currently in effect, the development of which occurred prior to the energy crisis and which were therefore not based upon considerations of their effect on the development and use of solar energy sources; and

WHEREAS, promoting the development and use of solar energy may require modification of existing laws and regulations including a new body of energy laws; and

WHEREAS, other obstacles reportedly include financial impediments for both solar energy companies and potential purchasers; resistance by building designers and developers to incorporate solar energy systems in projects; insufficient promotional and educational programs to provide information concerning the benefits, costs, availability, and performance characteristics of solar energy systems; and insufficient incentives to encourage the development and use of such systems; and

WHEREAS, while the legislature has initiated some measures, including the enactment of Act 189, Session Laws of Hawaii 1976, which provided tax incentives for installing alternate energy systems, much more needs to be done to encourage the development and use of solar energy systems; and

WHEREAS, the legislature requires additional information on the various impediments to the development and use of solar energy to determine and guide further legislative actions; and

WHEREAS, the legislature is firm in its resolve to support the development and use of solar energy as one of the primary alternate energy sources for Hawaii; now, therefore,

BE IT RESOLVED by the Senate of the Fifth Legislature of the State of Hawaii, Regular Session of 1977, the House of Representatives concurring, that the energy resources coordinator is requested to study the impediments to the development and widespread use of solar energy systems including, but not limited to, the following:

- (1) Impediments encountered by the solar energy companies relating to the financing, development, marketing, and distribution of solar energy products;

- (2) Obstacles due to government laws, rules, and regulations including land use laws, zoning codes, and building codes;
- (3) Public resistance, if any, and the reasons thereof; and
- (4) Resistance on the part of designers, developers, and builders in incorporating solar energy systems in various housing and building projects and the reasons thereof;

and

BE IT FURTHER RESOLVED that the study shall include recommendations for legislative action to remove or mitigate the identified impediments and to accelerate and encourage the development and use of solar energy systems; and

BE IT FURTHER RESOLVED that the energy resources coordinator shall submit a report of his findings and recommendations to the legislature at least twenty days prior to the convening of the Regular Session of 1978; and

BE IT FURTHER RESOLVED that a certified copy of this Concurrent Resolution be transmitted to the energy resources coordinator, department of planning and economic development.

OFFERED BY: _____

T. C. Gair

(To be made one and ten copies)

HOUSE OF REPRESENTATIVES
NINTH LEGISLATURE, 1977
STATE OF HAWAII

H. R. NO. 427

HOUSE RESOLUTION

REQUESTING A FEASIBILITY STUDY OF INSTALLING SOLAR ENERGY DEVICES IN PUBLIC BUILDINGS.

WHEREAS, the use of solar energy as an alternative power source is proving to be increasingly valuable by states across the country for private homes as well as in public facilities and buildings; and

WHEREAS, there is a recognized need among government leaders and the public that alternative sources of energy must be developed to alleviate the effect of energy crises such as the one currently occurring in the states on the East Coast and such as that which occurred in 1974 when the fuel crisis was at its peak throughout the world; and

WHEREAS, homeowners are beginning to see the benefits of installing solar energy devices in their homes to offset the spiraling cost of electricity as well as to assure continued power sources for their households; and

WHEREAS, government agencies at the county, state, and federal levels are all moving towards the incorporation of solar energy devices into new public buildings and facilities; and

WHEREAS, these devices have been shown to be cost effective and highly successful in curtailing ever-increasing costs of fuel for heating or cooling public buildings and facilities; and

WHEREAS, the State Committee on Alternate Energy Sources for Hawaii and the State Advisory Task Force on Energy Policy have issued a report recommending the use of solar collectors for water heating and air-conditioning in new public buildings and private buildings and homes; and

WHEREAS, the report also noted that maintenance cost of solar collectors is low and offers ever-increasing savings in operating expenses while gas and electricity costs rise; and

WHEREAS, the Governor of this State has indicated his intention of installing solar energy devices in new state buildings, where possible; and

WHEREAS, the advantages of using solar energy are virtually unmatched by other alternative power sources because it is abundant, reliable, nonpolluting, technically feasible for current use, and does not degrade or reduce irreplaceable resource supplies; now, therefore,

BE IT RESOLVED by the House of Representatives of the Ninth Legislature of the State of Hawaii, Regular Session of 1977, that the Department of Accounting and General Services initiate a study of the costs and benefits of installing solar energy devices into the currently existing state buildings and facilities; and

BE IT FURTHER RESOLVED that the study include an assessment of the long-range benefit of such capital improvements in reducing the cost of power to run these public buildings and facilities; and

BE IT FURTHER RESOLVED that certified copies of this Resolution be transmitted to the Governor and the Comptroller.

OFFERED BY: Ralph K. Gijon

FEB 25 1977

ILLINOIS DIVISION OF ENERGY

HB0747 Enrolled

LR350-4310-AMS/evh

1 AN ACT to amend Section 38 of "An Act concerning public 11
2 utilities", approved June 29, 1921, as amended. 12

3 Be it enacted by the People of the State of Illinois, 14
4 represented in the General Assembly: 15

5 Section 1. Section 38 of "An Act concerning public 17
6 utilities", approved June 29, 1921, as amended, is amended to 18
7 read as follows:

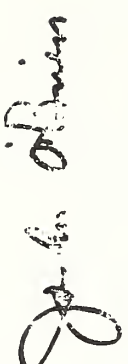
(Ch. 111 2/3, par. 38) 20

8 Sec. 38. No public utility shall, as to rates or other 22
9 charges, services, facilities or in other respect, make or 23
10 grant any preference or advantage to any corporation or 24
11 person or subject any corporation or person to any prejudice 25
12 or disadvantage. No public utility shall establish or 26
13 maintain any unreasonable difference as to rates or other
14 charges, services, facilities, or in any other respect, 27
15 either as between localities or as between classes of 28
16 service.

17 No public utility providing electrical or gas service 30
18 shall consider the use of solar energy by a customer as a 31
19 basis for establishing higher rates or charges for any 32
20 service or commodity sold to such customer, nor shall a 33
21 public utility subject any customer utilizing solar energy to
22 any other prejudice or disadvantage on account of such use. 34

23 This amendatory Act of 1977 shall cease to have any force 36
24 or effect 5 years after its effective date. 37

Clerk of the House



in the House of Representatives

PUBLIC ACT 80-431

Original

19 The Commission, in order to expedite the determination of 39
 20 rate questions, or to avoid unnecessary and unreasonable 40
 21 expense, or to avoid unjust or unreasonable discrimination 41
 22 between classes of customers, or, whenever in the judgment of 42
 23 the Commission public interest so requires, may, except in 43
 24 the case of telephone companies, for rate making and 44
 25 accounting purposes, or either of them, consider one or more 45
 26 municipalities either with or without the adjacent or 46
 27 intervening rural territory as a regional unit where the same 47
 28 public utility serves such region under substantially similar 48
 29 conditions, and may within such region prescribe uniform 49
 30 rates for consumers or patrons of the same class.

31 Every public utility shall, upon reasonable notice, 51
 32 furnish to all persons who may apply therefor and be 52
 33 reasonably entitled thereto, suitable facilities and service, 53
 34 without discrimination and without delay. 54

William Redmond
 Speaker, House of Representatives

Thomas C. Hyn
 President of the Senate

APPROVED

this 30th day of August 1977

James H. Douglas
 GOVERNOR

SB944

SB 944eng

LBB80-5110-XXX/pjd

1 AN ACT in relation to the comprehensive demonstration, 11
2 encouragement, and development of solar energy systems and a 12
3 State solar energy program, to establish certain elements of 13
4 said program, to define certain terms and responsibilities, 14
5 and to amend certain Acts in connection therewith.

6 Be it enacted by the People of the State of Illinois, 16
7 represented in the General Assembly: 17

8 Section 1. Title. This Act shall be known as and cited 20
9 as The Comprehensive Solar Energy Act of 1977. 21

10 Section 1.1. Legislative Findings. The General Assembly 23
11 finds:

12 (a) That the public health, safety, and welfare of the 25
13 People of the State of Illinois require that an adequate 26
14 supply of energy be made available to them at all times; 27

15 (b) That at the present time existing energy sources are 29
16 becoming more limited;

17 (c) That it is the responsibility of the State 31
18 government to encourage, the use of alternative renewable 32
19 energy sources;

20 (d) That solar energy systems are an effective and 34
21 feasible means of reducing the dependence of the State 35
22 government and the People of the State on non-State energy
23 sources and of conserving valuable fossil fuel and other 36
24 non-renewable energy sources;

25 (e) That it is in the public interest to define solar 38
26 energy systems, demonstrate solar energy feasibility, apply 39
27 incentives for using solar energy, educate the public on 40
28 solar feasibility, study solar energy application and 41
29 coordinate governmental programs affecting solar energy.

30 Section 1.2. Definitions. As used in this Act. 43

31 (a) "Solar Energy" means radiant energy received from 45
32 the sun at wave lengths suitable for heat transfer, 46
33 photosynthetic use, or photovoltaic use.

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LBB80-5110-XXX/pjd

1	(b) "Solar collector" means	48
2	(1) An assembly, structure, or design, including passive	50
3	elements, used for gathering, concentrating, or absorbing	51
4	direct or indirect solar energy, specially designed for	52
5	holding a substantial amount of useful thermal energy and to	
6	transfer that energy to a gas, solid, or liquid or to use	54
7	that energy directly; or	
8	(2) A mechanism that absorbs solar energy and converts	56
9	it into electricity; or	
10	(3) A mechanism or process used for gathering solar	58
11	energy through wind or thermal gradients; or	59
12	(4) A component used to transfer thermal energy to a	61
13	gas, solid, or liquid, or to convert it into electricity.	62
14	(c) "Solar storage mechanism" means equipment or	64
15	elements (such as piping and transfer mechanisms, containers,	65
16	heat exchangers, or controls thereof, and gases, solids,	66
17	liquids, or combinations thereof) that are utilized for	67
18	storing solar energy, gathered by a solar collector, for	68
19	subsequent use.	
20	(d) "Solar energy system" means	70
21	(1) (a) A complete assembly, structure, or design of a	72
22	solar collector, or a solar storage mechanism, which uses	73
23	solar energy for generating electricity or for heating or	74
24	cooling gases, solids, liquids, or other materials;	75
25	(b) The design, materials, or elements of a system and	77
26	its maintenance, operation, and labor components, and the	78
27	necessary components, if any, of supplemental conventional	
28	energy systems designed or constructed to interface with a	79
29	solar energy system; and	
30	(c) Any legal, financial, or institutional orders,	81
31	certificates, or mechanisms, including easements, leases, and	82
32	agreements, required to ensure continued access to solar	83
33	energy, its source, or its use in a solar energy system, and	84
34	including monitoring and educational elements of a	86
35	demonstration project.	

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1	(2) "Solar energy system" does not include	88
2	(a) Distribution equipment that is equally usable in a	90
3	conventional energy system except for such components of such	91
4	equipment as are necessary for meeting the requirements of	93
5	efficient solar energy utilization; and	
6	(b) Components of a solar energy system that serve	95
7	structural, insulating, protective, shading, aesthetic, or	96
8	other non-solar energy utilization purposes, as defined in	
9	the regulations of the Division; and	97
10	(c) Any facilities of a public utility used to transmit	99
11	or distribute gas or electricity.	100
12	(e) "Solar Skyspace" means	102
13	(1) The maximum three dimensional space extending from a	104
14	solar energy collector to all positions of the sun necessary	105
15	for efficient use of the collector.	106
16	(2) Where a solar energy system is used for heating	108
17	purposes only, "solar skyspace" means the maximum three	110
18	dimensional space extending from a solar energy collector to	111
19	all positions of the sun between 9 a.m. and 3 p.m. Local	112
20	Apparent Time from September 22 through March 22 of each	113
21	year.	
22	(3) Where a solar energy system is used for cooling	115
23	purposes only, "solar skyspace" means the maximum three	117
24	dimensional space extending from a solar energy collector to	118
25	all positions of the sun between 8 a.m. and 4 p.m. Local	119
26	Apparent Time from March 23 through September 21.	120
27	(f) "Solar skyspace easement" means	122
28	(1) a right, whether or not stated in the form of a	124
29	restriction, easement, covenant, or condition, in any deed,	125
30	will, or other instrument executed by or on behalf of any	126
31	owner of land or solar skyspace or in any order of taking,	127
32	appropriate to protect the solar skyspace of a solar	129
33	collector at a particularly described location to forbid or	
34	limit any or all of the following where detrimental to access	131
35	to solar energy.	

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1	(a) structures on or above ground;	133
2	(b) vegetation on or above the ground; or	135
3	(c) other activity;	137
4	(2) and which shall specifically describe a solar	139
5	skyspace in three dimensional terms in which the activity,	141
6	structures, or vegetation are forbidden or limited or in	
7	which such an easement shall set performance criteria for	143
8	adequate collection of solar energy at a particular location.	144
9	(g) "Conventional Energy System" shall mean an energy	146
10	system utilizing fossil fuel, nuclear or hydroelectric energy	148
11	and the components of such system, including transmission	
12	lines, burners, furnaces, tanks, boilers, related controls,	150
13	distribution systems, room or area units and other	151
14	components.	
15	(h) "Supplemental Conventional Energy System" shall mean	153
16	a conventional energy system utilized for providing energy in	155
17	conjunction with a solar energy system that provides not less	156
18	than ten percent of the energy for the particular end use.	157
19	"Supplemental Conventional Energy System" does not include	158
20	any facilities of a public utility used to produce, transmit,	159
21	distribute or store gas or electricity.	
22	(i) "Joint Solar Energy System" shall mean a solar	161
23	energy system that supplies energy for structures or	163
24	processes on more than one lot or in more than one	
25	condominium unit or leasehold, but not to the general public	165
26	and involving at least two owners or users.	
27	(j) "Unit of Local Government" shall mean county,	167
28	municipality, township, special districts, including school	169
29	districts, and units designated as units of local government	
30	by law, which exercise limited governmental powers.	171
31	(k) "Division" shall mean The Illinois Division of	173
32	Energy.	
33	(l) "Public Energy Supplier" shall mean	175
34	(1) A public utility as defined in an Act concerning	177
35	Public Utilities, approved June 29, 1921, as amended; or	179

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1 (2) A public utility that is owned or operated by any 181
2 political subdivision or municipal corporation of this State, 183
3 or owned by such political subdivision or municipal
4 corporation and operated by any of its lessees or operating 185
5 agents; or
6 (3) An electric cooperative as defined in Section 10.19 187
7 of An Act concerning Public Utilities, approved June 29, 188
8 1921, as amended.
9 (m) "Energy Use Sites" shall mean sites where energy is 190
10 or may be used or consumed for generating electricity or for 191
11 heating or cooling gases, solids, liquids, or other materials 192
12 and where solar energy may be used cost effectively, as 193
13 defined in the regulations of the Division, consistent with 195
14 the purposes of this Act.
15 Section 2.1. Delegation of Authority. 197
16 (a) There is created The Illinois Comprehensive Solar 199
17 Energy Program, hereinafter referred to as the Program, 200
18 elements of which are specified in Sections 2.1 through 8.2
19 of this Act. 201
20 (b) Primary authority and responsibility for the 203
21 supervisor and implementation of the Program is vested in 204
22 the Division.
23 (c) The Director of the Division shall carry out the 206
24 Program; shall accept, receive, expend, and administer for 207
25 the benefit of the People of this State, any gifts, grants, 208
26 bequests, devises, or other funds or monies made available
27 from either public or private sources. 209
28 (d) The Division shall acquire and collect information; 211
29 shall represent the state before all agencies, governmental 212
30 bodies or commissions and; shall promulgate necessary 213
31 regulations.
32 Section 2.2. Cooperation with Other Entities. The 215
33 Division shall make full use of the resources and facilities 217
34 of and cooperate with existing state agencies, commissions,
35 private and public academic institutions, business, civic, 219

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1	professional and industrial entities, and units of local	219
2	government in carrying out the purposes of this Act.	220
3	Section 2.3. Public Access to Division Files, Records,	222
4	and Information. All files, records, data, and other	223
5	information of the Division regarding solar energy systems	224
6	shall be open and available to reasonable public inspection,	225
7	use, and copying, except for confidential or proprietary	227
8	information, as defined in the regulations of the Division,	
9	and internal communications within the Division or between	229
10	the Division and other state agencies and units of local	230
11	government.	
12	Section 3.1. Demonstration Projects. The Division shall	232
13	prepare a plan for instituting a variety of solar energy	233
14	system demonstration projects in public and private buildings	234
15	or for public and private use throughout the state and prior	235
16	to implementation shall make such plan available to the	236
17	Energy Resources Commission.	
18	Section 4.1. Incentive Program. The Energy Resources	238
19	Commission may conduct policy studies in conjunction with	239
20	appropriate state agencies. The Division, in cooperation	240
21	with appropriate state agencies, shall develop an incentive	241
22	program for encouraging the construction and use of cost	242
23	effective solar energy systems within this state. The	
24	Division shall make recommendations concerning findings to	243
25	the Illinois Energy Resources Commission. The incentive	244
26	program shall include:	
27	(a) Study of laws, regulations, ordinances, rules and	246
28	plans for the purpose of determining the extent to which such	247
29	laws, regulations, ordinances, rules and plans inhibit or	248
30	encourage the use of solar energy systems;	
31	(b) Study of the market penetration of solar energy	250
32	system; and	
33	(c) Study of solar skyspace protection.	252
34	Section 5.1. Assistance Program. Pursuant to the	254
35	authority delegated the Division by Section 2.1 hereof, the	255

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1 Division may provide upon request whatever assistance the 256
2 Division determines to be appropriate in the circumstances
3 and consistent with the purposes of this Act. 257
4 Section 6.1. Public Education. The Division may, in 259
5 cooperation with other state agencies, units of local 260
6 government, and other institutions, plan, prepare, and 261
7 develop educational programs for the public regarding the 262
8 use, impact on, and relation of solar energy systems to
9 users, producers, and suppliers of energy, financial 263
10 institutions, governmental energy programs and policies, the 264
11 use of our natural resources and the environment, and other 265
12 such matters.
13 Section 6.2. Coordination with Educational Bodies. To 267
14 the fullest extent feasible, the Division shall leave the 268
15 responsibility for actually implementing and carrying out the 269
16 solar energy educational plan's school programs to existing 270
17 state agencies, units of local government, and other
18 institutions already having authority for educating the 271
19 public or certain portions of the public.
20 Section 7.1. Study of Public Energy Suppliers and Solar 273
21 Energy. The Energy Resources Commission may conduct policy 274
22 studies pertaining to this Section in cooperation with 275
23 appropriate State agencies. The Division shall, in
24 cooperation with the Illinois Commerce Commission, study the 276
25 relationship between public energy suppliers and the use of 277
26 solar energy systems and shall make recommendations 278
27 concerning its findings to the Energy Resources Commission. 279
28 The studies shall determine ways in which to: 280
29 (a) Integrate the supply of conventional energy as 282
30 supplemental energy for solar energy systems at reasonable 283
31 rates and under reasonable conditions of service; and 284
32 (b) Minimize the economic and load impact on public 286
33 energy suppliers of the use of solar energy systems. 287
34 Section 7.2. Study Design. The study authorized in 289
35 Section 7.1 shall consider:

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1	(a) Rate schedule design to encourage the use of solar	291
2	energy systems, and to provide supplemental conventional	292
3	energy at reasonable rates;	
4	(b) Mechanisms that can be used to reduce the cost of	294
5	supplemental energy supply to users of solar energy systems;	295
6	and	
7	(c) Criteria for the selection of power plant sites that	297
8	consider the potential use of solar energy systems as a part	298
9	of the load forecast projections in the services area of	299
10	public energy suppliers.	
11	Section 7.3. Study of Solar Energy System Regulation.	301
12	The Energy Resources Commission may conduct policy studies	302
13	pertaining to this Section. The Division shall, in	303
14	cooperation with the Illinois Commerce Commission, study the	
15	proper enforcement and regulatory mechanisms for use of joint	304
16	solar energy systems and for public energy supplier provision	305
17	of solar energy systems, and shall make recommendations	306
18	concerning its findings to the Illinois Energy Resources	
19	Commission. Study of joint solar energy systems shall	307
20	consider:	
21	(a) Costs of the regulatory system and the size of the	309
22	user;	
23	(b) Need for use of the power of eminent domain;	311
24	(c) Rate regulation; and	313
25	(d) Effects on service areas, costs of provision of	315
26	service, and other characteristics of the existing public	316
27	energy supplier in the area so as to prevent undue economic	317
28	hardship to the public energy supplier and its customers and	318
29	to encourage solar energy use.	
30	Section 7.4. Provision of Solar Energy Systems by Public	320
31	Energy Suppliers. The funding and provision of solar energy	321
32	systems shall be a valid service and purpose of a public	322
33	energy supplier within its service area, as defined in	323
34	Section 3.17 of the Electric Supplier Act, except that no	
35	individual, corporation, institution or unit of government	324

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1 shall be barred from funding or providing a solar energy 325
2 system within the service area of any public energy supplier. 326
3 For the purpose of this Act, the term "service area" shall
4 apply to gas suppliers. 327
5 Section 8.1. Funding. For carrying out the purposes of 329
6 this Act and the Program described herein, the Division shall 330
7 utilize such funds as are provided to it from any source 331
8 subject to appropriation.
9 Section 9.1. Sections 20d-1, 20d-2 and 20d-3 of the 333
10 "Revenue Act of 1939", filed May 17, 1939, are amended to 334
11 read as follows:
 (Ch. 120, par. 501d-1) 336
12 Sec. 20d-1. It is declared to be the policy of the State 338
13 of Illinois that the use of solar energy heating-or-cooling 339
14 systems should be encouraged as conserving nonrenewable 340
15 resources, reducing pollution and promoting the health and 341
16 well-being of the people of this State, and should be valued 342
17 in relation to these benefits to the people of the State. 343
 (Ch. 120, par. 501d-2) 345
18 Sec. 20d-2. (a) "Solar energy" heating--or-cooling 347
19 system" means any-system,--method,--construction,--device--or 348
20 appliance--designed,--constructed-and-installed-relying-on-the 349
21 use-of-the-sun's-rays,--rather-than-on-conventional-heating-or 350
22 air-conditioning-systems,--for-heating-or-cooling-a--building, 351
23 radiant energy received from the sun at wave lengths suitable
24 for heat transfer, photosynthetic use, or photovoltaic use. 352
25 (b) "Solar collector" means 354
26 (1) An assembly, structure, or design, including passive 356
27 elements, used for gathering, concentrating, or absorbing 357
28 direct and indirect solar energy, specially designed for 358
29 holding a substantial amount of useful thermal energy and to 359
30 transfer that energy to a gas, solid, or liquid or to use
31 that energy directly; or 360
32 (2) A mechanism that absorbs solar energy and converts 362
33 it into electricity; or

1 (3) A mechanism or process used for gathering solar 364
 2 energy through wind or thermal gradients; or 365
 3 (4) A component used to transfer thermal energy to a 367
 4 gas, solid, or liquid, or to convert it into electricity. 368
 5 (c) "Solar storage mechanism" means equipment or 370
 6 elements (such as piping and transfer mechanisms, containers, 371
 7 heat exchangers, or controls thereof, and gases, solids, 372
 8 liquids, or combinations thereof) that are utilized for
 9 storing solar energy, gathered by a solar collector, for 373
 10 subsequent use.
 11 (d) "Solar energy system" means 375
 12 (1) (a) A complete assembly, structure, or design of 377
 13 solar collector, or a solar storage mechanism, which uses 378
 14 solar energy for generating electricity or for heating or 379
 15 cooling gases, solids, liquids, or other materials;
 16 (b) The design, materials, or elements of a system and 381
 17 its maintenance, operation, and labor components, and the 382
 18 necessary components, if any, of supplemental conventional 383
 19 energy systems designed or constructed to interface with a 384
 20 solar energy system; and
 21 (c) Any legal, financial, or institutional orders, 386
 22 certificates, or mechanisms, including easements, leases, and 387
 23 agreements, required to ensure continued access to solar 388
 24 energy, its source, or its use in a solar energy system, and 389
 25 including monitoring and educational elements of a
 26 demonstration project.
 27 (2) "Solar energy system" does not include 391
 28 (a) Distribution equipment that is equally usable in a 393
 29 conventional energy system except for such components of such 394
 30 equipment as are necessary for meeting the requirements of 395
 31 efficient solar energy utilization; and
 32 (b) Components of a solar energy system that serve 397
 33 structural, insulating, protective, shading, aesthetic, or 398
 34 other non-solar energy utilization purposes, as defined in 399
 35 the regulations of the Department.

1 (3) Such solar energy system shall conform which 401
 2 conforms to the standards for such systems established by 402
 3 regulation of the ~~Department of Local Government Affairs, or~~ 403
 4 its ~~successor agency~~ Division.

 (Ch. 120, par. 501d-3) 405

5 Sec. 20d-3. When a solar energy ~~heating or cooling~~ 407
 6 system has been installed in improvements on any real 408
 7 property, the owner of that real property is entitled to 409
 8 claim an alternate valuation of those improvements. The 410
 9 claim shall be made by filing with the county. When such a 411
 10 statement and claim for alternate valuation is filed, the 412
 11 county assessor, supervisor of assessments or board of 413
 12 assessors, as the case may be, shall ascertain the value of 414
 13 the improvements as if equipped with a conventional heating 415
 14 or cooling system and the value of the improvements as 416
 15 equipped with the solar energy ~~or cooling~~ system. So long as 417
 16 the solar energy ~~heating or cooling~~ system is used in total 418
 17 or part as the means of utilizing solar energy ~~heating or~~ 419
 18 ~~cooling~~ these improvements, the alternate valuation computed 420
 19 as the lesser of the two values ascertained under this 421
 20 paragraph shall be applied. Whenever the solar energy 422
 21 ~~heating or cooling~~ system so valued ceases to be used as the 423
 22 means of heating or cooling those improvements, the owner of 424
 23 that real property shall within 30 days notify in writing by 425
 24 certified mail.

25 Section 10.1. Sections 4.03, 4.04 and 10.02 of Article I 425
 26 of the "Capital Development Board Act", approved July 10, 426
 27 1972, as amended, are amended to read as follows: 427

 (Ch. 127, par. 774.03) 429

28 Sec. 4.03. To conduct research on improvements in choice 432
 29 and use of materials, energy systems, including solar energy 433
 30 systems, and in construction methods for reducing 434
 31 construction costs and operating and maintenance costs of the 435
 32 facilities described in Section 4.01.

 (Ch. 127, par. 774.04) 437

SB944

SB 944eng

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LRB80-5110-XXX/pjd

1	Sec. 4.04. To review and recommend periodic revisions in	440
2	established building and construction codes to promote public	441
3	<u>safety, energy efficiency and economy, including the use of</u>	442
4	<u>solar energy,</u> and reduce construction costs and operating and	443
5	maintenance costs of the facilities described in Section	444
6	4.01.	
	(Ch. 127, par. 780.02)	446
7	Sec. 10.02. To prepare, or cause to be prepared, general	449
8	plans, drawings and estimates, <u>including the life-cycle cost</u>	450
9	<u>estimate of energy systems,</u> for public buildings and	451
10	improvements to be erected for any State agency.	
11	Section 11.1. Effective date. This Act takes effect	453
12	immediately upon its becoming a law.	454

Amendment #2 introduced by Representative Lechowicz

Amendment #1 tabled thereafter

Adopted
June 20, 1977

LR380-5110am9-RSR/lw

1	AMENDMENT TO SENATE BILL 944	12
2	AMENDMENT NO. <u>2</u> . Among Senate Bill 944, on page 4,	16
3	by deleting all of lines 31 and 32 and inserting in lieu	
4	thereof the following:	17
5	"(k) 'Division' means the Division of Energy in the	19
6	Department of Business and Economic Development or its	20
7	successor agency."	

ILLINOIS DIVISION OF ENERGY

HB1279 Enrolled

LRB80-4688-AJO/mf

1	AN ACT to amend Sections 1, 2, 3 and 7 of "The Illinois	11
2	Coal Development Bond Act", approved August 19, 1974, as	12
3	amended.	

4	<u>Be it enacted by the People of the State of Illinois,</u>	14
5	<u>represented in the General Assembly.</u>	15

6	Section 1. Sections 1, 2, 3 and 7 of "The Illinois Coal	17
7	Development Bond Act", approved August 19, 1974, as amended,	18
8	are amended to read as follows:	

	(Ch. 93, par. 401)	20
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9	Sec. 1. Short title. This Act shall be known and may be	22
10	cited as "The Illinois Coal and Energy Development Bond Act".	23

	(Ch. 93, par. 402)	25
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11	Sec. 2. As used in this Act, "coal" or "coal resources"	27
12	include coal, coal products or by-products, including	28
13	electricity and synthetic fuels gas. "Development of coal	29
14	resources" includes research, development, and demonstration	30
15	of improved methods of discovery, production, transportation,	31
16	sale, distribution, conversion, end-use and waste disposal of	32
17	coal resources. <u>"Other forms of energy" includes solar</u>	
18	<u>energy, geothermal, wind generation, solid waste or any other</u>	33
19	<u>energy system except that which is generated by nuclear</u>	34
20	<u>energy.</u>	

	(Ch. 93, par. 403)	36
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21	Sec. 3. The Department of Business and Economic	38
22	Development shall have the following powers and duties:	39

Clerk of the House

Handwritten signature

in the House of Representatives

Original
ACT 80-432

23 (a) To solicit, accept and expend gifts, grants or any 41
24 form of assistance, from any source, including but not 42
25 limited to, the federal government or any agency thereof; 43

26 (b) To enter into contracts with business, industrial, 45
27 university, governmental or other qualified individuals or 46
28 organizations to promote development of coal and other energy 47
29 resources. Such contracts may be for, but are not limited 49
30 to, the following purposes: (1) the commercial application
1 of existing technology for development of coal resources, (2) 50
2 to initiate or complete development of new technology for 51
3 development of coal resources, and (3) for planning, design, 52
4 acquisition, development, construction, improvement and 53
5 financing a site or sites and facilities for establishing 54
6 plants, projects or demonstrations for development of coal 55
7 resources; and research and development of other forms of
8 energy; and

9 (c) In the exercise of other powers granted it under 57
10 this Act, to acquire property, real, personal or mixed, 58
11 including any rights therein, by exercise of the power of 59
12 condemnation in accordance with the procedures provided by 60
13 "An Act to provide for the exercise of eminent domain", 61
14 approved April 12, 1872, as amended, provided, however, the
15 power of condemnation shall be exercised solely for the 62
16 purposes of siting and/or rights of way and/or easements 63
17 appurtenant to coal utilization and/or coal conversion 64
18 projects. The Department shall not exercise its powers of 65
19 condemnation until it has used reasonable good faith efforts 66
20 to acquire such property before filing a petition for
21 condemnation and may thereafter use such powers when it 67
22 determines that such condemnation of property rights is 68
23 necessary to avoid unreasonable delay or economic hardship to 69
24 the progress of activities carried out in the exercise of 70
25 powers granted under this Act. After June 30, 1985, the

1 Department shall not exercise its power of condemnation for a 71
27 project which does not receive State or U.S. Government 72
28 funding. Before use of the power of condemnation, for 73
29 projects not receiving State or U.S. Government funding, the 74
30 Department shall hold a public hearing to receive comments on 75
31 the exercise of the power of condemnation. The Department 76
32 shall use the information received at hearing in making its
33 final decision on the exercise of the power of condemnation. 77
34 The hearing shall be held in a location reasonably accessible 78
35 to the public interested in the decision. The Department 79
1 shall promulgate guidelines for the conduct of the hearing. 80

(Ch. 93, par. 407) 82

2 Sec. 7. Bonds. The State of Illinois is authorized to 84
3 issue, sell and provide for the retirement of general 85
4 obligation bonds of the State of Illinois in the amount of 86
5 \$70,000,000 hereinafter called "Bonds", \$55,000,000 of which
6 shall be for the specific purposes of acquisition, 88
7 development, construction, reconstruction, improvement, 89
8 financing, architectural and technical planning and
9 installation of capital facilities consisting of buildings, 90
10 structures, durable equipment, and land for the purpose of 91
11 capital development of coal resources, and \$5,000,000 of
12 which shall be for research and development of other forms of
13 energy. The aggregate principal amount of bonds which may be
14 authorized by this Act is \$70,000,000. 94

15 Section 2. This amendatory Act of 1977 takes effect upon 96
16 its becoming a law.

H.B. 1749

1 AN ACT to add Section 6.3 to "An Act creating a Board of 11
2 Higher Education, defining its powers and duties, making an 12
3 appropriation therefor, and repealing an Act herein named", 13
4 approved August 22, 1961, as amended.

5 Be it enacted by the People of the State of Illinois, 15
6 represented in the General Assembly: 16

7 Section 1. Section 6.3 is added to "An Act creating a 16
8 Board of Higher Education, defining its powers and duties, 19
9 making an appropriation therefor, and repealing an Act herein 20
10 named", approved August 22, 1961, as amended, the added 21
11 Section to read as follows:

(Ch. 144, new par. 146.3) 23

12 Sec. 6.3. The Board shall, after affording a full 25
13 opportunity to the State universities and colleges to be 26
14 heard, design and establish a comprehensive energy plan 27
15 including, but not limited to, energy conservation, research
16 for the development of alternate sources of energy, and 26
17 management plans for the use of land, buildings, equipment 29
18 and vehicles. The Board shall submit to the General Assembly 30
19 and the Governor drafts of proposed legislation developed 31
20 from the comprehensive energy plan by March 1, 1978. It 32
21 shall be the responsibility of the Board to recommend 32
22 modifications to the plan as deemed necessary through an 33
23 annual review submitted to the Governor and General Assembly. 34

Clerk of the House

John Olsen

Originated in the House of Representatives

PUBLIC ACT 80-433

Willie A. Redmond
Speaker, House of Representatives

Thomas C. Hy
President of the Senate

APPROVED

30th August 79
James J. ...

First Regular Session 100th General Assembly

-PRINTING CODE--The parts in this style type are additions to the text of the existing section of the law. The parts in ~~this style~~ type are deletions from the text of the existing section of the law. The absence of either of the above type styles in an amendatory SECTION indicates that an entirely new section or chapter is to be added to the existing law.

SENATE ENROLLED ACT No. 420

AN ACT to amend IC 6-1.1-12 concerning certain property tax deductions.

Be it enacted by the General Assembly of the State of Indiana:

SECTION 1. IC 6-1.1-12-26 is amended to read as follows: Sec. 26. (a) The owner of real property, or a mobile home which is not assessed as real property, which is equipped with a solar energy heating or cooling system may have deducted annually from the assessed value of the real property a sum or mobile home an amount which is equal to the lesser of: (1) the remainder of (1) the assessed value of the real property or mobile home with the solar energy heating or cooling system included, minus (2) the assessed value of the real property or mobile home without the system;

~~(2) two thousand dollars (\$2,000)~~

(b) The state board of tax commissioners shall promulgate rules and regulations for determining the value of a solar heating or cooling energy system. The rules and regulations must provide the method of determining the value on the basis of:

- (1) the cost of the system;
- (2) the part of the total system that is unique to the production of solar energy;

- (3) the part of the total system that is necessary for the production of heating or cooling energy;
- (4) the amount of usable heating or cooling energy that the system produces; and
- (5) any other factor that is a just and proper indicator of value.

SECTION 2. IC 6-1.1-12-27 is amended to read as follows: Sec. 27. A ~~real property~~ ~~owner~~ person who desires to claim the deduction provided by section 26 of this chapter must file a certified statement in duplicate, on forms prescribed by the state board of tax commissioners, with the auditor of the county in which the real property or mobile home is located subject to assessment. ~~The owner~~ With respect to real property, the person must file the statement between March 1st and May 10th, inclusive, of each year for which he desires to obtain the deduction. With respect to a mobile home which is not assessed as real property, the person must file the statement between March 1 and March 31, inclusive, of each year for which he desires to obtain the deduction. On verification of the statement by the assessor of the township in which the real property or mobile home is located subject to assessment, the county auditor shall make the deduction.

SECTION 3. This act takes effect January 1, 1978 and applies to solar energy property tax deduction applications filed after December 31, 1977.

CHAPTER 16
SOLAR ENERGY UNIT

S. F. 155

AN ACT appropriating funds to the department of general services for a demonstration solar energy unit.

Be It Enacted by the General Assembly of the State of Iowa:

Section 1. There is appropriated from the general fund of the state to the department of general services the following amount, or so much thereof as may be necessary, to be used for the purpose designated:

DEPARTMENT OF
GENERAL SERVICES

For planning, preparation, and construction of a demonstration solar energy unit which will convert solar energy to steam for the use of the heating and cooling of the statehouse complex \$ 200,000

Sec. 2. All unencumbered or unobligated balances of appropriations made by this Act shall on September 30, 1981 revert to the state treasury and to the credit of the general fund.

Sec. 3. This Act, being deemed of immediate importance, shall take effect and be in force from and after its publication in the Ankeny Press-Citizen, a newspaper published in Ankeny, Iowa, and in The Cedar Valley Daily Times, a newspaper published in Vinton, Iowa.

Approved May 18, 1977

I hereby certify that the foregoing Act, Senate File 155, was published in the Ankeny Press-Citizen, Ankeny, Iowa on May 26, 1977, and in The Cedar Valley Daily Times, Vinton, Iowa on May 24, 1977.

MELVIN D. SYNHORST, *Secretary of State*

SENATE BILL No. 14

AN ACT concerning taxation of income; relating to amortization of costs of solar energy systems; amending K.S.A. 1976 Supp. 79-32,168 and 79-32,169 and repealing the existing sections.

Be it enacted by the Legislature of the State of Kansas:

Section 1. K.S.A. 1976 Supp. 79-32,168 is hereby amended to read as follows: 79-32,168. (a) *In addition to the income tax credit allowable pursuant to the provisions of K.S.A. 1976 Supp. 79-32,167, any taxpayer who completes installation of a solar energy system upon real property located within this state prior to July 1, 1983, which real property is either used in a trade or business or held for the production of income, or any taxpayer who acquires title to real property located within this state prior to July 1, 1983, which real property is used in a trade or business or held for the production of income and is equipped with a solar energy system, may elect to amortize the adjusted basis of the solar energy system based upon a period of sixty (60) months. In computing Kansas taxable income, such amortization shall be allowed as a deduction from Kansas adjusted gross income ratably over such sixty-month period beginning with the month in which such solar energy system is completed or acquired and placed into service by the taxpayer. The election of the taxpayer to claim the amortization deduction allowed by this section shall be indicated in an appropriate statement attached to the taxpayer's income tax return for the taxable year in which such solar energy system was completed or acquired and placed into service. As used in this section, "adjusted basis of the solar energy system" shall mean an amount that is properly attributable to the construction, reconstruction, remodeling, installation or acquisition of such system.*

(b) In any case where a taxpayer, hereinafter referred to as transferor, has qualified and elected to amortize the adjusted basis of a solar energy system pursuant to subsection (a) and the real property equipped with such system is acquired and used in a trade or business or held for the production of income by another taxpayer, hereinafter referred to as transferee, and the transferor has not fully amortized the adjusted basis of such system as provided in subsection (a), the transferee shall be entitled to amortize that portion of the transferor's adjusted basis of such system remaining unamortized, but the total amount to be amortized by the transferee shall not exceed said transferee's adjusted basis in the system. The transferee shall amortize such remaining amount based upon the remaining portion of the sixty-month period unused by the transferor. The amount by which the transferee's adjusted basis exceeds the amount of the transferor's adjusted basis remaining unamortized shall be amortized over the useful life of the system.

Sec. 2. K.S.A. 1976 Supp. 79-32,169 is hereby amended to read as follows: 79-32,169. As used in this act: (a) "Solar energy system;" means a system, including a wind energy system, designed primarily to provide heating, to provide cooling, to produce electrical power, to produce mechanical power, or any combination thereof, by means of collecting and transferring solar or wind generated energy into such uses and which system also may have the capability of storing such energy for future utilization either a solar system or a wind system.

(b) "Solar system" means a system of apparatus and equipment capable of collecting and converting incident solar radiation into heat, mechanical or electrical energy and transferring these forms of energy by a separate apparatus to storage or to point of use (including, but not limited to, water heating, space heating or cooling, electric energy generation or mechanical energy generation).

(c) "Wind system" means a system of apparatus and equipment capable of intercepting and converting wind energy into mechanical or electrical energy and transferring these forms of

SENATE BILL No. 14—page 2

energy by a separate apparatus to the point of use or storage.

Sec. 3. K.S.A. 1976 Supp. 79-32,168 and 79-32,169 are hereby repealed.

Sec. 4. This act shall take effect and be in force from and after its publication in the statute book.

I hereby certify that the above BILL originated in the
SENATE, and passed that body.

SENATE concurred in
HOUSE amendments _____

President of the Senate.

Secretary of the Senate.

Passed the HOUSE
as amended _____

Speaker of the House.

Chief Clerk of the House.

APPROVED _____

Governor.

HOUSE BILL No. 2096

AN ACT concerning solar easements, providing for the creation thereof and for the contents of the instrument relating thereto.

Be it enacted by the Legislature of the State of Kansas:

Section 1. Any easement obtained for the purpose of exposure of a solar energy device shall be created in writing. The instrument containing such easement shall be recorded with the register of deeds of the county within which the property affected by such easement is situated.

Sec. 2. Any instrument creating a solar easement shall include but the contents shall not be limited to:

(a) The vertical and horizontal angles, expressed in degrees, at which the solar easement extends over the real property subject to the solar easement;

(b) any terms or conditions or both under which the solar easement is granted or will be terminated.

Sec. 3. This act shall take effect and be in force from and after its publication in the statute book.

I hereby certify that the above BILL originated in the HOUSE, and passed that body.

HOUSE concurred in
SENATE amendments _____

Speaker of the House.

Chief Clerk of the House.

Passed the SENATE
as amended _____

President of the Senate.

Secretary of the Senate.

APPROVED _____

Governor.

HOUSE BILL No. 2618

AN ACT relating to taxation; providing for reimbursement of property taxes paid on certain property equipped with solar energy systems; concerning the Kansas adjusted gross income of a resident individual; amending K.S.A. 1976 Supp. 79-32,117 and repealing the existing section.

Be it enacted by the Legislature of the State of Kansas:

New Section 1. Subject to the limitations provided in this act, any owner of a building equipped with a solar energy system capable of providing seventy percent (70%) of the energy necessary to heat or cool such building on an average annual basis or a building to which is attached an addition equipped with a solar energy system capable of providing seventy percent (70%) of the energy necessary to heat or cool such building addition on an average annual basis, which owner pays the property tax levied on such building or building addition in one (1) or more of the years in which this act is applicable, shall be entitled to be reimbursed thirty-five percent (35%) of the tax paid thereon in the first year in said period that the tax is paid and thirty-five percent (35%) of the tax paid thereon in the next succeeding four (4) years upon the filing of a timely claim with the department of revenue. For the purposes of this act, the term "solar energy system" shall have the meaning ascribed thereto by K.S.A. 1976 Supp. 79-32,169 and amendments thereto. No claim in respect of property taxes levied in any year shall be paid or allowed unless such claim is actually filed with and in the possession of the department of revenue on or before October 15 of the next succeeding year. The reimbursement provided for herein shall apply only to the tax upon such building or building addition and not to the site upon which such building or building addition is located or to any other improvements made to or located upon such site. The director of taxation shall make available suitable forms with instructions for claimants to all county clerks and county treasurers in sufficient numbers to supply claimants hereunder residing in their respective counties. Every claimant under the provisions of this act shall provide the director of taxation with a statement identifying the property taxes attributable to the building or building addition, stating that said property taxes have been paid in full by the claimant and that there are no delinquent property taxes on the said property and such other information as the director shall require. Beginning in January 1978, the secretary of revenue shall certify at least quarterly to the director of accounts and reports entitlements of taxpayers under this section, and an amount equal thereto shall be transferred by such director from the state general fund to the solar energy property tax refund fund which is hereby created. Such certification shall be based on claims for property tax reimbursements filed, with any adjustments or corrections made by the director of taxation. The director of taxation shall make payments at least quarterly to taxpayers entitled hereunder, with any adjustments or corrections made by the director. The director of accounts and reports shall draw warrants on the state treasurer payable to the taxpayer entitled to payment from the solar energy property tax refund fund upon vouchers approved by the director of taxation.

The provisions of this section shall apply to the taxable years 1978 through 1985, inclusive.

New Sec. 2. The secretary of revenue shall prescribe such rules and regulations as may be deemed necessary to carry out the purposes of this act.

Sec. 3. K.S.A. 1976 Supp. 79-32,117 is hereby amended to read as follows: 79-32,117. (a) The Kansas adjusted gross income of a resident individual means such individual's federal adjusted gross income for the taxable year, with the modifications specified in this section.

(b) There shall be added to federal adjusted gross income:

(i) Interest income, to the extent that the same is not included in federal adjusted gross income, on obligations of any state or political subdivision thereof, but to the extent that interest in-

come on obligations of this state or a political subdivision thereof is specifically exempt from income tax under the laws of this state authorizing the issuance of such obligations, it shall be excluded from computation of Kansas adjusted gross income whether or not included in federal adjusted gross income.

(ii) Income taxes imposed by this state or any other taxing jurisdiction to the extent deductible in determining federal adjusted gross income and not credited against federal income tax.

(iii) The federal net operating loss deduction.

(iv) Federal income tax refunds received by the taxpayer if the deduction of the taxes being refunded resulted in a tax benefit for Kansas income tax purposes during the prior taxable year. Such refunds shall be included in income in the year actually received regardless of the method of accounting used by the taxpayer. For purposes hereof, a tax benefit shall be deemed to have resulted if the amount of the tax had been deducted in determining income subject to a Kansas income tax for a prior year regardless of the rate of taxation applied in such prior year to the Kansas taxable income, but only that portion of the refund shall be included as bears the same proportion to the total refund received as the federal taxes deducted in the year to which such refund is attributable bears to the total federal income taxes paid for such year. For purposes of the foregoing sentence, federal taxes shall be considered to have been deducted only to the extent such deduction does not reduce Kansas taxable income below zero.

(c) There shall be subtracted from federal adjusted gross income:

(i) Interest or dividend income on obligations or securities of any authority, commission or instrumentality of the United States and its possessions to the extent included in federal adjusted gross income but exempt from state income taxes under the laws of the United States.

(ii) Any amounts received which are included in federal adjusted gross income but which are specifically exempt from Kansas income taxation under the laws of the state of Kansas.

(iii) The portion of any gain or loss from the sale or other disposition of property having a higher adjusted basis for Kansas income tax purposes than for federal income tax purposes on the date such property was sold or disposed of in a transaction in which gain or loss was recognized for purposes of federal income tax that does not exceed such difference in basis, but if a gain is considered a long-term capital gain for federal income tax purposes, the modification shall be limited to that portion of such gain which is included in federal adjusted gross income.

(iv) The amount necessary to prevent the taxation under this act of any annuity or other amount of income or gain which was properly included in income or gain and was taxed under the laws of this state for a taxable year prior to the effective date of this act, as amended, to the taxpayer, or to a decedent by reason of whose death the taxpayer acquired the right to receive the income or gain, or to a trust or estate from which the taxpayer received the income or gain.

(v) The amount of any refund or credit for overpayment of income taxes imposed by this state, or any taxing jurisdiction, to the extent included in gross income for federal income tax purposes.

(vi) Accumulation distributions received by a taxpayer as a beneficiary of a trust to the extent that the same are included in federal adjusted gross income.

(vii) Amounts received as annuities under the federal civil service retirement system, from the civil service retirement and disability fund.

(viii) Amounts up to two thousand dollars (\$2,000) received by persons over sixty-five (65) years of age as retirement benefits for services in the armed forces of the United States.

(ix) Amounts received by retired railroad employees as a supplemental annuity under the provisions of 45 U. S. C. 228b (a) and 228c (a) (1) *et seq.*

(x) Amounts received by retired employees of a city and by retired employees of any board of such city as retirement allowances pursuant to K.S.A. 13-14,106 or pursuant to any charter ordinance exempting a city from the provisions of K.S.A. 13-14,106.

(xi) Amounts up to fifty percent (50%) or five hundred dollars (\$500), whichever is less, of the costs of labor and materials incurred by the taxpayer in the insulation of the taxpayer's principal dwelling in this state and dwellings in this state owned and held by the taxpayer for the production of income during the taxable year. For the purposes of this subsection, the term "insulation" shall mean the act of installing materials in the walls, floors or ceilings of dwellings, which materials are specifically designed to reduce the loss or gain of energy within such dwellings and which materials meet the minimum criteria and standards for energy conservation for new dwellings prescribed by the federal housing administration in existence on the effective date of this act and as such criteria and standards are further modified by rules and regulations of the state secretary of revenue.

(d) There shall be added to or subtracted from federal adjusted gross income the taxpayer's share, as beneficiary of an estate or trust, of the Kansas fiduciary adjustment determined under K.S.A. 79-32,135.

(e) The amount of modifications required to be made under this section by a partner which relates to items of income, gain, loss, deduction or credit of a partnership shall be determined under K.S.A. 79-32,131 to the extent that such items affect federal adjusted gross income of the partner.

New Sec. 4. The provisions of this act shall be applicable to all taxable years commencing after December 31, 1976.

Sec. 5. K.S.A. 1976 Supp. 79-32,117 is hereby repealed.

Sec. 6. This act shall take effect and be in force from and after its publication in the statute book.

I hereby certify that the above BILL originated in the HOUSE, and passed that body.

SENATE CONCURRENT RESOLUTION No. 1601

A CONCURRENT RESOLUTION requesting the secretary of administration to consider requiring solar energy heating and cooling system plans be submitted for new state construction and requesting said secretary to consider the establishment of certain solar energy demonstration projects.

WHEREAS, Depletable energy resource fuels are becoming both increasingly scarce and more costly; and

WHEREAS, Solar energy is the world's most abundant renewable energy resource; and

WHEREAS, The public welfare of this state would benefit from the consideration of solar energy cooling and heating systems being utilized for newly constructed state buildings and facilities; and

WHEREAS, The public welfare of this state would benefit from demonstration projects utilizing solar energy systems for cooling and heating: Now, therefore,

Be it resolved by the Senate of the State of Kansas, the House of Representatives concurring therein: That the secretary of administration of the state department of administration is directed to consider the installation of solar energy heating and cooling systems in all new state-owned construction projects. If the secretary shall determine that such system is less economical in terms of life cycle costs analysis than other systems he or she shall file a statement explaining such determination with the governor, the speaker of the house of representatives and the president of the senate.

Be it further resolved: That the secretary of administration explore and consider the feasibility of establishing demonstration projects utilizing solar energy heating and cooling systems in existing state-owned buildings or facilities thereof.

Be it further resolved: That the secretary of administration is directed to provide for feasible energy conservation design procedures and construction in all new state-owned construction projects unless the secretary shall determine that such procedures and construction is less economical than other procedures and construction. If the secretary shall make such determination, the secretary shall file a statement with the governor, the speaker of the house of representatives and the president of the senate explaining such determination.

I hereby certify that the above CONCURRENT RESOLUTION originated in the SENATE and was adopted by that body.

SENATE adopted
Conference Committee Report _____

President of the Senate.

Secretary of the Senate.

Adopted by the HOUSE
as amended _____

ONE HUNDRED AND EIGHTH LEGISLATURE

Legislative Document **No. 1845**

H. P. 1645
House of Representatives, June 3, 1977
Reported by Mr. Jensen from the Committee on Energy and printed under
Joint Rules No. 2.

EDWIN H. PERT, Clerk

STATE OF MAINE

**IN THE YEAR OF OUR LORD NINETEEN HUNDRED
SEVENTY-SEVEN**

**AN ACT to Encourage the Use of Solar Energy in Maine Through Tax
Exemptions.**

Be it enacted by the People of the State of Maine, as follows:

Sec. 1. 5 MRSA § 5005, sub-§ 1, ¶ H is enacted to read:

¶ H Encourage the use of solar energy equipment under the state policy of providing tax incentives to develop alternate energy resources. This paragraph shall remain in effect until January 1, 1983.

Sec. 2 36 MRSA § 656, sub-§ 1, ¶ H is enacted to read:

H. All solar energy equipment, as hereinafter defined, which is used as either a primary or auxiliary power system for the purposes of water heating or space heating shall be exempt for a period of 5 years from the date of installation of the system. Any person who wishes to claim this exemption shall file with his local tax assessor or board of assessors written application claiming the exemption in a manner prescribed by the assessor or board of assessors. An application for exemption from property taxation shall be filed within 30 days following the annual assessment date of that municipality.

As used in this paragraph:

(:) "Solar energy equipment" means all controls, tanks, pumps, heat exchangers, collectors and all other equipment necessary for the collection, transfer and storage of solar energy. Such equipment shall be used directly and exclusively for the conversion of solar energy for purposes of water heating and space heating and cooling and does not include walls, roof or equipment that would ordinarily be contained in a similar

structure not designed or modified to use solar energy for these same purposes.

This paragraph shall remain in effect until January 1, 1983.

Sec. 3. 36 MRSA § 1752, sub-§ 14-A is enacted to read:

14-A. Solar energy equipment. "Solar energy equipment" means all controls, tanks, pumps, heat exchangers, collectors and all other equipment necessary for the collection, transfer and storage of solar energy. This equipment shall be used directly and exclusively for the conversion of solar energy for purposes of water heating and space heating and cooling and does not include walls, roof or equipment that would ordinarily be contained in a similar structure not designed or modified to use solar energy for these same purposes. This subsection shall remain in effect until January 1, 1983.

Sec. 4. 36 MRSA § 1760, sub-§ 37 is enacted to read:

37. Solar energy equipment. Sales of any solar energy equipment certified as such by the Office of Energy Resources. In order to obtain certification a person shall submit to the Office of Energy Resources or its legal successor, an application for a tax rebate which shall state at a minimum the energy equipment purchased, its manufacturer, its cost, the seller from whom the purchase was made and the use which the purchaser shall make of the equipment.

The State Tax Assessor shall refund sales or use tax paid on solar energy equipment upon notice of certification by the Office of Energy Resources.

This subsection shall remain in effect until January 1, 1983.

FISCAL NOTE

It is estimated that enactment of this new draft would result in sales tax revenue losses of \$7,500 for the first year of the biennium and \$10,000 for the end year of the biennium. The revenue losses to municipalities for property tax exemptions are potential losses but not actual losses in revenues.

STATEMENT OF FACT

This new draft combines the provisions of L. D. 1043 and L. D. 1044 and reduces the tax exemptions for solar energy equipment from 10 years to 5 years. According to the new draft, solar energy equipment will be exempt from the property tax for 5 years, and all solar energy equipment purchased at retail shall be exempt from the sales tax. The property and sales tax exemptions shall remain effective until 1983.

No. 360
(PRE-FILED)

By: Delegate Delegates Sklar and Santangelo

Requested: November 1, 1976

Introduced and read first time: January 13, 1977

Assigned to: Environmental Matters
Reassigned: Judiciary

Committee Report: Favorable with amendments

House Action: Adopted

Read second time: March 15, 1977

APPROVED

BY THE

9 34

MAY 26 77

CHAPTER

AN ACT concerning

Real Property - Solar Easements

FOR the purpose of providing for the creation and conveyance of certain solar easements and the reorganization and contents of the instrument relating to solar easements designating a certain purpose for which a restriction may be created in order to prohibit or limit the use of water or land areas, or any improvement or appurtenance thereto, and specifying the form in which the restriction is to be drafted, and specifying certain requirements for the execution of the restriction.

By adding to

Article - Real Property

Section 2-201 to be under the new subtitle "Subtitle

2, Solar Easements"

Annotated Code of Maryland

(1974 Volume and 1976 Supplement)

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND THAT SECTION 2-201 TO BE UNDER THE NEW SUBTITLE "SUBTITLE 2, SOLAR EASEMENTS" BE AND IT IS HEREBY ADDED TO ARTICLE - REAL PROPERTY OF THE ANNOTATED CODE OF MARYLAND (1974 VOLUME AND 1976 SUPPLEMENT) TO READ AS FOLLOWS:

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW. [brackets] indicate matter deleted from existing law. Underlining indicates amendments to the bill. Strike-out indicates matter stricken from bill. Numerals at right identify computer lines of text.

Article - Real Property

SUBTITLE 2 - SOLAR EASEMENTS

2-201-

(A) SOLAR EASEMENTS - CREATION - ANY EASEMENT IN WRITING OBTAINED FOR THE PURPOSE OF EXPOSURE OF A SOLAR ENERGY DEVICE SHALL BE SUBJECT TO THE SAME COMPLYING AND INSTRUMENT RECORRING REQUIREMENTS AS OTHER EASEMENTS.

(B) CONTENTS - ANY INSTRUMENT CREATING A SOLAR EASEMENT SHALL INCLUDE, BUT THE CONTENTS MAY NOT BE LIMITED TO:

(1) THE VERTICAL AND HORIZONTAL ANGLES EXPRESSED IN DEGREES, AT WHICH THE SOLAR EASEMENT EXTENDS OVER THE REAL PROPERTY SUBJECT TO THE SOLAR EASEMENT;

(2) THE TERMS OR CONDITIONS UNDER WHICH THE SOLAR EASEMENT IS GRANTED OR WILL BE TERMINATED; AND

(3) ANY PROVISIONS FOR COMPENSATION OF THE OWNER OF THE PROPERTY BENEFITING FROM THE SOLAR EASEMENT IN THE EVENT OF INTERFERENCE WITH THE ENJOYMENT OF THE SOLAR EASEMENT OR COMPENSATION OF THE OWNER OF THE PROPERTY SUBJECT TO THE SOLAR EASEMENT FOR MAINTAINING THE SOLAR EASEMENT.

By repealing and reenacting, with amendments,

Article - Real Property

Section 2-118(b)

Annotated Code of Maryland
(1974 Volume and 1976 Supplement)

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, THAT SECTION 2-118(b) OF ARTICLE - REAL PROPERTY, OF THE ANNOTATED CODE OF MARYLAND (1974 VOLUME AND 1976 SUPPLEMENT) BE AND IT IS HEREBY REPEALED AND REENACTED, WITH AMENDMENTS, TO READ AS FOLLOWS:

Article - Real Property

2-118.

(b) A restriction as provided in subsection (a) may be for any of the following purposes:

(1) Construction, placement, preservation, maintenance in a particular condition, alteration, removal, or decoration of buildings, roads, signs, billboards or other advertising, utilities, or other

structures on or above the ground:

133

(2) Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or other materials:

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142

(3) Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in a manner as to affect the surface or otherwise alter the topography of the area:

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(4) Removal or destruction of trees, shrubs, or other vegetation:

150

(5) Surface use except for purposes of preserving the water or land areas, or the improvement or appurtenance thereto:

153
154

(6) Activities affecting drainage, flood control, water conservation, erosion control, soil conservation, or fish or wildlife habitat preservation:
[OF]

157
158
159

(7) PRESERVATION OF EXPOSURE OF SOLAR ENERGY DEVICES: OR

161

[(7)](8) Other acts or uses having any relation to the preservation of water or land areas or the improvement or appurtenance thereto.

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165

SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect July 1, 1977.

169
170

Approved:

Governor.

Speaker of the House of Delegates.

President of the Senate.

**FINANCIAL INSTITUTIONS—LOANS FOR
ENERGY SYSTEMS**

CHAPTER 28.

An Act authorizing savings banks, co-operative banks, credit unions and trust companies to make loans for certain energy systems.

Be it enacted, etc., as follows:

SECTION 1. Paragraph 10 of section 35 of chapter 168 of the General Laws, as most recently amended by chapter 303 of the acts of 1970, is hereby further amended by striking out the second sentence and inserting in place thereof the following sentence:

Such loan shall not exceed five thousand dollars, exclusive of interest or discount from the date of the note, with respect to any one parcel of real estate: provided, however, that such corporation may make such loan in an amount not to exceed seven thousand dollars if at least two thousand dollars of such loan is for the purposes of financing the purchasing and installation of a solar or wind-powered system or heat pump system, if such loan is for a period not to exceed ten years and is secured by a mortgage on the real estate in which the said solar or wind-powered system or heat pump system is installed, to be recorded in the appropriate registry of deeds.

SECTION 2. Subsection 6 of section 26 of chapter 170 of the General Laws, as most recently amended by chapter 311 of the acts of 1970, is hereby further amended by inserting after the first sentence the following sentence:

Such corporation may make such loan in an amount not to exceed seven thousand dollars if at least two thousand dollars of such loan is for the purposes of financing the purchase and installation of a solar or wind-powered system or heat pump system, if such loan is for a period not to exceed ten years and is secured by a mortgage on the real estate in which the said solar or wind-powered system or heat pump system is installed, to be recorded in the appropriate registry of deeds.

SECTION 3. Subdivision (D) of section 24 of chapter 171 of the General Laws, as most recently amended by section 1 of chapter 60 of the acts of 1976, is hereby further amended by inserting after the third sentence the following sentence:

Such corporation may make such loan in an amount not to exceed nine thousand five hundred dollars if at least two thousand dollars of such loan is for the purposes of financing the purchase and installation of a solar or wind-powered system or heat pump system, if such loan is for a period not to exceed ten years and is secured by a mortgage on the real estate in which the said solar or wind-powered system or heat pump system is installed, to be recorded in the appropriate registry of deeds.

SECTION 4. Section 55 of chapter 172 of the General Laws is hereby amended by adding after subsection C the following subsection:

D. Any such corporation may make a loan in an amount not to exceed seven thousand dollars, if at least two thousand of such loan is for the purpose of financing the purchase and installation of a solar or wind-powered system or heat pump system, if such loan is for a period not to exceed ten years and is secured by a mortgage on the real estate in which the said solar or wind-powered system or heat pump system is installed, to be recorded in the appropriate registry of deeds.

SECTION 5. Nothing in this act shall be construed to prohibit the making of any loan otherwise authorized by any provision of the General Laws.

Approved March 8, 1977.

Emergency declaration by the Governor was filed in the office of the Secretary of the Commonwealth at 4:06 P.M. on March 8, 1977.

1	Agriculture	50,255	50,000
2	Framework water plan - phase II. For		
3	the department role in phase II of the		
4	framework water and related land		
5	resources planning effort. The water		
6	resources council, or board if created,		
7	shall coordinate the work programs and		
8	reports of all agencies involved.		
9	Subd. 3. Department of		
10	Economic Development	21,786	20,000
11	Framework water plan - phase II. For		
12	the department role in phase II of the		
13	framework water and related land		
14	resources planning effort. The water		
15	resources council, or board if created,		
16	shall coordinate the work programs and		
17	reports of all agencies involved.		
18	Subd. 4. Energy Agency		
19	(a) Framework water plan -		
20	phase II	106,927	105,000
21	For the agency role in phase II of the		
22	framework water and related land		
23	resources planning effort. The water		
24	resources council, or board if created,		
25	shall coordinate the work programs and		
26	reports of all agencies involved. The		
27	water management information system		
28	shall be developed consistent and		
29	compatible with the Minnesota land		
30	management information system.		
31	(b) Alternative energy		
32	grants	200,000	200,000
33	This appropriation is available for		
34	grants to implement research and		
35	demonstration projects on alternative		
36	energy sources particularly appropriate		
37	to this state. At least one fourth of		
38	this amount shall be allocated for		
39	projects with high potential for		
40	commercialization. This appropriation		
41	shall be expended with the approval of		
42	the governor after consultation with the		
43	legislative advisory commission. The		
44	legislative commission on Minnesota		
45	resources shall make recommendations to		
46	the legislative advisory commission		
47	regarding such expenditures.		
48	(c) Energy grant monitoring	25,000	25,000
49	For implementation of Minnesota Statutes		
50	1976, Section 116H.128 and to insure		

1 facilities; and

2 (c) an estimate of whether or not the state's storage
 3 capacity is adequate.

4 Based upon the survey's findings, the energy agency's
 5 recommendations in the report shall include:

6 (a) measures the state can take to ensure that storage
 7 capacity is filled prior to the beginning of the heating
 8 season; and

9 (b) measures the state can take to initiate
 10 construction and/or utilization of additional storage
 11 facilities if increased storage is found to be necessary.

12 Sec. 22. The director of the energy agency in
 13 consultation with the director of the housing finance agency
 14 shall develop pamphlets and radio and television messages on
 15 the energy conservation and housing programs available in
 16 Minnesota. The pamphlets shall include information on
 17 available tax credits for residential energy conservation
 18 measures, residential retrofitting loan and grant programs,
 19 and data on the economics of energy conservation measures.
 20 Before the pamphlets or media messages are released for
 21 general distribution they shall be reviewed by the
 22 appropriate standing committees of the legislature.

23 Sec. 23. By December 31, 1977, the director of the
 24 energy agency, after consulting with the appropriate
 25 standing committees of the legislature, shall develop a
 26 comprehensive legislative proposal dealing with the legal,
 27 institutional, and financial issues surrounding solar energy
 28 use in Minnesota, including the creation and protection of
 29 sun rights, the modification of building codes, and the
 30 provision of reliable backup heating systems.

31 Sec. 24. The energy agency shall contract with the
 32 university of Minnesota, the departments of agricultural

H.F.No. 875
 CHAPTER No.
401

AN ACT

1
 2 relating to housing; providing an exception to the
 3 interest limitation for borrowing by housing and
 4 redevelopment authorities; making certain changes
 5 in the laws relating to the operation of the
 6 housing finance agency; making cooperatives
 7 eligible for housing finance agency programs;
 8 establishing certain loan and assistance programs;
 9 increasing the bonding limitations of the agency;
 10 providing for a demonstration project for energy
 11 conserving construction; appropriating money;
 12 amending Minnesota Statutes 1976, Sections
 13 462.555, 462A.03, Subdivisions 7 and 13; 462A.05,
 14 Subdivisions 3, 5, 14, 15, and by adding a
 15 subdivision; 462A.07, Subdivision 12, and by
 16 adding subdivisions; 462A.09; 462A.20, Subdivision
 17 2; 462A.21, Subdivisions 4a, 4b, and by adding
 18 subdivisions; and 462A.22, Subdivisions 1 and 9,
 19 and by adding a subdivision; and Chapter 462A, by
 20 adding a section; repealing Minnesota Statutes
 21 1976, Section 462A.26.

22
 23 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

24 Section 1. Minnesota Statutes 1976, Section 462.555,
 25 is amended to read:

26 462.555 [MANNER OF BOND ISSUANCE; SALE.] Bonds of an
 27 authority shall be authorized by its resolution and may be
 28 issued in one or more series and shall bear such date or
 29 dates, mature at such time or times, bear interest at such
 30 rate or rates, not exceeding seven percent per annum, be in

1 the grant will not be used for placing ~~such~~ the residential
2 housing in full compliance with all state, county or
3 municipal building, housing maintenance, fire, health or
4 similar codes and standards applicable to housing ~~or to~~ .
5 ~~exception-energy-conservation-related-improvements~~ . The
6 amount of any ~~such~~ grant shall not exceed the lesser of (a)
7 \$5,000, or (b) the actual cost of the work performed, or (c)
8 that portion of the cost of rehabilitation which the agency
9 determines cannot otherwise be paid by ~~such~~ the person or
10 family without spending an unreasonable portion of the
11 income of ~~such~~ the person or family thereon ; provided,
12 however, that a grant may exceed \$5,000 by an amount, up to
13 \$2,500, necessary to improve the accessibility of
14 residential housing to a handicapped occupant . In making
15 ~~such~~ grants, the agency shall determine the circumstances
16 under which and the terms and conditions under which all or
17 any portion thereof will be repaid and shall determine the
18 appropriate security should ~~such~~ repayment be required.

19 The agency may also make grants to rehabilitate or to
20 assist in rehabilitating housing under this subdivision to
21 persons of low and moderate income for the purpose of
22 qualifying as foster parents.

23 Sec. 8. Minnesota Statutes 1976, Section 462A.05, is
24 amended by adding a subdivision to read:

25 Subd. 18. It may make loans solely to "non-profit"
26 sponsors as defined by the agency, with or without interest,
27 and with such security for repayment, if any, as the agency
28 determines reasonably necessary and practicable, solely from
29 the housing development fund in accordance with the
30 provisions of section 18, to encourage innovations in the
31 development or rehabilitation of single and multifamily
32 residential housing including the demonstration of new

1 techniques for energy efficient construction,

2 It shall promulgate rules, in accordance with the
3 provisions of sections 15.0411 to 15.052, relating to the
4 administration of the loans authorized by this subdivision.

5 The rules may define types of projects eligible for loans,
6 criteria for selecting between eligible loans, terms of the
7 loans including interest rates and loan periods, and other
8 characteristics that the agency deems necessary to
9 administer the program.

10 Sec. 9. Minnesota Statutes 1976, Chapter 462A, is
11 amended by adding a section to read:

12 [462A.065] (~~FINANCIAL INFORMATION.~~) Financial
13 information, including but not limited to credit reports,
14 financial statements and net worth calculations, received or
15 prepared by the agency regarding any agency loan or grant
16 and the name of each individual who is the recipient of an
17 agency grant are private data on individuals, pursuant to
18 section 15.162, subdivision 5a.

19 Sec. 10. Minnesota Statutes 1976, Section 462A.07, is
20 amended by adding a subdivision to read:

21 Subd. 3a. It shall make available technical assistance
22 to potential applicants to encourage applications for
23 multifamily housing projects which afford residents
24 participation in the ownership or management of the project.

25 Sec. 11. Minnesota Statutes 1976, Section 462A.07, is
26 amended by adding a subdivision to read:

27 Subd. 5a. It may enter into agreements with housing
28 and redevelopment authorities or other appropriate local
29 governmental units to foster multifamily housing
30 rehabilitation and shall act to develop the agreements. It
31 may give advance reservations of mortgage financing and
32 federal rent subsidies as part of the agreements, with the

1 of innovative homes as provided in section 27

2 \$1,000,000.

3 Sec. 27. There shall be allocated the sum of \$10,000
4 of the money appropriated in section 26, subdivision 5, for
5 a feasibility study by the Minnesota housing finance agency
6 in consultation with the Minnesota energy agency for the
7 design and construction of single family homes as described
8 in this section,

9 (a) Up to \$490,000 of the funds appropriated in section
10 26, subdivision 5, may be expended for construction of
11 single family homes which shall demonstrate new and
12 innovative technologies for conserving energy including
13 passive energy systems, use of underground construction, and
14 solar energy heating and cooling systems. They may be
15 constructed as to allow continued study of the technologies
16 used.

17 (b) Section 16,821 to section 16,867 shall not apply to,
18 the construction of homes pursuant to this section.
19 Notwithstanding section 16.07 or any provision of the law to
20 the contrary, contracts may be negotiated for the design and
21 construction of the single family homes by the Minnesota
22 housing finance agency.

23 (c) Money may be expended pursuant to this section by,
24 the Minnesota housing finance agency, only after
25 consultation with and after obtaining advice from the
26 legislative commission on Minnesota resources. A proposal
27 for the homes shall be submitted to the commission by
28 September 1, 1977, and shall be acted upon by the commission
29 by July 1, 1978. Construction plans for the homes shall be
30 reviewed and approved by the Minnesota housing finance
31 agency in consultation with the Minnesota energy agency.

32 (d) All money not expended in accordance with this

AN ACT

1
2 relating to public improvements; providing for
3 prison and education facilities; regulating the
4 location of certain education facilities; barrier
5 free buildings; capitol area grounds improvements;
6 authorizing the establishment of a service center;
7 authorizing state building bonds; appropriating
8 money.

9
10 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

11 Section 1. [CORRECTIONS.] Subdivision 1.

12 [COMMISSIONER OF ADMINISTRATION; BUILDINGS.] \$20,800,000 or

13 as much thereof as necessary is appropriated from the
14 Minnesota state building fund to the commissioner of
15 administration to design, construct and equip a new high
16 security detention facility for adult felons.

17 Subd. 2. [COMMISSIONER OF ADMINISTRATION;

18 ARCHITECTURAL PLANS.] \$100,000 or as much thereof as
19 necessary is appropriated from the Minnesota state building
20 fund to the commissioner of administration to develop
21 architectural plans for reducing the capacity of the present
22 prison to less than 300 beds.

23 Subd. 3. [COMMISSIONER OF ADMINISTRATION; HEATING.]

24 \$50,000 or as much thereof as necessary is appropriated from

1 the general fund to the commissioner of administration to
2 study and make recommendations concerning the use at the
3 facility of solar heating, heat from lighting, body heat, or
4 heat derived from other sources not presently in widespread
5 use. The commissioner shall use state employees to make the
6 study and develop the recommendations, insofar as
7 practicable.

8 Subd. 4. [FACILITY SITE.] The facility shall be
9 located at site 1E described in the February 1, 1977 "Master
10 plan for a high security facility" reported by the
11 corrections department to the legislature.

12 Sec. 2. [UNIVERSITY OF MINNESOTA.] \$12,965,232 or as
13 much thereof as necessary is appropriated from the Minnesota
14 state building fund to the regents of the university of
15 Minnesota to construct and equip a pharmacy and nursing
16 facility at the twin city campus. Construction and purchase
17 of equipment shall not begin until \$8,265,368 is available
18 for the project from federal funds.

19 Sec. 3. [LAW SCHOOL.] \$500,000 of the sum appropriated
20 by Laws 1975, Chapter 436, Section 1, Subdivision 1, shall
21 be supplied by \$500,000 of the proceeds of bonds issued
22 pursuant to this act. That oart of the bond issue is for
23 the purpose of construction of a law school building as set
24 forth in Laws 1975, Chapter 436, Section 1, Subdivision 1.

25 Sec. 4. [MANKATO STATE UNIVERSITY CAMPUS.]
26 Notwithstanding Laws 1976, Chaoter 348, Section 4,
27 Subdivision 5, Clause (c)(1), the commissioner of
28 administration is directed to proceed with the consolidation
29 of the Highland and Valley camouses at Mankato state
30 university. The commissioner shall take all necessary steps
31 to implement the consolidation except that any measures
32 requiring additional state funds beyond the amounts

CHAPTER NO. 574

AN ACT RELATING TO THE TAXATION OF INCOME; PROVIDING INCENTIVES FOR THE INSTALLATION OR ACQUISITION OF SOLAR OR OTHER RECOGNIZED NONFOSSIL FORMS OF ENERGY GENERATION BY TAXPAYERS BY PROVIDING INCOME TAX CREDIT FOR THE COSTS OF THE SYSTEMS; AMENDING SECTION 84-4906, R.C.M. 1947.

Be it enacted by the Legislature of the State of Montana:

Section 1. There is a new R.C.M. section numbered 84-7414 that reads as follows:

84-7414. Energy system tax incentive for individuals. (1) A resident individual taxpayer who completes installation of an energy system using a recognized nonfossil form of energy generation, as defined in 84-7402, in such taxpayer's principal dwelling prior to December 31, 1982, or who acquires title to a dwelling prior to December 31, 1982, which dwelling is to be used as the taxpayer's principal dwelling and is equipped with an energy system for which the credit allowed by this section has never been claimed, is entitled to claim a tax credit in an amount equal to 10% of the first \$1,000 and 5% of the next \$3,000 of the cost of such system, including installation costs, less grants received or, if the federal government provides for a tax credit substantially similar in kind (not in amount), then a tax credit in an amount equal to 5% of the first \$1,000 and 2 ½% of the next \$3,000 of the cost of such system, including installation costs, less grants received against the income tax liability imposed against such taxpayer pursuant to Title 84, chapter 49, R.C.M. 1947.

(2) The tax credit is to be deducted from the taxpayer's income tax liability for the taxable year in which the energy system was acquired by the taxpayer. If the amount of the tax credit exceeds the taxpayer's income tax liability for the taxable year, the amount which exceeds the tax liability may be carried over for deduction from the taxpayer's income tax liability in the next succeeding taxable year or years until the total amount of the tax credit has been deducted from tax liability. Notwithstanding the foregoing provision, no tax credit may be carried over for deduction after the fourth taxable year succeeding the taxable year in which the energy system was acquired.

Section 2. Section 84-4906, R.C.M. 1947, is amended to read as follows:

"84-4906. Deductions allowed in computing net income. In computing net income, there *are* allowed as deductions:

(a) *the* items referred to in sections 161 and 211 of the Internal Revenue Code of 1954, or as sections 161 and 211 shall be labeled or amended, subject to the *following* exceptions *which are* not deductible:

(i) *items provided for in 84-4909;*

(ii) *state income tax paid;*

(b) *federal income tax paid within the taxable year."*

Section 3. There is a new R.C.M. section numbered 84-7415 that reads as follows:

84-7415. Department of revenue duties. The department of revenue shall prescribe rules necessary to carry out the purposes of this act.

Section 4. There is a new section that reads as follows:

Time of application. The provisions of this act apply to all taxable years commencing after December 31, 1976.

Approved May 13, 1977.

LB549

LEGISLATIVE BILL 549

Approved by the Governor May 31, 1977, with items reduced or disapproved by line-item veto, some of which were overridden.

Introduced by Appropriations Committee, Warner, 25, Chan.; Bereuter, 24; Cope, 36; Fowler, 27; Goodrich, 20; Hasebroock, 18; S. Marsb, 29; Rumery, 42; Savage, 10

AN ACT to make appropriations for capital construction projects; and to declare an emergency.
Be it enacted by the people of the State of Nebraska,

Section 1. It is the intent of the Legislature that the appropriation for capital facilities follow an orderly and reasonable process based upon defined and documented need along with an analysis of the utilization of existing facilities.

The 1977-78 appropriations contained in this act which have been designated for planning require from the agency a complete program statement which establishes program objectives, facility requirements, long-range impact of the program statement, including annual operational costs, and analysis of existing facilities in terms of current utilization, anticipated reutilization, and necessary renovation as a result of the program statement. Projects indirectly related to program continuation such as fire safety, maintenance, utility improvements, handicap access, and master planning require a statement of needs that establishes hazard corrections, building preservation, or increased efficiency as the result of such projects. An appropriation for drawings and construction may be recommended only after submission of an acceptable program or needs statement on or before September 15 to the state building division of the Department of Administrative Services and the Legislative Fiscal Analyst.

Program statements that have been submitted prior to fiscal year 1977-78 shall be updated if necessary and resubmitted during the period of July 1, 1977, to September 1, 1977, by agency priority. Such priority is subject to final modification by the governing authority of each agency on or before September 15, 1977.

Each program statement submitted shall be reviewed by the state building division of the Department of Administrative Services in accordance with section 81-1108.41, Revised Statutes Supplement, 1976, and a copy

of its report shall be submitted to the Governor and the Executive Board of the Legislative Council. Such report shall make objective recommendations, subject to availability of funds and the priorities of the Governor and Legislature, to approve, modify, defer, or reject the proposed new construction or major renovation projects. The reports will be compiled within ninety calendar days of the submission or resubmission of the program statement.

Sec. 2. Program 900. The State Department of Education is hereby authorized to provide air conditioning for the dining room at the Nebraska School for the Deaf. There is hereby appropriated \$6,845 from the State Building Fund for the fiscal year ending June 30, 1978, to provide air conditioning.

Sec. 3. Program 901. The State Department of Education is hereby authorized to pay a street district paving assessment in Nebraska City. There is hereby appropriated \$8,975 from the State Building Fund for the fiscal year ending June 30, 1978, to pay the assessment.

Sec. 4. Program 904. The State Department of Education is hereby authorized to install a boiler oil heater at the Nebraska School for the Deaf. There is hereby appropriated \$3,100 from the State Building Fund for the fiscal year ending June 30, 1978, to install a boiler oil heater.

Sec. 5. Program 952. The Department of Public Institutions is hereby authorized to improve fire safety at all institutions. There is hereby appropriated \$115,260 from the State Building Fund for the fiscal year ending June 30, 1978, to improve fire safety.

Sec. 6. Program 952. The Department of Public Institutions is hereby authorized to make fire safety improvements and to initiate renovation projects to comply with the regulations promulgated pursuant to Title XIX of the Social Security Act in structures at the Beatrice State Developmental Center. There is hereby appropriated \$65,000 from the State Building Fund for the fiscal year ending June 30, 1978, to make the improvements.

It is the intent of the Legislature that such improvements will not be made to structures that will be vacated, surplused, or razed pursuant to the updated master plan required by section 7 of this act.

Sec. 7. Program 990. The Department of Public Institutions is hereby directed to submit an updated

master plan based on its role and missions for mental health, mental retardation, blind rehabilitation, and alcohol treatment programs that clearly defines the future use of each structure on the various campuses throughout the state. Such master plan and specific program statements shall be the basis of fiscal year 1978-79 and future year requests for facilitation of the various programs and for meeting any federal, state, or local facility standards.

It is the intent of the Legislature that such master plan and specific program statements will be reviewed and reported in compliance with section 1 of this act.

It is expected that the Department of Public Institutions shall use its staff and the planning experts made available to it by other executive agencies to develop the master plan.

There is hereby appropriated \$50,000 from the State Building Fund for the fiscal year ending June 30, 1978, for renovation projects in structures at the Beatrice State Developmental Center to comply with regulations promulgated pursuant to Title XIX of the Social Security Act.

No expenditures shall be made from such appropriation until after the master plan has been submitted to and approved by the Governor and reviewed by the Executive Board of the Legislative Council.

Sec. 8. Program 913. The Department of Public Institutions is hereby authorized to air condition the gym in the Security Building, Lincoln Regional Center. There is hereby appropriated \$22,000 from the State Building Fund for the fiscal year ending June 30, 1978, to provide air conditioning.

Sec. 9. Program 908. The Department of Public Institutions is hereby authorized to improve the domestic water system at the Norfolk Regional Center. There is hereby appropriated \$25,000 from the State Building Fund for the fiscal year ending June 30, 1978, for domestic water system improvements.

Sec. 10. Program 910. The Department of Public Institutions is hereby authorized to expand the cemetery at the Nebraska Veterans' Home. There is hereby appropriated \$27,500 from the State Building Fund for the fiscal year ending June 30, 1978, to expand the cemetery.

Sec. 11. Program 912. In compliance with the agency request, the Department of Public Institutions is hereby directed to close buildings number 15 and 24 at the Norfolk Regional Center and cut off the utility systems that serve them when such cut-offs are consistent with good protective storage practices.

Sec. 12. Program 901. The Department of Roads is hereby authorized to replace the maintenance shop at Greeley, construct statewide weigh stations, salt storage buildings, fuel and oil records buildings, and communication facilities and make miscellaneous facility improvements. There is hereby appropriated \$149,000 from the Highway Cash Fund for the fiscal year ending June 30, 1978, to accomplish the projects.

Sec. 13. Program 951. The Game and Parks Commission is hereby authorized to continue aid to political subdivisions. There is hereby appropriated \$750,000 from the State Building Fund and \$2,250,000 from federal funds for the fiscal year ending June 30, 1978, for aid.

Sec. 14. Program 967. The Game and Parks Commission is hereby authorized to construct an indoor-outdoor swimming pool at Fort Robinson. There is hereby appropriated \$120,000 from the State Building Fund for the fiscal year ending June 30, 1978, to plan and initiate construction of the indoor-outdoor swimming pool. There is hereby appropriated \$245,000 from the State Building Fund for the fiscal year ending June 30, 1979, to complete the indoor-outdoor pool.

The cost of solar domestic hot water heat and alternative fuel use shall be requested after findings and recommendations are available based on the University of Nebraska-Lincoln pilot project for solar domestic hot water systems. Plans shall be developed to accommodate future installations of these systems.

Sec. 15. Program 967. The Game and Parks Commission is hereby authorized to construct a shower and latrine building at Fort Robinson. There is hereby appropriated \$22,000 from the State Building Fund for the fiscal year ending June 30, 1978, to complete the project.

Sec. 16. Program 967. The Game and Parks Commission is hereby authorized to construct campground spurs at Chadron State Park. There is hereby appropriated \$31,000 from the State Building Fund for the fiscal year ending June 30, 1978, to complete the project.

Sec. 17. Program 967. The Game and Parks Commission is hereby authorized to construct a water plant at Indian Cave State Park. There is hereby appropriated \$50,000 from the State Building Fund for the fiscal year ending June 30, 1978, and \$385,000 from the State Building Fund for the fiscal year ending June 30, 1979, for a water plant.

Sec. 18. Program 968. The Game and Parks Commission is hereby authorized to make repairs on the Buffalo Bill Mansion at North Platte. There is hereby appropriated \$25,000 from the State Building Fund for the fiscal year ending June 30, 1978, for repairs.

Sec. 19. Program 968. The Game and Parks Commission is hereby authorized to make repairs at Fort Hartsuff. There is hereby appropriated \$10,000 from the State Building Fund for the fiscal year ending June 30, 1978, for repairs.

Sec. 20. Program 969. The Game and Parks Commission is hereby authorized to install basic facilities, including an emergency telephone, at Lake McConaughy State Recreation Area. There is hereby appropriated \$49,000 from the State Building Fund for the fiscal year ending June 30, 1978, to make the improvements.

Sec. 21. Program 969. The Game and Parks Commission is hereby authorized to construct campground spurs and install an emergency telephone at Pawnee State Recreation Area. There is hereby appropriated \$41,600 from the State Building Fund for the fiscal year ending June 30, 1978, to make the improvements.

Sec. 22. Program 969. The Game and Parks Commission is hereby authorized to construct basic facilities at Branched Oak State Recreation Area. There is hereby appropriated \$46,800 from the State Building Fund for the fiscal year ending June 30, 1978, to construct the facilities.

Sec. 23. Program 969. The Game and Parks Commission is hereby authorized to construct an aquarium visitor center at Schramm State Recreation Area in compliance with the program statement for Schramm State Recreation Area. There is hereby appropriated \$350,000 from the Revenue Sharing Trust Fund and any available private or federal funds for the fiscal year ending June 30, 1978, for such construction.

Sec. 24. Program 969. The Game and Parks Commission is hereby authorized to develop and improve

recreation facilities at the Southwest Reservoirs State Recreation Areas. There is hereby appropriated \$115,000 from the State Building Fund and \$100,000 from Federal funds for the fiscal year ending June 30, 1978, which sum includes the cost of materials needed to support the Youth Conservation Corps programs at the Southwest Reservoirs State Recreation Areas.

Sec. 25. Program 969. The Game and Parks Commission is hereby authorized to dredge Victory Lake at the Fremont State Recreation Area. There is hereby appropriated \$100,000 from the State Building Fund for the fiscal year ending June 30, 1978, for preparation of specifications, bid documents, and initial project work. There is hereby appropriated \$208,000 from the State Building Fund for the fiscal year ending June 30, 1979, to complete the project.

It is the intent of the Legislature that, after contracts are signed and early in the 1978 Legislative Session, the Game and Parks Commission will request a reduction in the fiscal year 1978-79 appropriation equal to the total appropriation less the actual cost of dredging and contingencies required.

It is further intended that the Game and Parks Commission, based on this experience, shall evaluate the feasibility of lake dredging and shall develop and submit a report of this practice to the Governor and the Legislature.

Sec. 26. Program 971. The Game and Parks Commission is authorized to make improvements on the Piessey Special Use Area. There is hereby appropriated \$35,000 Cash Funds for the fiscal year ending June 30, 1978, for such improvements. Such funds shall be paid from revenue generated by the Piessey Special Use Area in compliance with the acquisition agreements.

Sec. 27. Of the amounts appropriated to the Game and Parks Commission for the fiscal year ending June 30, 1978, from state funds, \$326,400 is eligible for federal reimbursement. Upon reimbursement such funds shall be credited to the State funds from which the original project funds were appropriated.

Sec. 28. Program 972. The Game and Parks Commission is hereby authorized to construct a fish display aquarium structure at the Nebraska State Fairgrounds using commission resources and work forces made available by others. There is hereby appropriated \$33,000 from Cash Funds and any donations for the fiscal year ending June 30, 1978, to complete the display.

Sec. 29. Program 972. The Game and Parks Commission is hereby authorized to make improvements and provide storage and fencing in Lincoln, North Platte, Norfolk, and Basset. There is hereby appropriated \$34,500 from Cash Funds for the fiscal year ending June 30, 1978, for improvements.

Sec. 30. Program 974. The Game and Parks Commission is hereby authorized to acquire and improve real property for wildlife land statewide. There is hereby appropriated \$776,000 from Cash Funds for the fiscal year ending June 30, 1978, to acquire land.

Sec. 31. Program 971. The Game and Parks Commission is hereby authorized to maintain and improve special use areas and Interstate 80 tracts statewide. There is hereby appropriated \$108,000 from Cash Funds for the fiscal year ending June 30, 1978, for maintenance and improvements.

Sec. 32. Program 973. The Game and Parks Commission is hereby authorized to make hatchery improvements at Rock Creek, Grove Lake, Valentine, and North Platte. There is hereby appropriated \$276,500 from Cash Funds for the fiscal year ending June 30, 1978, for improvements and land acquisition.

Sec. 33. Program 906. The Department of Correctional Services is hereby authorized to make life safety improvements statewide. There is hereby appropriated \$54,000 from the State Building Fund for the fiscal year ending June 30, 1978, to make the improvements.

Sec. 34. Program 925. The Department of Correctional Services is hereby directed to plan and initiate the construction of an addition to the trusty dormitory on the land adjacent to the present penitentiary site and provide plans for the renovation of the existing trusty dormitory. There is hereby appropriated \$500,000 from the Nebraska Capital Construction Fund for fiscal year ending June 30, 1978, to plan and initiate construction of the addition to the present trusty dormitory and plan for the renovation of the existing facility. There is hereby appropriated \$1,193,519 from the State Building Fund for the fiscal year ending June 30, 1979, to complete construction of the addition. It is the intent of the Legislature that the addition to the structure shall provide for no more than 126 inmate stations and that the renovation shall provide for no more than 90 inmate stations. It is further intended that fully integrated programmatic space needed for activities in the remodeled dormitory shall be

provided for in the project.

NOTE: THE APPROPRIATIONS WERE DISAPPROVED.

Sec. 35. Program 908. Medium-Minimum, Lincoln. The Department of Correctional Services is hereby authorized to modify the chiller system and provide accommodations for solar domestic hot water. The actual cost of the chiller modification shall be requested for the fiscal year ending June 30, 1979. The cost of the solar domestic hot water system shall be requested after findings and recommendations are available based on the University of Nebraska-Lincoln pilot project for solar domestic hot water systems.

Sec. 36. Program 909. Medium-Minimum, Omaha. The Department of Correctional Services is hereby authorized to accommodate soil conditions and productivity modifications at the Omaha area facility. There is hereby appropriated \$391,790 from the State Building Fund and \$112,210 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1979. Such funds are in addition to those reaffirmed in Legislative Bill 546, Eighty-fifth Legislature, First Session, 1977.

The cost of solar domestic hot water heat and alternative fuel use shall be requested after findings and recommendations are available based on the University of Nebraska-Lincoln pilot project for solar domestic hot water systems.

Sec. 37. Program 910. The Department of Correctional Services is hereby directed to develop program and needs statements for a new sixteen-bed cottage at York with options for additional capacity, and emergency power generation systems for statewide facilities. The architectural and engineering expertise of the Department of Public Institutions shall work in conjunction with the Department of Correctional Services to develop the program statements and schematics as required by section 81-1108.41, Revised Statutes Supplement, 1976, and in compliance with section 1 of this act.

Sec. 38. Program 911. The Department of Correctional Services is hereby authorized to construct an indoor swimming pool at Geneva with a total cost not to exceed \$200,700. There is hereby appropriated \$100,000 from the State Building Fund for the fiscal year ending June 30, 1978, and \$100,700 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1979, to complete the swimming pool. The Department

of Correctional Services is authorized to establish a joint-use program with the community of Geneva and the surrounding area for swimming activities. Such program shall be supported by the nonstate users through an equitable system of fees to cover any additional expenses caused by the joint-use program.

The cost of solar domestic hot water heat and alternative fuel use shall be requested after findings and recommendations are available based on the University of Nebraska-Lincoln pilot project for solar domestic hot water systems. Plans shall be developed to accommodate future installations of these systems.

Sec. 39. Program 921. The Department of Correctional Services is hereby authorized to provide air conditioning at Kearney. There is hereby appropriated \$86,600 from the State Building Fund for the fiscal year ending June 30, 1978, for air conditioning.

Sec. 40. Program 915. The Department of Correctional Services is hereby directed to develop a program statement for a work release facility in the Omaha area. Such statement shall consider locations that are remote from the Omaha Medium-Minimum Complex but that are suitable for successful work release programs. There is hereby appropriated \$10,000 from the State Building Fund for the fiscal year ending June 30, 1978, to develop the program statement.

Sec. 41. Program 902. The Board of Trustees of the Nebraska State Colleges is hereby authorized to make fire safety improvements and miscellaneous renovations statewide. There is hereby appropriated \$200,000 from the State Building Fund for the fiscal year ending June 30, 1978, to make the improvements and renovations.

Sec. 42. Program 905. Kearney State College is hereby authorized to construct an addition to the Fine Arts Building with a total project cost not to exceed \$711,790. There is hereby appropriated \$250,000 from the Revenue Sharing Trust Fund for the fiscal year ending June 30, 1978, to plan and initiate construction of the addition. There is hereby appropriated \$481,790 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1979, to complete the project.

Sec. 43. Program 906. Peru State College is hereby authorized to construct a new health and physical education facility contiguous to Majors Hall with a total project cost not to exceed \$2,300,000. There is hereby appropriated \$600,000 from the Nebraska Capital Construction Fund for the fiscal year ending June 30,

1978, to plan and initiate the construction. There is hereby appropriated \$1,000,000 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1979, to continue the construction project. There is hereby appropriated \$700,000 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1980, to complete the construction project.

Of the total project cost, an amount not to exceed \$35,000 is provided for site and substructure preparation. It is the intent of the Legislature that any funds not necessary for site and substructure preparation shall be deducted from the total project cost. Included in the total project cost is an amount of \$300,000 for a health center and related equipment.

It is further intended that the Board of Trustees of the Nebraska State Colleges and Peru State College attempt to purchase Majors Hall with nonstate funds for use as an auxiliary facility to supplement space and use provided in the new health and physical education facility and that Peru State College shall use the new health center for the continuation of the Well Child Clinic and other existing programs providing for the needs of Southeast Nebraska.

The cost of solar domestic hot water heat and alternative fuel use shall be requested after findings and recommendations are available based on the University of Nebraska-Lincoln pilot project for solar domestic hot water systems. Plans shall be developed to accommodate future installations of these systems.

Sec. 44. Program 772. The University of Nebraska at Omaha is hereby authorized to construct a health, physical education, and recreation facility with a total state fund cost of not to exceed \$6,690,000, which amount includes \$226,000 of planning funds previously appropriated.

NOTE:--THE PROJECT TOTAL WAS DISAPPROVED.

The cost of solar domestic hot water heat and alternative fuel use shall be requested after findings and recommendations are available based on the University of Nebraska-Lincoln pilot project for solar domestic hot water systems. Plans shall be developed to accommodate future installations of these systems.

There is hereby appropriated \$1,200,000 from the Revenue Sharing Trust Fund for the fiscal year ending June 30, 1978, to initiate construction of the health, physical education, and recreation facility.

NOTE:--THE APPROPRIATION WAS DISAPPROVED.

There is hereby appropriated to the University of Nebraska at Omaha \$2,500,000 from the Revenue Sharing Trust Fund and \$300,000 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1979, to continue the project.

There is hereby appropriated \$2,464,000 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1980, to complete the project.

NOTE:--THE APPROPRIATION WAS REDUCED TO \$674,000.

Sec. 45. Program 914. The Board of Regents of the University of Nebraska is hereby authorized to make fire safety improvements at all facilities. There is hereby appropriated \$980,000 from the State Building Fund for the fiscal year ending June 30, 1978, to make the improvements. Of the above appropriation an amount of \$25,000 is to be expended for access and safety improvements in the area of 36th and Holdrege Street adjacent to the East Campus of the University of Nebraska at Lincoln.

Sec. 46. Program 913. The Board of Regents of the University of Nebraska is hereby authorized to make utility improvements at the University of Nebraska Medical Center and the University of Nebraska-Lincoln excluding planning for a new chiller on the East Lincoln campus and additional oil storage tanks. There is hereby appropriated \$723,275 from the State Building Fund, \$272,725 from the Nebraska Capital Construction Fund, and \$400,000 from the Revenue Sharing Trust Fund for the fiscal year ending June 30, 1978, for utility improvements. There is hereby appropriated \$575,000 from the State Building Fund for the fiscal year ending June 30, 1979, for the installation of a chiller at the Medical Center; Provided, that \$160,000 of the 1977-78 fiscal year amount is allocated for development of an alternative energy source to provide domestic hot water in a facility that has a history of constant heavy use of hot water. Subsequent to the demonstration project a report shall be submitted to the Governor and the Legislature that assesses the feasibility of using technologies developed for the production of hot water of supplemental building heat in other state-owned structures. This project is deemed a high priority by the Legislature and should be expedited by direct monitoring by the Board of Regents of the University of Nebraska or its designate. Procurement of materials or labor for this project may be negotiated if this procedure is in the best interest of early completion.

NOTE: THE APPROPRIATION FROM THE STATE BUILDING FUND FOR THE FISCAL YEAR ENDING JUNE 30, 1978, WAS DISAPPROVED.

It is the intent of the Legislature that the physical plant administration at the University of Nebraska-Lincoln and researchers in alternative energy sources cause installation of the demonstration project, measure its impact, and publish preliminary findings prior to January 1, 1978.

It is intended that chiller installation at the East Campus of the University of Nebraska-Lincoln be denied; that chiller needs at the University of Nebraska Medical Center be reduced; and that a policy of priority load leveling be adopted by the Board of Regents of the University of Nebraska for all facilities under its control.

Sec. 47. Program 904. The University of Nebraska-Lincoln is hereby authorized to construct an Agricultural Engineering Building - tractor test facility. There is hereby appropriated \$660,000 from the Revenue Sharing Trust Fund for the fiscal year ending June 30, 1978 and \$340,000 from the Revenue Sharing Trust Fund for the fiscal year ending June 30, 1979, to complete the project.

It is the intent of the Legislature that such structure be built to allow expansion during future years. It is further intended that the program statement for the total Agricultural Engineering project be updated and resubmitted in its appropriate priority in compliance with section 1 of this act.

Sec. 48. Program 922. The Board of Regents of the University of Nebraska is hereby authorized to make statewide miscellaneous renovations. There is hereby appropriated \$250,000 from the State Building Fund for the fiscal year ending June 30, 1978, to make the improvements.

NOTE: THE APPROPRIATION WAS REPEALED TO \$150,000.

Sec. 49. Program 974. The Board of Regents of the University of Nebraska is hereby authorized to make renovations on the Coliseum Building at Lincoln. There is hereby appropriated \$150,000 from the Revenue Sharing Trust Fund for the fiscal year ending June 30, 1978, for renovations only.

Sec. 50. Program 923. The University of Nebraska-Lincoln is hereby authorized to develop by competition a program statement and preliminary plans for

an architectural complex that incorporates Architectural Hall and other buildings. There is hereby appropriated \$25,000 from the State Building Fund and any private donations for the fiscal year ending June 30, 1978, to develop the program statement.

NOTE: THE LINE-ITEM VETO WAS OVERRIDDEN.

Sec. 51. Program 925. The University of Nebraska at Lincoln is hereby authorized to develop a program statement for a Theatre Arts facility. There is hereby appropriated \$15,000 from the State Building Fund for the fiscal year ending June 30, 1978, to develop the program statement.

NOTE: THE LINE-ITEM VETO WAS OVERRIDDEN.

Sec. 52. Program 901. The Nebraska State Historical Society is hereby authorized to develop plans for a heritage center. There is hereby appropriated \$160,000 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1978, for the planning.

NOTE: THE LINE-ITEM VETO WAS OVERRIDDEN.

It is the intent of the Legislature that plans be completed to a point that the project can be eligible for the Local Public Works Capital Development Program of the United States Economic Development Administration or other available federal funds.

Sec. 53. Program 909. The Nebraska State Historical Society is hereby authorized to restore the Ferguson Mansion at Lincoln. There is hereby appropriated \$65,320 from the State Building Fund and \$40,320 from federal funds for the fiscal year ending June 30, 1978, for restoration.

Sec. 54. Program 906. The Nebraska State Historical Society is hereby authorized to improve security at the Weirhard Center near Hancock. There is hereby appropriated \$7,300 from the State Building Fund and all available federal funds for the fiscal year ending June 30, 1978, for improvements.

Sec. 55. Program 910. The Nebraska State Historical Society is hereby authorized to provide a Museum of the Missouri River at Brownville. There is hereby appropriated \$47,500 from the State Building Fund and all available federal and private funds for the fiscal year ending June 30, 1978, for a museum.

Sec. 56. Program 907. The State building division of the Department of Administrative Services is hereby authorized to make barrier free improvements for the handicapped in the Capitol Building. There is hereby appropriated \$120,000 from the State Building Fund for the fiscal year ending June 30, 1978, to make the improvements.

Sec. 57. Program 950. The Department of Administrative Services is hereby authorized to develop a Capitol environs landscaping plan. There is hereby appropriated \$5,000 from the Revenue Sharing Trust Fund, which sum is in addition to \$10,000 reappropriated in Legislative Bill 546, Eighty-fifth Legislature, First Session, 1977, for Capitol landscape planning for the fiscal year ending June 30, 1978, to complete the Capitol environs landscape plan. Such plan shall be submitted to the Executive Board of the Legislative Council and the Governor on or before February 1, 1978.

Sec. 58. In compliance with Legislative Bill 510, Eighty-third Legislature, First Session, 1977, there is hereby appropriated \$1,692,876 from the Nebraska Capital Construction Fund for the fiscal year ending June 30, 1978, to the University of Nebraska at Lincoln Field House Fund. Such amount is hereby appropriated from the University of Nebraska at Lincoln Field House Fund for the fiscal year ending June 30, 1978, to pay the cost of financing the field house in Lincoln.

Sec. 59. Any federal funds, not otherwise appropriated, any additional federal funds made available to the credit of the State Treasurer, and any unexpended balances in federal funds on the effective date of this act are hereby reappropriated and appropriated to the agency and project for which the funds were allocated by the federal government.

Sec. 60. The State Treasurer is hereby directed to transfer from the General Fund to the State Building Fund, at times and in the amounts specified by certification from the State Budget Officer, funds sufficient to make payment for appropriations for capital construction projects. All state funds appropriated from the General Fund for Capital Construction shall be paid out of the State Building Fund.

Sec. 61. Any appropriation for Capital Construction from the General Fund or the State Building Fund shall be considered as express obligations by the State Board of Equalization and Assessment when setting the tax rate pursuant to section 77-2715.01, Revised Statutes Supplement, 1976.

Sec. 62. The Executive Branch of Nebraska State Government shall make every effort to secure the full available state allocation under the Public Works Employment Act of 1977. Notwithstanding the construction projects and specific appropriations in the foregoing sections, any funds available under the state allocation of the federal Public Works Employment Act of 1977 up to a total amount of \$2.4 million may be utilized to: (a) Accelerate the construction activities by the Department of Correctional Services for the Medium-Minimum Security Facilities at Lincoln and Omaha, and the Diagnostic and Evaluation Center at Lincoln; and (b) accelerate the construction activities by the Nebraska Game and Parks Commission contemplated in the short-range and long-range development plans. All receipts accruing to the State of Nebraska under the public Works Employment Act of 1977 are hereby appropriated for the period ending June 30, 1978. The authorization provided in this section shall not be construed as approval of any expansion of currently approved projects of the Department of Correctional Services.

Sec. 63. Since an emergency exists, this act shall be in full force and take effect, from and after its passage and approval, according to law.

Assembly Bill No. 277—Assemblymen Wagner, Mann, Barengo, Hayes, Dreyer, Schofield, Horn, Weise, Gomes, Jacobsen, Murphy, Craddock and Harmon

CHAPTER 345

AN ACT relating to property taxes; providing an allowance against taxes on residential buildings equipped with certain heating or cooling systems; providing a penalty; making an appropriation; and providing other matters properly relating thereto.

The People of the State of Nevada, represented in Senate and Assembly, do enact as follows:

SECTION 1. Chapter 361 of NRS is hereby amended by adding thereto a new section which shall read as follows:

1. *As used in this section, "qualified system" means any system, method, construction, installation, machinery, equipment, device or appliance which is, designed, constructed or installed in a residential building to heat or cool the building by using:*

- (a) *Solar or wind energy;*
- (b) *Geothermal resources;*
- (c) *Energy derived from conversion of solid wastes; or*
- (d) *Water power,*

which conforms to standards established by regulation of the department.

2. *The owner of a residential building which is heated or cooled with a qualified system is entitled to an allowance against the property tax accrued:*

(a) *During the current assessment year if the building is placed upon the secured tax roll; or*

(b) *In the next following assessment year if the building is placed upon the unsecured tax roll,*

in an amount equal to the difference between the tax on such property at its assessed value with the system and the tax on such property at its assessed value without the system.

3. *In no event may the allowance:*

(a) *Exceed the amount of the accrued property tax paid by the claimant on the building or \$2,000, whichever is less; or*

(b) *Be granted in any assessment year in which the qualified system is not actually used to heat or cool the building.*

4. *Only one owner of the building may file a claim for an assessment year. A claim may be filed with the county assessor of the county in which the building is located. The claim shall be made under oath or affirmation and filed in such form and content, and accompanied by such proof, as the department may prescribe. The county assessor shall furnish the appropriate form to each claimant.*

5. *The claim shall be filed between January 15 and March 15, inclusive:*

(a) *Of each assessment year for which an allowance is claimed against the tax on property placed upon the secured tax roll.*

(b) *Next preceding each assessment year for which an allowance is claimed against the tax on property placed upon the unsecured tax roll.*

6. *By not later than May 1 of the assessment year, the county*

ASSEMBLY JOINT RESOLUTION—Proposing an amendment to section 1 of article 10 of the constitution of the State of Nevada, relating to taxation, by permitting a property tax exemption for the conservation of energy by using nonfossil resources.

Resolved by the Assembly and Senate of the State of Nevada, jointly,
That section 1 of article 10 of the constitution of the State of Nevada be amended to read as follows:

Section 1. The legislature shall provide by law for a uniform and equal rate of assessment and taxation, and shall prescribe such regulations as shall secure a just valuation for taxation of all property, real, personal and possessory, except mines and mining claims, when not patented, the proceeds alone of which shall be assessed and taxed, and when patented, each patented mine shall be assessed at not less than five hundred dollars (\$500), except when one hundred dollars (\$100) in labor has been actually performed on such patented mine during the year, in addition to the tax upon the net proceeds; shares of stock (except shares of stock in banking corporations), bonds, mortgages, notes, bank deposits, book accounts and credits, and securities and choses in action of like character are deemed to represent interest in property already assessed and taxed, either in Nevada or elsewhere, and shall be exempt. [Notwithstanding the provisions of this section, the] The legislature may constitute agricultural and open-space real property having a greater value for another use than that for which it is being used, as a separate class for taxation purposes and may provide a separate uniform plan for appraisal and valuation of such property for assessment purposes. If such plan is provided, the legislature shall also provide for retroactive assessment for a period of not less than 7 years when agricultural and open-space real property is converted to a higher use conforming to the use for which other nearby property is used. Personal property which is moving in interstate commerce through or over the territory of the State of Nevada, or which was consigned to a warehouse, public or private, within the State of Nevada from outside the State of Nevada for storage in transit to a final destination outside the State of Nevada, whether specified when transportation begins or afterward, shall be deemed to have acquired no situs in Nevada for purposes of taxation and shall be exempt from taxation. Such property shall not be deprived of such exemption because while in the warehouse the property is assembled, banded, joined, processed, disassembled, divided, cut, broken in bulk, relabeled or repackaged. The legislature may exempt motor vehicles from the provisions of the tax required by this section, and in lieu thereof, if such exemption is granted, shall provide for a uniform and equal rate of assessment and taxation of motor vehicles, which rate shall not exceed five cents on one dollar of assessed valuation. No inheritance or estate tax shall ever be levied, and there shall also be excepted such property as may be exempted by law for municipal, educational, literary, scientific or other charitable purposes [], or for the conservation of energy using nonfossil resources.

assessor shall provide the auditor of his county a statement showing the property description or parcel number, name and address of claimant, and the dollar allowances of each claim granted for the assessment year under this section with respect to property placed upon the secured tax roll. After the county auditor extends the secured tax roll, he shall adjust the roll to show the dollar allowances and the amounts of tax, if any, remaining due as a result of claims granted under this section. By not later than June 1 of the assessment year, the county auditor shall deliver the extended tax roll, so adjusted, to the ex officio tax receiver of the county.

7. The ex officio tax receiver of the county shall make such corresponding adjustments to the individual property tax bills, prepared from the secured tax rolls, as are necessary to notify the taxpayers of the allowances granted them under this section.

8. After granting the claim of a taxpayer whose building is placed upon the unsecured tax roll, the county assessor shall determine the amount of the allowance to which the claimant is entitled under this section and shall credit the claimant's individual property tax account accordingly.

9. The county assessor shall send to the department, for each assessment year, a statement showing the allowances granted pursuant to this section. Upon verification and audit of the allowances, the department shall authorize reimbursement to the county by the state for money appropriated for the purpose.

10. Any person who willfully makes a materially false statement on a claim filed under this section or produces false proof, and as a result of such false statement or false proof, a tax allowance is granted to a person not entitled to the allowance, is guilty of a gross misdemeanor.

SEC. 2. NRS 199.120 is hereby amended to read as follows:

199.120 Every person having taken a lawful oath [] or made affirmation in a judicial proceeding [] or in any other matter where, by law, an oath or affirmation is required [], and no other penalty is prescribed, or who [shall] willfully and corruptly [make] makes an unqualified statement of that which he does not know to be true, or who [shall swear or affirm] swears or affirms willfully, corruptly and falsely [] in a matter material to the issue or point in question, or who [shall suborn] suborns any other person to make such unqualified statement [] or to swear or affirm [], as aforesaid, shall be deemed [] in such manner is guilty of perjury [] or subornation of perjury, as the case may be, and, upon conviction thereof, shall be punished by imprisonment in the state prison for not less than 1 year nor more than 10 years.

SEC. 3. 1. There is hereby appropriated from the state general fund the sum of \$32,000 to the department of taxation for reimbursement of allowances granted pursuant to section 1 of this act.

2. After June 30, 1979, the unencumbered balance of the appropriation made in section 1 shall not be encumbered and shall revert to the state general fund.

CHAPTER 502
CHAPTER 502.

[1977

AN ACT RELATIVE TO LISTING ALL EXEMPTIONS ON THE ANNUAL INVENTORY FORM.

Be it Enacted by the Senate and House of Representatives in General Court convened:

502: 1 Application for All Exemptions. Amend RSA 72: 33, I as amended by striking out said paragraph and inserting in place thereof the following:

I. No person shall be entitled to the exemptions provided by RSA 72: 28, 29-a, 30, 31, 32, 35, 36-a, 37, 37-a, 39, 43-b, 62 and 66 unless he shall have filed with the selectmen or assessors, on or before April 15 of some year, a permanent application therefor signed under penalty of perjury, on a form approved and provided by the commissioner of revenue administration showing that the applicant is duly qualified and is the true and lawful owner of the property on which the exemption is claimed. Any person who changes his residence after filing such a permanent application shall file an amended permanent application on or before the April 15 immediately following his change of residence. If any person, otherwise qualified to receive an exemption, shall satisfy the selectmen or assessors that he was prevented by accident, mistake or misfortune from filing a permanent application or amended permanent application on or before April 15 of the year in which he desires the exemption to begin, said officials may receive said application at a later date and grant an exemption thereunder for that year; but no such application shall be received or exemption granted after the local tax rate has been approved for that year.

502: 2 Application for Improvements Assisting the Handicapped. Amend RSA 72: 37-a, IV (supp) as inserted by 1975, 127: 1 by striking out said paragraph and inserting in place thereof the following:

IV. No person shall be entitled to an exemption under this section unless he has filed with the selectmen or assessors, on or before April 15 of some year, a permanent application therefor, signed under the penalty of perjury, on a form approved and provided by the commissioner of revenue administration showing that the applicant is duly entitled and is the true and lawful owner and occupant of the property on which the exemption is claimed. If any person, otherwise qualified to receive an exemption, shall satisfy the selectmen or assessors that he was prevented by accident, mistake or misfortune from filing an application on or before April 15 of the year in which he desires the exemption, said officials may receive said application at a later date and grant an exemption thereunder for that year; but no such application shall be received or exemption granted after the local tax rate has been approved for that year.

502: 3 Application for Elderly Exemptions. Amend RSA 72: 42, I (supp) as inserted by 1969, 496: 1 as amended by striking out said paragraph and inserting in place thereof the following:

I. On or before April 15 of the first year in which an exemption is claimed, a person qualified for the exemption under RSA 72: 39 or RSA 72: 43-b shall file a permanent application for the exemption with the selectmen or assessors. The commissioner of revenue administration shall have an application form prepared, to be signed by the applicant under penalty of perjury, which shows that the applicant is qualified for the exemption.

502: 4 Application for Solar Energy Systems Exemption. Amend RSA 72: 64, I (supp) as inserted by 1975, 391: 1 by striking out said paragraph and inserting in place thereof the following:

I. On or before April 15 of the first year in which an exemption is claimed, a person qualified for the exemption under RSA 72: 62 shall file a permanent application for the exemption with the selectmen or assessors. The selectmen or assessors shall have an application form prepared, to be signed by the applicant under penalty of perjury, which shows that the applicant is qualified for the exemption.

502: 5 Application for Exemptions on Inventory Blanks. Amend RSA 74: 4, I, (a) as amended by striking out said subparagraph and inserting in place thereof the following:

(a) a statement from each person who is claiming a property tax exemption under RSA 72: 28, 29-a, 30, 31, 32, 35, 36-a, 37, 37-a, 39, 43-b, 62 or 66, each of which shall be briefly described on the blank, that he is applying for said exemption and is entitled thereto.

502: 6 Application for Wind-powered Energy Systems Exemption. Amend RSA 72: 68, I as inserted by 1977, 185: 1 by striking out said section and inserting in place thereof the following:

I. On or before April 15 of the first year in which an exemption is claimed, a person qualified for the exemption under RSA 72: 66 shall file a permanent application for the exemption with the selectmen or assessors. The selectmen or assessors shall have an application form prepared, to be signed by the applicant under penalty of perjury, which shows that the applicant is qualified for the exemption.

502: 7 Effective Date. This act shall take effect 60 days after its passage.

[Approved July 14, 1977.]

[Effective date September 12, 1977.]

1976 Assembly No. 1801 (Third Official Copy Reprint)

AN ACT providing for the exemption from taxation of solar energy heating and cooling systems, and supplementing chapter 4 of Title 54 of the Revised Statutes.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

- 1. As used in this act:
 - a. "Solar energy" means energy which has recently originated in the Sun, including direct and indirect solar radiation and intermediate solar energy from such as wind, and sea thermal gradients, products of photosynthetic processes, organic waste, and others;
 - b. "Solar heating and cooling systems" mean any system which means any solar energy to provide all or a portion of the heating and cooling needs of a building through, but not limited to, such means as nocturnal heat radiation, evaporation cooling towers, flat plate or focusing solar collectors, refrigeration, photovoltaic solar cells or windmills.
 - c. "Commissioner" means the State Commissioner of Environmental Protection.
 - d. "Enforcing agency" means the enforcing agency in any municipality provided for under the State Uniform Construction Code Act, P. L. 1975, c. 217 (C. 52:27D-119 et seq.) and regulations promulgated thereunder.
 - e. "Board of appeals" means the municipal or county board provided for under the State Uniform Construction Code Act and regulations promulgated thereunder.

EXPLANATION—Matter enclosed in bold-faced brackets [thus] in the above bill is not enacted and is intended to be omitted in the law.

2. Any solar energy heating and cooling system installed in any building, whether residential, commercial or industrial, which has been certified by the assessor of the respective taxing district, State Commissioner of Environmental Protection, as enforcing agency, as an energy, a solar heating or cooling system shall be exempt from taxation under the chapter to which this act is a supplement.

3. No certification shall be made by any assessor, the State Commissioner of Environmental Protection, the enforcing agency, as provided herein, except upon written application herefore, which application shall be made under oath on a form prescribed by the Director, Division of Taxation, in the Department of the Treasury, and provided for the use of claimant hereunder by the governing body of the municipality constituting the taxing district in which such claim is to be filed and the application has been approved as provided in this act. The local enforcing agency. Each assessor. The Commissioner, the enforcing agency, may at any time inquire into the right of a claimant to the exemption hereunder and for that purpose he may require the filing of a new application or the submission of such proof as he shall deem necessary to determine the right of the claimant to the continuance of such exemption, and the assessor, the Commissioner, the enforcing agency, shall have the right to make an inspection of the premises which are the subject of the claim for exemption under this act. Such application shall be filed with the assessor, Commissioner, on or before the thirtieth day, including Saturdays and Sundays, following the completion of the system.

4. The assessor of a taxing district, Commissioner, enforcing agency, when requested for any such certification, shall certify a system as being a solar energy heating or cooling system whenever he finds the equipment, facility, device, or system installed, was designed primarily as a solar heating or cooling system in accordance with regulations prescribed by the commissioner. Said certificate shall contain information identifying the system and the cost thereof and shall be in such form and detail as the Director of the Division of Taxation shall prescribe and, further, said certificate shall be submitted to the applicant therefor with a copy retained on file by the Commissioner, enforcing agency, and a copy thereof shall be sent to the assessor of the taxing district in which such facilities are located and have been installed; and the exemp-

15 tion from taxation for such equipment, facility or device shall
16 become effective for the tax year following the year in which
17 certification has been granted and thereafter during its use
18 primarily for such purposes.

1 5. The [assessor of a taxing district] *** [commissioner] ***
2 *** enforcing agency ***, after giving notice to the holder of a solar
3 energy certificate *** [and giving said holder an opportunity for
4 a hearing] *** may revoke such certificate whenever any of the
4A following appears:

5 a. The certificate was obtained by fraud or misrepresentation;
6 b. The claimant for tax exemption has failed substantially to
7 proceed with the construction, reconstruction, installation or ac-
8 quisition of a solar heating *** [or] *** and *** cooling system;
9 c. The structure or equipment or both to which the certificate
10 relates has ceased to be used for the primary purpose of providing
11 solar energy and is being used for a different primary purpose;
12 d. The claimant for tax exemption hereunder has so departed
13 from the equipment, design and construction previously certified
14 by the [assessor] *** [commissioner] *** *** enforcing
15 agency *** that, in the opinion of said [assessor] *** [commis-
16 sioner] ***, *** enforcing agency *** the solar *** heating and cool-
17 ing *** system is not suitable and reasonably adequate for the
18 purpose of providing solar energy.

1 ***6. a. Any person aggrieved by any action of the enforcing
2 agency may seek review before the board of appeals.

3 b. Any person aggrieved by any action of the assessor or of the
4 Director of the Division of Taxation may seek a review before the
5 Director of the Division of Taxation pursuant to the Administrative
6 Procedure Act, P. L. 1968, c. 410 (C. 52:14B-1 et seq.). ***

1 *** [6] *** ***7. *** The owner of real property which is
2 equipped with a certified solar *** [energy] *** heating *** [or] ***
3 *** and *** cooling system may have exempted annually from the
4 assessed valuation of the real property a sum equal to the remainder
5 of the assessed valuation of the real property with the solar
6 heating and cooling system included, minus the assessed valuation
7 of the real property without the *** solar heating and cooling ***
8 system.

1 *** [7] *** ***8. *** Subject to the "Administrative Procedure
2 Act" P. L. 1968, c. 410 (C. 52:14B-1 et seq.), the Director of the
3 Division of Taxation is authorized to adopt all rules and regula-
4 tions necessary *** [to effectuate the purposes of this act] ***
5 *** for the proper certification of any tax exemption, the form of

6 any certificate to be issued and any other matter related to the
7 exemption. The Administrator of the State Energy Office shall
8 establish standards with respect to the technical sufficiency of solar
9 energy systems for purposes of qualification for exemption ***.

1 *** [8.] *** ***9. *** This act shall take effect January 1, next
2 following enactment **, and shall expire on December 31 of the fifth
3 year following enactment **.

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LAWS OF 1977

CHAP. 347

CHAPTER 347

AN ACT

MAKING AN APPROPRIATION TO THE ENERGY RESEARCH AND DEVELOPMENT FUND
FROM THE SEVERANCE TAX INCOME FUND.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF NEW MEXICO:

Section 1. APPROPRIATION.--

A. The sum of two million five hundred thousand dollars (\$2,500,000) is appropriated from the severance tax income fund to the energy research and development fund for expenditure ~~in the sixty-sixth fiscal year~~ for the purpose of the Energy Research and Development Act.

B. Of the appropriation made in Subsection A of this section, not less than five hundred thousand dollars (\$500,000) shall be encumbered by the energy resources board for expenditure by the board of regents of New Mexico state university in order to:

- (1) develop solar equipment performance standards for solar energy development;
- (2) test solar energy heating and cooling systems;
- (3) coordinate major research development and demonstration efforts within the state;
- (4) collect and disseminate information to the citizens and industry in the state concerning solar energy research, development and demonstration and solar energy applications and technologies; and
- (5) coordinate the development of federal solar energy programs within the state.

C. Unencumbered and unexpended balances in the energy research and development fund at the end of the sixty-sixth fiscal year shall not revert.

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LAWS OF 1977

CHAP. 169

CHAPTER 169

AN ACT

RELATING TO SOLAR ENERGY; PROVIDING DECLARATIONS AND FINDINGS CONCERNING SOLAR RIGHTS; PROVIDING A DECLARATION OF SOLAR RIGHTS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF NEW MEXICO:

Section 1. SHORT TITLE.--This act may be cited as the "Solar Rights Act".

Section 2. DECLARATION AND FINDINGS.--The legislature declares that the state of New Mexico recognizes that economic benefits can be derived for the people of the state from the use of solar energy. Operations, research, experimentation and development in the field of solar energy use shall therefore be encouraged. While recognizing the value of research and development of solar energy use techniques and devices by governmental agencies, the legislature finds and declares that the actual construction and use of solar devices, whether at public or private expense, is properly a commercial activity which the law should encourage to be carried out, whenever practicable, by private enterprise.

Section 3. DEFINITIONS.--As used in the Solar Rights Act:

A. "solar collector" means any device or combination of devices or elements which rely upon sunshine as an energy source, and which are capable of collecting not less than twenty-five thousand Btu's on a clear winter solstice day. The term also includes any substance or device which collects solar energy for use in:

HNRCS/HOUSE BILL 294
Approved April 1, 1977

likewise;

(2) "prior appropriation". In disputes involving solar rights, priority in time shall have the better right except that the state and its political subdivisions may legislate, or ordain that a solar collector user has a solar right even though a structure or building located on neighborhood property blocks the sunshine from the proposed solar collector site. Nothing in this paragraph shall be construed to diminish in any way the right of eminent domain of the state or any of its political subdivisions or any other entity that currently has such a right; and

(1) the heating or cooling of a structure or building;

(2) the heating or pumping of water;

(3) industrial, commercial or agricultural processes; or

(4) the generation of electricity.

A solar collector may be used for purposes in addition to the collection of solar energy. These uses include, but are not limited to, serving as a structural member or part of a roof of a building or structure and serving as a window or wall; and

(3) "transferability". Solar rights shall be freely transferable within the bounds of such regulation as the legislature may impose. The transfer of a solar right shall be recorded in accordance with Chapter 71, Article 2, NMSA 1953.

B. "solar right" means a right to an unobstructed line-of-sight path from a solar collector to the sun, which permits radiation from the sun to impinge directly on the solar collector.

C. Unless singular overriding state concerns occur which significantly affect the health and welfare of the citizens of this state, permit systems for the use and application of solar energy shall reside with county and municipal zoning authorities.

A. The legislature declares that the right to use the natural resource of solar energy is a property right, the exercise of which is to be encouraged and regulated by the laws of this state. Such property right shall be known as a solar right.

Section 5. PRIOR RIGHTS UNAFFECTED.--Nothing in the Solar Rights Act shall be construed to alter, amend, deny, impair or modify any solar right, lease, easement or contract right which has vested prior to the effective date of the Solar Rights Act.

B. The following concepts shall be applicable to the regulation of disputes over the use of solar energy where practicable:

(1) "beneficial use". Beneficial use shall be the basis, the measure and the limit of the solar right, except as otherwise provided by written contract. If the amount of solar energy which a solar collector user can beneficially use varies with the season of the year, then the extent of the solar right shall vary

Section 6. EFFECTIVE DATE.--This act shall become effective on July 1, 1978.

STATE OF NEW YORK



S. 3629-A
Cal. No. 423

A. 5147-A

1977-1978 Regular Sessions

SENATE-ASSEMBLY

March 1, 1977

IN SENATE—Introduced by Sens. DUNNE, PISANI, AUER, BABBUSH, BARTOSIEWICZ, BEATTY, BRONSTON, BURSTEIN, CAEMMERER, FARLEY, FLYNN, GAZZARA, GOLD, GOODMAN, HALPERIN, KNORR, LaVALLE, LEICHTER, LEVY, MASON, NOLAN, OHRENSTEIN, OWENS, PADAVAN, PATERSON, PERRY, RUIZ, W. T. SMITH, STAFFORD, TAURIELLO, TRUNZO, VOLKER, WINIKOW, BELLAMY, B. C. SMITH, JOHNSON, GRIFFIN, CALANDRA—read twice and ordered printed, and when printed to be committed to the Committee on Local Government—reported favorably from said committee, ordered to first and second report, ordered to a third reading, passed by Senate and delivered to the Assembly, recalled, vote reconsidered, restored to third reading, amended and ordered reprinted retaining its place in the order of third reading

IN ASSEMBLY—Introduced by M. of A. ORAZIO, MIRTO—Multi-Sponsored by—M. of A. AMATUCCI, DALY, DeTORO, FERRIS, GRANNIS, GREENBERG, HARENBERG, HOCHBRUECKNER, HOYT, LANDES, MARCHISELLI, McGEE, MONTANO, G. A. MURPHY, NADLER, NICOLOSI, PASSANNANTE, PESCE, PROUD, SCHIMMINGER, STAVISKY, WILSON, YEVOLI, BETROS, BIANCHI, BUTLER, CONNERS, D'ANDREA, DeSALVIO, DWYER, FINK, GOTTFRIED, GRECO, HANNON, HEALEY, HINCHEY, LEWIS, M. H. MILLER, ROBACH, A. W. RYAN, SERRANO, SIEGEL, WERTZ, ZAGAME, ZIMMER—read once and referred to the Committee on Environmental Conservation—reference changed to Committee on Real Property Taxation—reported and referred to Committee on Ways and Means—committee discharged, bill amended, ordered reprinted as amended and recommitted to said committee

AN ACT to amend the real property tax law, in relation to granting of a property tax exemption for solar or wind energy systems in certain cases

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

EXPLANATION—Matter in *italics* is new; matter in brackets [] is old law to be omitted.

1 Section 1. Legislative findings and intent. The legislature hereby finds that
2 solar and wind energy systems do not require fuel, and thus will aid in energy
3 conservation. Because at this time they involve relatively high initial capital
4 expenditure, the long term economic advantages of an installed solar or wind
5 energy system would be substantially reduced by an increase in property tax.
6 This increase would frustrate state policy to encourage the greater use of solar
7 and wind energy.

8 The purpose of the legislature is to provide for exemption from real property
9 taxation for approved installations of solar and wind energy systems in order to
10 encourage their greater use. This offers a tax incentive to property owners
11 without reducing tax income to the community.

12 § 2. The real property tax law is hereby amended by adding thereto a new
13 section, to be section four hundred eighty-seven, to read as follows:

14 § 487. *Exemption from taxation for certain solar or wind energy systems. 1. As*
15 *used in this section:*

16 (a) *"Solar or wind energy equipment" means collectors, controls, energy storage*
17 *devices, heat pumps and pumps, heat exchangers, windmills, and other hardware or*
18 *equipment necessary to the process by which solar radiation or wind is received and*
19 *converted into another form, such as thermal, electrical, mechanical or chemical*
20 *energy.*

21 (b) *"Solar or wind energy system" means an arrangement or combination of solar*
22 *or wind energy equipment designed to provide heating, cooling, hot water, or*
23 *mechanical, chemical, or electrical energy by the collection and storage of solar or*
24 *wind energy. It does not include pipes, controls, insulation or other equipment which*
25 *are part of the normal heating, cooling, or insulation system of a building, but relates*
26 *to means of collecting, converting and storing energy from solar radiation or wind.*

27 (c) *"Energy office" means the state energy office established by subdivision one of*
28 *section 5-101 of the energy law.*

29 (d) *"Owner of real property" means a person or corporation, public or private,*
30 *which is the owner of record of real property situated within the state.*

31 (e) *"Assessor" means those departments, boards or agencies responsible for the*
32 *assessment of real property for the taxing district or districts within which the solar*
33 *or wind energy system is located.*

34 2. *The owner of real property who installs a solar or wind energy system approved*
35 *in accordance with the provisions of this section may have deducted annually from*
36 *the assessed valuation of the property, for a period of fifteen years from the first*
37 *taxable status date after such system is installed, the sum which is equal to the*
38 *remainder of the assessed valuation of the real property with the solar or wind energy*
39 *system included, minus the assessed valuation of the real property without such*
40 *system.*

41 3. *On or before January first, nineteen hundred seventy-eight, the commissioner*
42 *of the energy office shall provide definitions and guidelines for the eligibility for*
43 *exemption of the solar and wind energy equipment and systems described in*
44 *paragraphs (a) and (b) of this section.*

45 4. *No solar or wind energy system shall be entitled to any exemption from*
46 *taxation under this section unless such system meets the guidelines set by the*
47 *commissioner of the energy office and all other applicable provisions of law.*

48 5. *The exemption granted pursuant to this section shall run with the real property*
49 *regardless of ownership, provided however, that such exemption shall only be*
50 *applicable to solar or wind energy systems which are existing or constructed prior to*
51 *July first, nineteen hundred eighty-eight. Such exemption shall be effective as of the*
52 *first taxable status date occurring subsequent to the approval of the application for*
53 *exemption by the assessor of the appropriate taxing authority.*

54 6. *Such exemption shall not be unreasonably denied, but shall be granted only on*
55

1 application by the owner of real property on a form prescribed by the energy office
2 and made available by the state board of equalization and assessment in cooperation
3 with the energy office. The applicant shall furnish such information as the board
4 shall require. The original of such application shall be filed with the assessor of the
5 appropriate county, city, town or village on or before the taxable status date of such
6 county, city, town or village. A copy of such application shall be filed simultaneously
7 with the state board of equalization and assessment. The energy office shall have
8 access to such applications and, on January first, nineteen hundred seventy-nine
9 and annually thereafter until January first, nineteen hundred eighty-eight, shall
10 provide the governor and the legislature with a summary of the data available. On or
11 before January first, nineteen hundred eighty, the energy office shall report to the
12 governor and the legislature on the feasibility of granting real property tax
13 exemptions for other renewable resource systems.

14 7. The assessed value of any exemption granted pursuant to this section shall be
15 entered by the assessor on the portion of the assessment roll provided for property
16 exempt from taxation.

17 § 3. This act shall take effect immediately.

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STATE OF NEW YORK



S. 6869

A. 8995

1977-1978 Regular Sessions

SENATE-ASSEMBLY

July 6, 1977

IN SENATE—Introduced by Sen. DUNNE—read twice and ordered printed, and when printed to be committed to the Committee on Local Government

IN ASSEMBLY—Introduced by COMMITTEE ON RULES—(at request of M. of A. Orazio, Mirto)—read once and referred to the Committee on Environmental Conservation

AN ACT to amend the real property tax law, in relation to exemption for solar or wind energy systems; to repeal paragraphs (d) and (e) of subdivision one of section four hundred eighty-seven of such law, relating to definition of certain terms; and to amend chapter three hundred twenty-two of the laws of nineteen hundred seventy-seven, relating to solar or wind energy systems, in relation to the effective date thereof

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

1 Section 1. Paragraphs (d) and (e) of subdivision one of section four hundred
2 eighty-seven of the real property tax law are hereby **repealed**.

3 § 2. Subdivisions two, five, six, and seven of section four hundred eighty-
4 seven of such law, as added by chapter three hundred twenty-two of the laws of
5 nineteen hundred seventy-seven, are hereby amended to read, respectively, as
6 follows:

7 2. **[The owner of real] Real property [who installs] which includes a solar or**
8 **wind energy system approved in accordance with the provisions of this section**
9 **[may have deducted annually from the assessed valuation of the property, for a**
10 **period of fifteen years from the first taxable status date after such system is**
11 **installed, the sum which is equal to the remainder of the assessed valuation of**
12 **the real property with the solar or wind energy system included, minus the**
13 **assessed valuation of the real property without such system] shall be exempt from**
14 **taxation to the extent of any increase in the value thereof by reason of the inclusion of**
15 **such solar or wind energy system for a period of fifteen years.**

16 5. **[The exemption granted pursuant to this section shall run with the real**
17 **property regardless of ownership, provided however, that such] The exemption**
18 **granted pursuant to this section shall only be applicable to solar or wind energy**
19 **systems which are existing or constructed prior to July first, nineteen hundred**

EXPLANATION—Matter in italics is new; matter in brackets [] is old law to be omitted.

1 eighty-eight. [Such exemption shall be effective as of the first taxable status
2 date occurring subsequent to the approval of the application for exemption by
3 the assessor of the appropriate taxing authority.]

4 6. Such exemption [shall not be unreasonably denied, but] shall be granted
5 only [on] upon application by the owner of the real property on a form
6 prescribed [by the energy office] and made available by the state board [of
7 equalization and assessment] in cooperation with the energy office. The
8 applicant shall furnish such information as the board shall require. The [original
9 of such] application shall be filed with the assessor of the appropriate county,
10 city, town or village on or before the taxable status date of such county, city,
11 town or village. A copy of such application shall be filed [simultaneously] with
12 the state board [of equalization and assessment]. The energy office shall have
13 access to such applications and, on January first, nineteen hundred seventy-nine
14 and annually thereafter until January first, nineteen hundred eighty-eight, shall
15 provide the governor and the legislature with a summary of the data available.
16 On or before January first, nineteen hundred eighty, the energy office shall
17 report to the governor and the legislature on the feasibility of granting real
18 property tax exemptions for other renewable resource systems.

19 7. [The assessed value of any] *If the assessor is satisfied that the applicant is*
20 *entitled to an exemption [granted] pursuant to this section [shall be entered by*
21 *the assessor], he shall approve the application and enter the taxable assessed value of*
22 *the parcel for which an exemption has been granted pursuant to this section on the*
23 *[portion of the] assessment roll [provided for property exempt from taxation]*
24 *with the taxable property, with the amount of the exemption as computed pursuant to*
25 *subdivision two of this section in a separate column. In the event that real property*
26 *granted an exemption pursuant to this section ceases to be used primarily for eligible*
27 *purposes, the exemption granted pursuant to this section shall cease.*

28 § 3. Section three of chapter three hundred twenty-two of the laws of
29 nineteen hundred seventy-seven, relating to solar or wind energy systems, is
30 hereby amended to read as follows:

31 § 3. This act shall take effect [immediately] *on January first, nineteen*
32 *hundred seventy-eight.*

33 § 4. This act shall take effect immediately.

34 NOTE.—Paragraphs (d) and (e) of subdivision one of section 487 of the Real Property Tax Law,
35 repealed by this act, defined the terms "owner of real property" and "assessor."

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GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 1977
RATIFIED BILL

CHAPTER 965

HOUSE BILL 607

AN ACT TO CLASSIFY SOLAR ENERGY SYSTEMS FOR AD VALOREM TAX PURPOSES.

The General Assembly of North Carolina enacts:

Section 1. G.S. 105-277 is amended by adding at the end thereof a new subsection (g), to read as follows:

"(g) Buildings equipped with a solar energy heating or cooling system, or both, are hereby designated a special class of property under authority of Article V, Section 2(2) of the North Carolina Constitution. Such buildings shall be assessed for taxation in accordance with each county's schedules of value for buildings equipped with conventional heating or cooling systems and no additional value shall be assigned for the difference in cost between a solar energy heating or cooling system and a conventional system typically found in the county. As used in this classification, the term 'system' includes all controls, tanks, pumps, heat exchangers and other equipment used directly and exclusively for the conversion of solar energy for heating or cooling. The term 'system' does not include any land or structural elements of the building such as walls and roofs nor other equipment ordinarily contained in the structure."

Sec. 2. This act shall become effective on January 1, 1978, and expire on December 1, 1985.

In the General Assembly read three times and ratified, this the 1st day of July, 1977.

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 1977
RATIFIED BILL
CHAPTER 971

HOUSE BILL 654

AN ACT TO APPROPRIATE FUNDS TO NORTH CAROLINA STATE UNIVERSITY FOR DEVELOPMENT AND RESEARCH ON A SOLAR THERMAL CONVERSION UNIT WHICH WILL PRODUCE A MINIMUM OF 1,000 KWH OF ELECTRICITY PER MONTH, AND BE RELIABLE AND RELATIVELY FREE OF MAINTENANCE.

Whereas, the State of North Carolina, with its outstanding universities, colleges and research facilities, is a recognized leader in the development and dissemination of knowledge; and

Whereas, solar energy is the world's most abundant and renewable energy resource; and

Whereas, the business climate and public welfare of this State would greatly benefit from the development of a unit which would produce at least 1,000 KWH of electricity per month and would be practical for usage by a residence or business, also be reliable and relatively free from maintenance and be of a size and cost to encourage its use by home owners and businesses; Now, therefore,

The General Assembly of North Carolina enacts:

Section 1. There is hereby appropriated from the General Fund to the School of Engineering and the School of Design of North Carolina State University for fiscal year 1977-78 the sum of seventy-five thousand dollars (\$75,000) and the sum of fifty thousand dollars (\$50,000) for fiscal year 1978-79 for the purpose of development and research on a solar thermal conversion unit which will produce a minimum of 1,000 KWH of electricity per month, operating as much as possible independent of any outside

energy source, be reliable and relatively free of maintenance. This money is to be used to continue research and development of solar systems and funded in the 1975-1977 biennium by Chapter 911 of the 1975 Session Laws. Such research and development is to be funded in a manner consistent with the purposes set forth in the preamble to this act.

Sec. 2. North Carolina State University is hereby authorized to spend a portion of the funds herein appropriated to design, construct and display at the North Carolina State Fair a solar thermal conversion unit for the purpose of demonstrating and encouraging the use of solar energy.

Sec. 3. North Carolina State University is hereby authorized to apply for, obtain and spend any federal grants of funds available from the federal government for use in a manner consistent with the purposes herein designated.

Sec. 4. North Carolina State University is hereby authorized to apportion the funds herein appropriated, and any matching federal funds obtained as authorized herein, among the School of Engineering and its departments, the School of Design and its departments, and any joint projects between those two schools, in any manner consistent with the purposes herein designated.

Sec. 5. All expenditures made from the funds appropriated by this act and for the purposes herein designated shall be accounted for and reported according to the fiscal and financial system of the agencies to whom the appropriations are made as herein set forth.

Sec. 6. This act shall become effective upon ratification.

In the General Assembly read three times and ratified, this the 1st day of July, 1977.

JAMES C. GREEN, Sr.

James C. Green
President of the Senate

CARL J. STEWART, JR.

Carl J. Stewart, Jr.
Speaker of the House of Representatives

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 1977
RATIFIED BILL

CHAPTER 792

HOUSE BILL 1003

AN ACT TO PROMOTE AND ENCOURAGE THE CONSERVATION OF ENERGY BY PROVIDING A TAX CREDIT FOR INSTALLATION OF SOLAR HOT WATER, HEATING AND COOLING SYSTEMS, BY PROVIDING A TAX CREDIT FOR INSTALLATION OF HOME INSULATION, STORM WINDOWS AND STORM DOORS, BY MANAGING AND CONTROLLING ENERGY USE BY IMPROVED ENFORCEMENT OF THE STATE BUILDING CODE INSULATION REQUIREMENTS, BY REPORTING OF AVAILABLE PETROLEUM SUPPLIES, AND BY PROHIBITING THE USE OF MASTER METERS FOR ELECTRICITY AND NATURAL GAS IN NEW MULTI-UNIT RESIDENTIAL DWELLING UNITS.

The General Assembly of North Carolina enacts:

Section 1. This act shall be known and may be cited as the Energy Conservation Act of 1977.

Sec. 2. The economy of North Carolina and the welfare of its citizens have been jeopardized in the past by shortages of natural gas, petroleum, propane and electric power. The shortage of energy supplies available to North Carolina will continue during the coming decade unless measures are established to conserve the energy available for the economy and the citizens of North Carolina. It is therefore declared to be the policy of the State of North Carolina to encourage and promote the conservation of energy in all forms and to establish requirements and enforcement measures for mandatory conservation of energy in North Carolina, in order to prevent or reduce an adverse impact

upon the economy of this State and in order to prevent interruption of employment of the citizens of this State in commerce and industry and in order to prevent injury to their health and welfare due to shortage and high cost of energy in their homes.

Sec. 3. Article 4 of Chapter 105 of the North Carolina General Statutes is hereby amended by adding thereto a new section, G.S. 105-151.2, to read as follows:

"§ 105-151.2. Credit against personal income tax for solar hot water, heating and cooling.--(a) Any person (to include partnerships) who constructs or installs a solar hot water, heating or cooling system in any residence or other building in North Carolina shall be allowed as a credit against the tax imposed by this division, an amount equal to twenty-five percent (25%) of the installation and equipment cost of the solar hot water, heating or cooling equipment; provided, that credit allowed under this section shall not exceed one thousand dollars (\$1,000) on any single building or for each family dwelling unit of a multi-dwelling building which is individually metered for electric power or natural gas or with separate furnace for oil heat paid for by the occupant; provided further, that in order to secure the credit allowed by this section the taxpayer must own or control the building at the time the solar hot water, heating or cooling system is installed and payment in part or in total for such equipment and installation must be made by the taxpayer during the tax year for which the credit is claimed; and the amount of credit allowed for any one income year shall be limited to the amount of payment for such equipment made during the

income year for which the credit is claimed and provided further, that if the credit allowed by this section exceeds the taxes imposed by this division reduced by all other credits allowed by the provisions of this division, such excess shall be allowed against the taxes imposed by this division for the next three succeeding years.

(b) In the case of property owned by the entirety, where both spouses are required to file North Carolina income tax returns, each spouse may claim one half of the credit allowed by this section or one spouse may claim the entire credit allowed by this section by agreement with the other spouse, provided both spouses were living together at the end of the taxable year and file their separate returns for the taxable year on the combined form. Where only one spouse is required to file a North Carolina income tax return, such spouse may claim the credit allowed by this section.

(c) For the purpose of this section, the term 'solar hot water, heating and cooling equipment' means any hot water, heating, cooling or heating and cooling equipment which meets the definitive performance criteria prescribed pursuant to the provisions of the Solar Heating and Cooling Demonstration Act of 1974 (42 U.S.C.A. §§ 5501, et seq.), and any amendments thereto, or any other performance criteria approved by the Secretary of Revenue provided that such criteria shall be published by the Secretary of Revenue."

Sec. 4. Article 4 of Chapter 105 of the North Carolina General Statutes is hereby amended by adding thereto a new

section, G.S. 105-130.23, to read as follows:

"§ 105-130.23. Credit against corporate income tax for solar hot water, heating and cooling.--(a) Any corporation which constructs or installs solar hot water, heating or cooling equipment in buildings to include residential buildings used or sold by the corporation for commercial or business purposes in North Carolina shall be allowed as a credit against the taxes imposed by this division, an amount equal to twenty-five percent (25%) of the installation and equipment cost of the solar hot water, heating or cooling equipment; provided, that credit allowed under this section shall not exceed one thousand dollars (\$1,000) for any single building or each family dwelling unit of a multi-dwelling building which is individually metered for electric power or natural gas or with separate furnace for oil heat paid for by the occupant; provided further, that in order to secure the credit allowed by this section, the taxpayer must own or control the building at the time the solar hot water, heating or cooling system is installed and payment (in part or total) for such equipment and installation must be made by the taxpayer during the tax year for which the credit is claimed; and the amount of credit allowed for any one income year shall be limited to the amount of payment for such equipment made during the income year for which the credit is claimed and provided further, that if the credit allowed by this section exceeds the taxes imposed by this division reduced by all other credits allowed by the provisions of this division, such excess shall be allowed against the taxes imposed by this division for the next three

succeeding years.

(b) For the purpose of this section, the term 'solar hot water, heating and cooling equipment' means any hot water, heating, cooling or heating and cooling equipment which meets the definitive performance criteria prescribed pursuant to the provisions of the Solar Heating and Cooling Demonstration Act of 1974 (42 U.S.C.A. §§ 5501, et seq.), and any amendments thereto, or any other performance criteria established by the Secretary of Revenue."

Sec. 5. Article 4 of Chapter 105 of the North Carolina General Statutes is hereby amended by adding thereto a new section, G.S. 105-151.3, to read as follows:

"§ 105-151.3. Credit against personal income tax for home insulation, storm windows or storm doors.--(a) During the period from January 1, 1977, through December 31, 1978, any person (to include partnerships) who installs new or additional insulation, storm windows or storm doors (to include thermal pane windows and doors) in any building located in North Carolina which was constructed and occupied prior to January 1, 1977, shall be allowed as a credit against the taxes imposed by this division, an amount equal to twenty-five percent (25%) of the cost of such insulation, storm windows or storm doors; provided, that credit allowed under this section shall not exceed one hundred dollars (\$100.00) on any single building or for each family dwelling unit of a multi-dwelling building; provided further, that in order to secure the credit allowed by this section the taxpayer must be liable for payment of such insulation, storm windows or storm doors and such payment must be made by the taxpayer during the

tax year for which the credit is claimed.

(b) The Secretary of Revenue is hereby authorized and directed to adopt rules and regulations requiring that said insulation, storm windows or storm doors shall have a useful life of at least three years and shall reduce heat loss or heat gain in accordance with minimum standards prescribed by the Building Codes Council.

(c) In order to secure the credit allowed by this section, receipts for the payment of such insulation, storm windows or storm doors containing a brief description of such insulation, storm windows or storm doors must be provided upon the request of the Secretary of Revenue.

(d) Notwithstanding any other provisions of this division, the credit allowed by this section shall not exceed the amount of the tax imposed by this division for the taxable year reduced by the sum of all credits allowable under this division, except for payments of tax made by or on behalf of the taxpayer."

Sec. 6. Article 4 of Chapter 105 of the North Carolina General Statutes is hereby amended by adding a new section, G.S. 105-130.24, to read as follows:

"§ 105-130.24. Credit against corporate income tax for insulation, storm windows and storm doors in business buildings.--(a) During the period from January 1, 1977, through December 31, 1978, any corporation which installs new or additional insulation, storm windows or storm doors in any building located in North Carolina which was constructed and occupied prior to January 1, 1977, and which is used by the corporation for commercial or business purposes shall be allowed as a credit against the taxes imposed by this division, an amount

equal to twenty-five percent (25%) of the cost of such insulation, storm windows or storm doors; provided, that credit allowed under this section shall not exceed one hundred dollars (\$100.00) on any single building or for each family dwelling unit of a multi-dwelling building; provided further, that in order to secure the credit allowed by this section the taxpayer must be liable for payment of such insulation, storm windows or storm doors and such payment must be made by the taxpayer during the tax year for which the credit is claimed.

(b) The Secretary of Revenue is hereby authorized and directed to adopt rules and regulations requiring that said insulation, storm windows or storm doors shall have a useful life of at least three years and shall reduce heat loss or heat gain in accordance with minimum standards prescribed by the Building Codes Council.

(c) In order to secure the credit allowed by this section, receipts for the payment of such insulation, storm windows or storm doors containing a brief description of such insulation, storm windows or storm doors must be provided upon the request of the Secretary of Revenue.

(d) Notwithstanding any other provisions of this division, the credit allowed by this section shall not exceed the amount of the tax imposed by this division for the taxable year reduced by the sum of all other credits allowable under this division."

Sec. 7. Chapter 143 of the General Statutes is hereby amended by adding a new section thereto, to read as follows:

"§ 143-139.2. Enforcement of insulation requirements; certificate for occupancy; no electric service without compliance.--(a) In addition to other enforcement provisions set

forth in this Chapter, no single family or multi-unit residential building on which construction is begun in North Carolina on or after January 1, 1978, shall be occupied until it has been certified as being in compliance with the minimum insulation standards for residential construction, as prescribed in the North Carolina State Building Code or as approved by the Building Code Council as provided in G.S. 143-138(e). It shall be the duty of each county government and each municipality to provide for a building inspection program for certification of compliance with this section, either through a person in the county, city or joint inspection department who is responsible for enforcement of the insulation and energy utilization standards of the State Building Code or in any county or city which does not have an inspection department, through a person designated as the energy and insulation inspector.

(b) No public supplier of electric service, including regulated public utilities, municipal electric service and electric membership corporations, shall connect for electric service to an occupant any residential building on which construction is begun on or after January 1, 1978, unless said building complies with the insulation requirements of the North Carolina State Building Code or of local building codes approved by the Building Codes Council as provided in G.S. 143-138(e), and has been certified for occupancy in compliance with the minimum insulation standards of the North Carolina State Building Code or of any local modification approved as provided in G.S. 143-138(e), by a person designated as an inspector pursuant to

subsection (a) of this section.

Sec. 8. Chapter 143B of the General Statutes is hereby amended by adding a new section thereto, to read as follows:

"§ 143B-447. Reporting of stocks of coal and petroleum fuels.--The Energy Division of the Department of Commerce may, with the prior express approval of the Energy Policy Council and the Governor, require that all coal and petroleum suppliers in North Carolina supplying coal, motor gasoline, middle distillates, residual oils and propane for resale within the State file with the Energy Division, on forms prepared by the Energy Division, accurate reports as to the stocks of coal and petroleum products and storage capacities maintained by said supplier, including said supplier's current inventory and stock of said coal, motor gasoline, middle distillates, residual oils and propane, the expected time such supplies will last under ordinary distribution demand and the schedule for receiving additional or replacement stocks. Such reports and the information contained therein shall be proprietary information available only to regular employees of the Energy Division, except that aggregate tables or schedules consolidating information from said reports may be released if they do not reveal individual report data for any named supplier. It is further the intent of this section that no information shall be required from coal and petroleum suppliers, that is, at the time such reports are requested, already on file with any agency, commission, or department of State government.

It is the intent of this section that such reports be filed only at such times as the Energy Policy Council and the Governor

determine that an energy crisis as defined in G.S. §13B-20 exists or may be imminent.

If any petroleum or coal supplier fails to file the accurate reports as may be required by this section for more than 10 days after the date on which any such report is due, the Secretary of Commerce is authorized and empowered to petition the District Court, Division of the General Court of Justice in the county in which the principal office or place of business of said supplier is located for a mandatory injunction compelling said supplier to file said report."

Sec. 9. Chapter 143A of the General Statutes is hereby amended by adding a new section to read and be designated as follows:

"§ 143A-180.4. Prohibition of master meters for electric and natural gas service.--From and after September 1, 1977, in order that each occupant of an apartment or other individual dwelling unit may be responsible for his own conservation of electricity and gas, it shall be unlawful for any new residential building, as hereinafter defined, to be served by a master meter for electric service or natural gas service. Each individual dwelling unit shall have individual electric service with a separate electric meter and, if it has natural gas, individual natural gas service with a separate natural gas meter, which service and meters shall be in the name of the tenant or other occupant of said apartment or other dwelling unit. No electric supplier or natural gas supplier, whether regulated public utility or municipal corporation or electric membership corporation supplying said utility service, shall connect any

residential building for electric service or natural gas service through a master meter, and said electric or natural gas supplier shall serve each said apartment or dwelling unit by separate service and separate meter and shall bill and charge each individual occupant of said separate apartment or dwelling unit for said electric or natural gas service. A new residential building is hereby defined for the purposes of this section as any building for which a building permit is issued on or after September 1, 1977, which includes two or more apartments or other family dwelling units. Provided, however, that any owner or builder of a multi-unit residential building who desires to provide central heat or air conditioning or central hot water from a central furnace, air conditioner or hot water heater which incorporates solar assistance or other designs which accomplish greater energy conservation than separate heat, hot water, or air conditioning for each dwelling unit, may apply to the North Carolina Utilities Commission for approval of said central heat, air conditioning or hot water system, which may include a central meter for electricity or gas used in said central system, and the Utilities Commission shall promptly consider said application and approve it for such central meters if energy is conserved by said design. This section shall apply to any dwelling unit normally rented or leased for a minimum period of one month or longer, including apartments, condominiums and townhouses, but shall not apply to hotels, motels, dormitories, rooming houses or nursing homes, or homes for the elderly."

Sec. 10. Severability. If any provision of this act or the application thereof to any person or circumstances is held

invalid, the invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to this end the provisions of this act are severable.

Sec. 11. Sections 3, 4, 5 and 6 of this act shall be made effective upon ratification for income years beginning on and after January 1, 1977. Each and every other section of this act shall become effective on September 1, 1977.

In the General Assembly read three times and ratified, this the 29th day of June, 1977.

JAMES C. GREEN, SR.

James C. Green
President of the Senate

CARL J. STEWART, JR.

Carl J. Stewart, Jr.
Speaker of the House of Representatives

Forty-Fifth Legislative Assembly, State of North Dakota begun and held at the Capitol in the City of Bismarck, on Tuesday, the fourth day of January, one thousand nine hundred and seventy-seven.

HOUSE BILL NO. 1069
(Legislative Council)
(Interim Committee on Natural Resources)

AN ACT to provide for solar easements, and for the contents of instruments creating those easements.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF THE STATE OF NORTH DAKOTA:

SECTION 1. SOLAR EASEMENT - CREATION.) Any easement obtained for the purpose of exposure of a solar energy device to the direct rays of the sun shall be created in writing and shall be subject to the same conveyancing and instrument recording requirements as other easements.

SECTION 2. CONTENTS.) Any instrument creating a solar easement shall include, but shall not be limited to, all of the following:

1. The vertical and horizontal angles, expressed in degrees, at which the solar easement extends over the real property subject to the solar easement.
2. Any terms, conditions, or both under which the solar easement is granted or will be terminated.
3. Any provisions for compensation of the owner of the property benefiting from the solar easement in the event of interference with the enjoyment of the solar easement, or compensation of the owner of the property subject to the solar easement for maintaining the solar easement.

SECTION 3. DEFINITION.) For purposes of this Act, the term "solar energy device" means the device, mechanism, or apparatus designed to receive the direct rays of the sun and convert those rays into heat, electrical, or other form of energy for the purpose of providing heating, cooling, or electrical power.

APPROVED MARCH ...12..., 197...7

Forty-Fifth Legislative Assembly, State of North Dakota begun and held at the Capitol in the City of Bismarck, on Tuesday, the fourth day of January, one thousand nine hundred and seventy-seven.

HOUSE BILL NO. 1479
(Metzger)

AN ACT to provide an income tax credit for the installation of solar or wind energy devices.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF THE STATE OF NORTH DAKOTA:

SECTION 1. INCOME TAX CREDIT FOR INSTALLATION OF SOLAR OR WIND ENERGY DEVICES.) Any taxpayer filing a North Dakota income tax return pursuant to the provisions of chapter 57-38 may claim a credit for the cost of a solar or wind energy device installed in a building or on the premises of a building owned by the taxpayer. The credit provided in this section shall be in an amount equal to five percent per year for two years of the actual cost of acquisition and installation of the solar or wind energy device and shall be subtracted from any income tax liability of the taxpayer as determined pursuant to the provisions of chapter 57-38. For the purposes of this Act, "solar or wind energy device" means a system or mechanism or series of mechanisms designed to provide heating or cooling or to produce electrical or mechanical power, or any combination of these, or to store any of these, by a method which converts the natural energy of the sun or wind. If a solar or wind energy device is a part of a system which uses other means of energy, only that portion of the total system directly attributable to the cost of the solar or wind energy device shall be included in determining the amount of the credit. The costs of installation shall not include costs of redesigning, remodeling, or otherwise altering the structure of a building in which a solar or wind energy device is installed.

APPROVED MARCH31....., 1977

Resolution

ENROLLED HOUSE JOINT
RESOLUTION NO. 1013

BY: WICKERSHAM of the House
and
CROW of the Senate

A JOINT RESOLUTION RELATING TO THE STATE DEPARTMENT OF ENERGY; STATING THE PURPOSE; COMMISSIONING THE STATE DEPARTMENT OF ENERGY TO HAVE A COST ANALYSIS PREPARED AS TO THE MORE EFFICIENT USE OF ALTERNATE SOURCES OF ENERGY, BUT IN NO EVENT TO IMPEDE THE ALREADY EXISTING SOURCES OF ENERGY IN THE STATE, OR WHICH ARE BEING DEVELOPED; AND PROVIDING FOR SEVERABILITY.

WHEREAS, the sources of energy in the state are constantly diminishing; and

WHEREAS, the operation of state government necessitates a continuing supply of energy; and

WHEREAS, experts in the fields of science and technology have proved that alternate sources of energy to those now in common use are efficient, abundant and feasible as a source of power; and

WHEREAS, the State Department of Energy has already been directed pursuant to Section 3370 of Title 74 of the Oklahoma Statutes to develop such data as may be required to coordinate, promote and develop effective statewide energy conservation programs, and analyze and evaluate such programs.

NOW, THEREFORE, BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES

By Enrolled: *[Signature]* Chairman, COMMITTEE ON ENCLOSED AND ENROLLED BILLS

AND THE SENATE OF THE 1ST SESSION OF THE 36TH OKLAHOMA LEGISLATURE:

SECTION 1. The State Department of Energy is hereby commissioned to conduct a study of alternative and supplemental energy sources such as nuclear and solar energy for possible use by state boards and agencies.

In no event is this study to impede the construction or development of existing energy sources in any state agency or subdivision of state government.

The study shall be commenced at the start of the next fiscal year and shall be concluded by the end of such fiscal year. Copies of the completed study shall be submitted to the Governor and each member of the Standing Committee of the Legislative Council on Business, Industry and Labor Relations.

SECTION 2. The provisions of this Resolution are severable and if any part or provision hereof shall be held void the decision of the court so holding shall not affect or impair any of the remaining parts or provisions of this Resolution.

An Act

ENROLLED HOUSE
BILL NO. 1322

BY: CRAIGHEAD, NANCE,
HAMMONS, HENRY, ARNOLD,
COWAN, CUMMINGS, DUCKETT,
BAUGHMAN, STEWARD, RIGGS,
WICKERSHAM, McCALEB,
HASTINGS and HOOD of the
House

and

CROW, BOATNER, CAPPS,
GRANTHAM, LUTON, TERRILL
and PIERCE of the Senate

AN ACT RELATING TO REVENUE AND TAXATION; DEFINING SOLAR ENERGY DEVICE; PROVIDING FOR A TAX CREDIT THEREFOR UNDER CERTAIN CIRCUMSTANCES; REQUIRING AN ITEMIZED ACCOUNTING OF CERTAIN COSTS; REQUIRING CERTAIN INSPECTIONS; AUTHORIZING THE CARRYING FORWARD OF THE TAX CREDIT TO SUBSEQUENT YEARS UNDER CERTAIN CONDITIONS; PROVIDING FOR THE FILING OF JOINT RETURNS; PROVIDING AN EXPIRATION DATE; PROHIBITING PUBLIC UTILITY RATE INCREASES OR SURCHARGES UNDER CERTAIN CIRCUMSTANCES; DIRECTING CODIFICATION; AND PROVIDING AN EFFECTIVE DATE.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA:

SECTION 1. As used in this act, "solar energy device" means a system or series of mechanisms primarily designed to provide heating or cooling, electrical or mechanical power, or any combination thereof by means of collecting, transferring or storing solar generated energy for such purposes.

Chairman, COMMITTEE ON ENGROSSED AND ENROLLED BILLS

Chairman, COMMITTEE ON ENGROSSED AND ENROLLED BILLS

SECTION 2. A. There shall be allowed to each resident individual, who is not a dependent of another taxpayer, a credit against the tax imposed by Section 2355 of Title 68 of the Oklahoma Statutes of not to exceed twenty-five percent (25%) of the cost of a solar energy device, such credit not to exceed a total of Two Thousand Dollars (\$2,000.00). The credit may only be claimed once for one principal private residence, on which homestead exemption is claimed and allowed, in one (1) taxable year.

B. An itemized accounting of the cost and an affidavit attesting to the facts thereof shall be furnished to the taxpayer by the person providing the solar energy device. The itemized accounting shall include the amount properly attributable for the cost of construction, reconstruction, remodeling, installation and acquisition of the solar energy device.

C. Field supervisors of the Corporation Commission, as provided by subsection (k) of Section 149 of Title 52 of the Oklahoma Statutes, may make on-site inspections of the solar energy devices before the tax credit is granted, as provided by subsection A of this section. No additional new employees of said Corporation Commission may be hired for such inspections. Said field supervisors may make written certification to the Oklahoma Tax Commission that the costs of installing the solar energy devices are proper for such use and may be claimed as a tax credit.

D. If the allowable tax credit exceeds the taxes due, or if there are no state taxes due on the taxpayer's income, the amount of the claim not used as an offset against the income taxes of a taxable year may be carried forward as a credit against subsequent income tax liability for a period not to exceed five (5) years.

E. A husband and wife who file separate returns for a taxable year in which they could have filed a joint return may each claim only one-half (1/2) of the tax credit that would have been allowed for a joint return.

SECTION 3. The tax credit provided by this act shall expire for all taxable years after December 31, 1987.

SECTION 4. No public utility shall increase rates charged or enforce a surcharge on the basis of the use or installation of a solar energy device by a consumer.

SECTION 5. Sections 1 through 3 of this act shall be codified in the Oklahoma Statutes as Sections 2357.1 through 2357.3 of Title 68, and Section 4 of this act shall be codified in the Oklahoma Statutes as Section 156 of Title 17, unless there is created a duplication in numbering.

SECTION 6. This act shall apply to all taxable years ending after December 31, 1977.

Richard D. H. [Signature]
Chairman, COMMITTEE ON ENGROSSED AND ENROLLED BILLS

A-Eng. SB 339

[2]

A BILL FOR AN ACT

1
2 Relating to taxation; creating new provisions; and amending sections 1 and 2, chapter
3 460, Oregon Laws 1975.

4 **Be It Enacted by the People of the State of Oregon:**

5 **SECTION 1.** Sections 2 to 6 of this Act are added to and made a part of ORS
6 469.010 to 469.140.

7 **SECTION 2.** As used in sections 2 to 6 of this 1977 Act:

8 (1) "Alternative energy device" means any system, mechanism or series of
9 mechanisms which uses solar radiation, wind or geothermal resource as a source for
10 space heating, water heating, cooling, electrical energy or any combination thereof for a
11 dwelling which source meets or exceeds 10 percent of the total energy requirements for
12 the dwelling.

13 (2) "Dwelling" means real or personal property ordinarily inhabited as a principal
14 or secondary residence and located within this state.

15 **SECTION 3.** (1) For the purposes of carrying out the provisions of sections 2 to 6 of
16 this 1977 Act, the Department of Energy shall adopt rules prescribing minimum
17 performance criteria for alternative energy devices for dwellings.

18 (2) The department, in adopting rules under this section for solar heating and
19 cooling systems, shall take into consideration applicable standards of federal
20 performance criteria prescribed pursuant to the provisions of section 5506, title 42,
21 United States Code (Solar Heating and Cooling Act of 1974).

22 **SECTION 4.** (1) Any person may apply to the department for certification under
23 section 5 of this 1977 Act of an alternative energy device if such person intends to
24 install an alternative energy device in his dwelling.

25 (2) Applications for certification shall be made in writing on a form provided by the
26 department and shall contain:

27 (a) A statement that the applicant intends to install an alternative energy device in
28 his dwelling;

29 (b) A description of the alternative energy device, including but not limited to, the
30 materials incorporated therein, equipment and mechanism made a part thereof and the
31 operational procedure thereof; and

32 (c) The actual cost of the alternative energy device.

33 (3) The director may require such further information as the director considers
34 necessary prior to issuance of a certificate.

1 **SECTION 5.** (1) Within 30 days of the receipt of an application for certification
2 filed pursuant to section 4 of this 1977 Act, the director may require the submission of
3 plans and specifications and, after examination thereof, may request corrections and
4 revisions of the plans and specifications necessary to bring the alternative energy
5 device into compliance with the standards of performance criteria adopted by the
6 department pursuant to section 3 of this 1977 Act.

7 (2) The director shall act on an application for certification before the 120th day
8 after filing of the application under section 4 of this 1977 Act. The action of the director
9 shall include certification of the actual cost of the alternative energy device. Under
10 extraordinary circumstances, an additional 30-day period may be allowed for the
11 director to act on an application in which case the director shall so notify the applicant.
12 Such notice shall include a finding setting forth the extraordinary circumstances.

13 (3) If the director rejects an application for certification, or certifies a lesser actual
14 cost of the alternative energy device than was claimed in the application, the director
15 shall cause written notice of his action, together with a statement of the findings and
16 reasons therefor, to be sent by registered or certified mail to the applicant. Failure of
17 the director to act constitutes approval of the application.

18 (4) If the application is rejected for any reason, including the information furnished
19 by the applicant as to the cost of the alternative energy device, or if the applicant is
20 dissatisfied with the certification of actual cost, then, within 60 days of the date of
21 mailing of the notice under subsection (3) of this section, the applicant may appeal the
22 rejection pursuant to the provisions of ORS chapter 183 governing contested cases.

23 (5) If the director approves an application for certification of an alternative device,
24 the director shall certify such device.

25 (6) A certificate issued under this section shall be effective for purposes of tax relief
26 in accordance with section 8 of this 1977 Act.

27 **SECTION 6.** (1) Pursuant to the procedures for a contested case under ORS chapter
28 183, the director may order the revocation of the certificate issued under section 5 of
29 this 1977 Act if the director finds that:

30 (a) The certification was obtained by fraud or misrepresentation; or

31 (b) The holder of the certificate has failed substantially to install or operate the
32 alternative energy device in compliance with the plans, specifications or procedures
33 specified in the certificate.

34 (2) As soon as the order of revocation under this section becomes final, the director
35 shall give notice thereof to the Department of Revenue.

1 (3) If the certification of an alternative energy device is ordered revoked pursuant
2 to paragraph (a) of subsection (1) of this section, all prior tax relief provided to the
3 holder of the certificate by virtue of such certificate shall be forfeited and the
4 Department of Revenue shall proceed to collect those taxes not paid by the certificate
5 holder as a result of the tax credit relief under section 8 of this 1977 Act.

6 (4) If the certification of an alternative energy device is ordered revoked pursuant
7 to paragraph (b) of subsection (1) of this section, the certificate holder shall be denied
8 any further tax credit relief under section 8 of this 1977 Act.

9 SECTION 7. Section 8 of this Act is added to and made a part of ORS chapter 316.

10 SECTION 8. (1) A resident individual shall be allowed a credit against the taxes
11 otherwise due under this chapter, based upon the cost of the alternative energy device
12 which has been certified under sections 2 to 6 of this 1977 Act.

13 (2) To qualify for the credit under this section:

14 (a) The alternative energy device must be constructed, installed and operated in
15 accordance with the provisions of sections 2 to 6 of this 1977 Act and a certificate issued
16 thereunder;

17 (b) The taxpayer who is allowed the credit must be the owner or contract purchaser
18 of the dwelling served by the alternative energy device; and

19 (c) The taxpayer must claim the credit in the tax year during which the alternative
20 energy device which has been certified under sections 2 to 6 of this 1977 Act is placed in
21 service.

22 (3) The taxpayer who is allowed the credit shall not be entitled to more than one
23 credit under this section in any one taxable year.

24 (4) The credit allowed under this section shall not exceed the lesser of:

25 (a) Twenty-five percent of the actual cost of the acquisition, construction and
26 installation of the alternative energy device; or

27 (b) \$1,000.

28 (5) A credit under this section may be claimed by a taxpayer for an alternative
29 energy device in those tax years which begin on or after January 1, 1978, but prior to
30 January 1, 1985.

31 (6) The credit provided by this section shall not affect the computation of basis for
32 the dwelling under this chapter.

33 (7) The credit allowed in any one year shall not exceed the tax liability of the
34 taxpayer.

1 (8) Any tax credit otherwise allowable under this section which is not used by the
 2 taxpayer in a particular year may be carried forward and offset against the taxpayer's
 3 tax liability for the next succeeding tax year. Any credit remaining unused in such next
 4 succeeding tax year may be carried forward and used in the second succeeding tax year,
 5 and likewise any credit not used in that second succeeding tax year may be carried
 6 forward and used in the third succeeding tax year, and any credit not used in that third
 7 succeeding tax year may be carried forward and used in the fourth succeeding tax year,
 8 and any credit not used in that fourth succeeding tax year may be carried forward and
 9 used in the fifth succeeding tax year, but may not be carried forward for any tax year
 10 thereafter.

11 (9) A nonresident shall be allowed the credit under this section in the proportion
 12 provided in subsection (6) of ORS 316.117.

13 (10) If a change in the taxable year of a taxpayer occurs as described in ORS
 14 316.215, or if the department terminates the taxpayer's taxable year under ORS
 15 314.440, the credit allowed by this section shall be prorated or computed in a manner
 16 consistent with ORS 316.215.

17 (11) If a change in the status of a taxpayer from resident to nonresident or from
 18 nonresident to resident occurs, the credit allowed by this section shall be determined in
 19 a manner consistent with ORS 316.397.

20 (12) A husband and wife who file separate returns for a taxable year may each
 21 claim a share of the tax credit that would have been allowed on a joint return in
 22 proportion to the contribution of each. However, a husband or wife living in his or her
 23 separate principal residence may claim the tax credit in the same amount as permitted
 24 a single person.

25 Section 9. Section 1, chapter 460, Oregon Laws 1975, is amended to read:

26 Sec. 1. Property equipped with a solar energy heating or cooling system is exempt
 27 from ad valorem taxation in an amount that equals any positive amount obtained by
 28 subtracting the true cash value of the property as if it [*had a conventional*] were not
 29 equipped with a solar heating or cooling system from the true cash value of the
 30 property with the solar heating or cooling system.

31 Section 10. Section 2, chapter 460, Oregon Laws 1975, is amended to read:

32 Sec. 2. This Act applies to assessment years beginning on or after January 1, 1976,
 33 but prior to [*January 1, 1986*] January 1, 1998.

B-Eng. SB 477

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A BILL FOR AN ACT

Relating to home loans to veterans.

Be It Enacted by the People of the State of Oregon:**SECTION 1.** Section 2 of this Act is added to and made a part of ORS chapter 407.**SECTION 2.** (1) Notwithstanding the maximum loan amount allowed under ORS 407.040, a borrower is entitled to subsequent loans, not to exceed a total of \$3,000, for the purpose of installing or connecting an alternative energy device for a home. The security for the loan shall consist of real property and shall include the home for which the alternative energy device is installed or connected.

(2) For the purposes of carrying out the provisions of this section, the director, with the advice and assistance of the Department of Energy, shall adopt rules prescribing minimum performance criteria for alternative energy devices for homes. The director may contract with the Department of Energy for certification of alternative energy devices which comply with the rules adopted under this subsection.

(3) As used in this section, "alternative energy device" means any system, mechanism or series of mechanisms which uses solar radiation, wind or geothermal resources as a source for space heating, water heating, cooling, electrical energy or any combination thereof for a home which source meets or exceeds 10 percent of the total energy requirements for the home.

B-Eng. SB 572

[2]

A BILL FOR AN ACT

1
2 Relating to energy; appropriating money; and prescribing an effective date.

3 **Be It Enacted by the People of the State of Oregon:**

4 **SECTION 1.** Sections 1 to 21 of this 1977 Act shall be known as the Oregon Energy
5 Conservation and Production Act of 1977.

6 **SECTION 2.** As used in this 1977 Act, unless the context requires otherwise:

7 (1) "Alternative energy project" means a project for the conversion or development
8 of an energy resource into a usable nonelectric form of energy.

9 (2) "Commercial lending institutions" means any bank, mortgage banking
10 company, trust company, savings bank, savings and loan association, credit union,
11 national banking association, federal savings and loan association or federal credit
12 union maintaining an office in this state.

13 (3) "Conservation project" means a project for the saving of energy through
14 weatherization.

15 (4) "Director" means the Director of the Department of Energy.

16 (5) "Development project" means a project for:

17 (a) The development of an energy resource or an energy resource site for use in the
18 generation of electric energy; or

19 (b) The generation, storage, transmission or distribution of electric energy from an
20 energy resource.

21 (6) "Energy resource" means any nonnuclear natural resource, industrial waste,
22 industrial process steam or heat or agricultural waste or product within this state, used
23 or usable for the production of energy and includes, but is not limited to, a
24 hydroelectric, pumped storage, wave, tidal, wind, solid waste, wood, straw or other
25 fiber, coal, geothermal or solar resource.

26 (7) "Energy resource site" means a site within this state at which an energy
27 resource is developed.

28 (8) "Person" has the same meaning as given in ORS 469.020.

29 (9) "Utility" means any individual, partnership, joint venture, corporation, private
30 or public service company, political subdivision, municipal corporation, agency, people's
31 utility district, or any other entity, public or private, engaged in, or authorized to
32 engage in, generating, transmitting, or distributing electric energy to or for the public
33 in this state.

1 (10) "Weatherization" means the installation of items designed to improve energy
2 utilization in the space heating of structures, including but not limited to calking,
3 weatherstripping, insulation and double glazed windows.

4 **SECTION 3.** (1) With the advice of the Public Utility Commissioner of Oregon, the
5 State Geologist, the Water Resources Director and the director, the Governor shall
6 designate and may from time to time revise designations of cost effective energy
7 resources that may be developed for the generation of electric energy by utilities and,
8 subject to other applicable provisions of law governing such development projects, the
9 specific development projects that may be undertaken by utilities pursuant to this 1977
10 Act.

11 (2) In designating development projects pursuant to subsection (1) of this section,
12 the Governor shall endeavor to:

13 (a) Designate development projects which he determines, through a net energy
14 analysis, will provide maximum conservation of energy resources with the maximum
15 generation of electric energy.

16 (b) Designate a sufficient number of development projects as he determines are
17 necessary to meet the needs of the state.

18 (c) Designate wherever possible small scale projects.

19 (d) Designate wherever possible projects within the service area where the electric
20 energy will be used.

21 (e) Designate projects having the least adverse environmental impact.

22 (f) Designate wherever possible cogeneration development projects to be undertaken
23 by utilities in cooperation with industry.

24 **SECTION 3a.** (1) It is the policy of the State of Oregon that weatherization of
25 heated structures within this state be financed through private enterprise including
26 commercial lending institutions, to the extent they have resources available and are
27 willing to voluntarily commit such resources.

28 (2) If the Director of Commerce certifies that a commercial lending institution does
29 not have sufficient funds available to satisfy requests for weatherization improvement
30 loans, such institution may apply to the director for a loan from the funds described in
31 section 10 of this 1977 Act for the purpose of maintaining its weatherization program.
32 A loan approved pursuant to this subsection shall be made according to the terms and
33 subject to the conditions imposed by the director.

34 (3) If the director certifies that commercial lending institutions are unable or
35 unwilling to loan for weatherization of specific structures, the director may provide

1 funds as provided in section 4 of this 1977 Act to facilitate weatherization of such
2 structures.

3 **SECTION 4.** The director, at the request of and in cooperation with a utility, shall
4 design a conservation project for such utility which will:

5 (1) Provide that all consumers of the utility on an equitable basis may borrow funds
6 from the utility for weatherization to the extent that such funds are made available to
7 the utility pursuant to section 6 of this 1977 Act.

8 (2) Provide for a promissory note to be executed by consumers to the utility to
9 secure weatherization improvements, set an interest rate on funds lent for
10 weatherization and provide for the repayment of loans through a surcharge to periodic
11 utility bills for a period not exceeding 10 years.

12 (3) Provide for the type of weatherization improvements allowed and the maximum
13 amount of individual loans not to exceed \$2,500.

14 (4) Provide for consumer eligibility requirements, direct payment by the utility of
15 weatherization contractors and installers and establish a system of certification by the
16 utility to insure workmanlike completion of weatherization improvements.

17 (5) Require utilities to remit to the director consumer payments on weatherization
18 loans included in periodic utility bills.

19 (6) Set the amount of funds necessary for the utility to administer the project
20 including a reserve for bad debts and collection.

21 **SECTION 5.** (1) With the advice of the director, the Governor shall designate and
22 may from time to time revise designation of the energy resources that may be developed
23 for the production of nonelectrical energy and, subject to other applicable provisions of
24 law governing such projects, the specific alternative energy projects that may be
25 undertaken pursuant to this 1977 Act.

26 (2) In designating alternative energy projects pursuant to subsection (1) of this
27 section, the Governor shall endeavor to:

28 (a) Designate alternative energy projects which utilize geothermal resources for
29 space heating.

30 (b) Designate energy resources which are not in general commercial use with
31 emphasis on possible conversion of agricultural and other wastes into usable fuels.

32 (c) Follow the applicable directives in paragraphs (a) to (f) of subsection (2) of
33 section 3 of this 1977 Act.

34 **SECTION 6.** (1) Any utility, individually or in conjunction with any person, may
35 apply to the director for a loan of funds with which to undertake a development project

1 designated by the Governor pursuant to section 3 of this 1977 Act or a conservation
2 project formulated pursuant to section 4 of this 1977 Act. The utility shall make the
3 application in such form and include such information as the director may require.

4 (2) Any person or utility may apply to the director for a loan of funds with which to
5 undertake an alternative energy project designated by the Governor pursuant to section
6 5 of this 1977 Act. The applicant shall submit such information in such form as the
7 director may require.

8 (3) Subject to ORS 757.495, if after reviewing the application and any other
9 pertinent information, the director determines that a loan of funds pursuant to this
10 1977 Act would assist in the generation of electric energy, the saving of electric energy
11 or the creation of nonelectric energy and would be in the public interest, the director
12 shall approve a loan to the applicant from funds described in section 10 of this 1977
13 Act. A loan approved pursuant to this subsection shall be made according to the terms
14 and subject to the conditions imposed by the director.

15 (4) In maintaining a program for approving loans of funds to utilities for
16 development and conservation projects, the director shall endeavor to loan to each
17 utility a percentage of the total funds that become available for such projects under the
18 program equal to the percentage of electric energy supplied by the utility to customers
19 within this state on the date of such loan.

20 (5) In allocating funds for conservation, development and alternative energy
21 projects, the director in cooperation with participating utilities or other applicants shall
22 approve projects that provide the greatest long-term benefit to the people of the State of
23 Oregon.

24 **SECTION 7.** In administering this 1977 Act the director:

25 (1) May adopt necessary rules as provided in ORS 183.310 to 183.500;

26 (2) May apply for, accept and disburse any private or federal assistance, gifts or
27 grants, subject to the terms and conditions thereof, available for the performance of the
28 functions of the Governor or director under this 1977 Act;

29 (3) Shall gather and provide the public with information concerning ways in which
30 conservation of energy resources and energy can be achieved; and

31 (4) Shall insure through contract provision or rule that electric energy generated or
32 sold pursuant to this 1977 Act will benefit local Oregon consumers.

33 **SECTION 8.** Funds which have not been applied for pursuant to section 6 of this
34 1977 Act and which remain available for application two years after the effective date
35 of this 1977 Act, may be used by the director as described in section 9 of this 1977 Act,

1 if the Governor determines state action is necessary to meet the energy needs of the
2 state.

3 **SECTION 9.** (1) Subject to applicable provisions of law, the director shall perform
4 such of the following functions as the Governor directs pursuant to section 8 of this
5 1977 Act:

6 (a) Acquire, by purchase, lease or gift, designated electrical energy resource sites
7 within the state.

8 (b) Develop, separately or in conjunction with any utility or the United States,
9 designated electrical energy resources within the state and acquire, construct, maintain
10 or operate electric energy generation plants, electric energy storage facilities and
11 transmission lines in connection therewith.

12 (2) The director shall fix rates and charges for the sale or disposal of electric energy
13 sold pursuant to this section and shall, prior to any other disposal, offer for sale to each
14 utility a percentage of the total of such electric energy that is equal to the percentage of
15 electric energy supplied by the utility to customers within this state on the date of the
16 sale.

17 **SECTION 10.** There is established the Energy Conservation and Production Fund.
18 All moneys from the sale of bonds under section 11 of this 1977 Act and all moneys
19 received by the director pursuant to section 7 of this 1977 Act shall be paid to the credit
20 of the Energy Conservation and Production Fund. All moneys in the fund are
21 appropriated continuously to the director for the purpose of carrying out the provisions
22 of sections 6 and 8 of this 1977 Act.

23 **SECTION 11.** (1) The director shall issue and sell such general obligation bonds of
24 the State of Oregon of the kind and character and within the limits prescribed by
25 Article XI-D of the Oregon Constitution as are necessary to carry out its provisions and
26 the provisions of sections 6 and 8 of this 1977 Act.

27 (2) Upon his determination thereof, the director shall certify that sufficient funds
28 are available for loans to undertake projects approved pursuant to this 1977 Act.

29 **SECTION 12.** Except as provided in section 16 of this 1977 Act, all moneys
30 obtained from the sale of bonds under sections 11 to 19 of this 1977 Act shall
31 immediately be paid over to the State Treasurer and by him credited to the Energy
32 Conservation and Production Fund. Such moneys shall be used only for the purposes
33 stated in sections 6 and 8 of this 1977 Act. Pending the use of such moneys for the
34 proper purposes, such moneys may be invested in the manner provided by law.

1 **SECTION 13.** All bonds issued under sections 11 to 19 of this 1977 Act shall
2 contain a direct promise of the State of Oregon to pay the face value thereof, with
3 interest thereon at such rate or rates, payable semiannually, as the director considers
4 appropriate. The principal of and the interest upon the bonds, when due, shall be paid
5 at the fiscal agency of the State of Oregon, in the City and State of New York. The
6 charges imposed by such agency for its services shall be paid, upon approval by the
7 State Treasurer, from the Energy Conservation and Production Sinking Fund.

8 **SECTION 14.** Each issue of bonds under sections 11 to 19 of this 1977 Act shall be
9 payable in such principal instalments and upon such maturity date or dates as shall be
10 determined by the director; provided that the earliest maturity date of any of the bonds
11 of an issue shall be not less than one year and the final maturity date not more than 30
12 years from the date of issue thereof. In his discretion, the director may issue the bonds,
13 as provided in ORS 286.040, with reservation of the right to redeem the bonds for
14 retirement or refunding purposes prior to the final date or dates of maturity thereof.
15 The bonds and the appurtenant coupons shall be negotiable in form and shall embody
16 an absolute and unconditional promise of the State of Oregon to pay the principal of
17 and the interest upon the bonds, when due, in any coin or currency which, at the time of
18 payment, is legal tender for the payment of public and private debts within the United
19 States of America. The bonds shall be executed with the facsimile signatures of two of
20 the three officers designated in ORS 286.050, and with the manual signature of the
21 other of such officers, as agreed upon among them. The bonds shall bear coupons
22 evidencing the interest to become due thereon for each instalment thereof. The first
23 coupon of each issue of bonds may be for a period of more or less than six months but of
24 not more than one year, if, in the judgment of the director, the issuance of the bonds
25 with such coupons is advisable. The coupons shall be executed with the facsimile
26 signature, with the title of his office thereunder, of each of the officers designated in
27 ORS 286.050. Bonds issued under sections 11 to 19 of this 1977 Act and the interest
28 coupons annexed thereto, bearing the signatures of officers in office on the date of
29 execution of the bonds shall be valid and legally binding obligations, notwithstanding
30 that before delivery of the bonds to the purchasers thereof any or all of the officers have
31 ceased to be such.

32 **SECTION 15.** The State Treasurer shall make payment of the principal of and the
33 interest on any bond issued under sections 11 to 19 of this 1977 Act from the Energy
34 Conservation and Production Sinking Fund.

1 **SECTION 16.** The director may issue refunding bonds for the purpose of refunding
2 outstanding bonds issued under sections 11 to 19 of this 1977 Act. The refunding bonds
3 may be sold in the same manner as other bonds are sold under sections 11 to 19 of this
4 1977 Act. All moneys obtained from the sale of refunding bonds shall immediately be
5 paid over to the State Treasurer and by him credited to the Energy Conservation and
6 Production Sinking Fund. The issuance of the refunding bonds, the maturity date, and
7 other details thereof, the rights of the holders thereof, and the duties of the Governor,
8 Secretary of State and State Treasurer with respect thereto, shall be governed by the
9 other provisions of sections 11 to 19 of this 1977 Act, in so far as such provisions are
10 applicable. The refunding bonds may be issued to refund bonds originally issued or to
11 refund bonds previously issued for refunding purposes. Pending the use of moneys
12 obtained from the sale of refunding bonds for the proper purposes, such moneys may be
13 invested in the manner provided by law.

14 **SECTION 17.** The director shall provide such method as he considers appropriate
15 for the advertisement by newspaper of each issue of bonds under sections 11 to 19 of
16 this 1977 Act before the issue is sold and shall require such deposit with each bid
17 therefor as he considers adequate to insure the fulfillment thereof. Prior to
18 advertisement of any of the bonds for sale, the director in his discretion may publish in
19 one or more financial newspapers in the City and State of New York a statement
20 showing the current financial condition of the State of Oregon. The advertisement of
21 the proposed sale of the bonds shall be published for a period of not less than 10 days
22 and shall contain a provision to the effect that the director, in his discretion, may reject
23 any or all bids received by him in pursuance of such advertisement. In the event of such
24 rejection, the director may readvertise for bids for the bonds in the form and manner
25 set forth in this section, as many times as, in the judgment of the director, may be
26 necessary to effect a satisfactory sale. None of the bonds may be sold at private sale;
27 but they may be sold to the state, either in registered or in coupon form, without
28 advertisement thereof for public sale, at such interest rate or rates, not exceeding an
29 effective rate, computed upon a single interest basis, of the prime interest rate less one
30 and one-half percent, payable semiannually, and at such price, not lower than that
31 specified in this section, as shall be agreed upon by the director and the State
32 Treasurer. The bonds, including refunding bonds, may be sold to any bidder or to the
33 state at a price of not less than the par value thereof and the full amount of the accrued
34 interest thereon.

1 **SECTION 18.** The director shall compute and determine in January of each year,
2 after the sale of bonds under sections 11 to 19 of this 1977 Act, the amount of principal
3 and interest which will fall due during such year on bonds then outstanding and unpaid
4 and shall maintain or hold in the Energy Conservation and Production Sinking Fund
5 sufficient moneys to pay such maturing obligations.

6 **SECTION 19.** No bonds shall be issued or sold under sections 11 to 19 of this 1977
7 Act nor indebtedness incurred thereunder, which, singly or in the aggregate with
8 previous debts or liabilities incurred for the purposes of carrying out the provisions of
9 sections 6 and 8 of this 1977 Act shall exceed any limitation provided in the Oregon
10 Constitution at the date of the issuance and sale of such bonds. If the maximum
11 aggregate principal sum of bonds authorized to be issued under sections 11 to 19 of this
12 1977 Act exceeds any limitation provided in the Oregon Constitution, bonds shall be
13 issued under sections 11 to 19 of this 1977 Act, in the aggregate principal sum of not to
14 exceed that authorized under the limitation provided in the Oregon Constitution.

15 **SECTION 20.** (1) There hereby is created the Energy Conservation and Production
16 Sinking Fund, separate and distinct from the General Fund, to provide for payment of:

17 (a) Administrative expenses of the director and the State Treasurer in carrying out
18 the duties, functions and powers imposed by sections 11 to 19 of this 1977 Act.

19 (b) Principal and interest of all bonds issued pursuant to the provisions of sections
20 11 to 19 of this 1977 Act.

21 (2) The fund created by subsection (1) of this section shall consist of:

22 (a) Such moneys obtained from the sale of refunding bonds and any accrued interest
23 on such bonds.

24 (b) Moneys received in repayment of loans approved pursuant to section 6 of this
25 1977 Act.

26 (c) Moneys received from sales of energy pursuant to section 9 of this 1977 Act.

27 (d) Moneys received from ad valorem taxes levied pursuant to Article XI-D of the
28 Oregon Constitution, and all moneys that the Legislative Assembly may provide in lieu
29 of taxes.

30 (3) The moneys referred to in subsection (2) of this section are continuously
31 appropriated to the director and the State Treasurer for the purposes provided in
32 subsection (1) of this section.

33 **SECTION 21.** If there are insufficient funds in the Energy Conservation and
34 Production Sinking Fund to make the payments referred to in subsection (1) of section

1 20 of this 1977 Act, the director or the State Treasurer may request the funds necessary
2 for such payments from the Emergency Board.

3 **SECTION 22.** Sections 1 to 21 of this Act are added to and made a part of ORS
4 chapter 469.

5 **SECTION 23.** This Act becomes effective on the date that the amendment to the
6 Oregon Constitution proposed by Senate Joint Resolution 32 of the Fifty-ninth
7 Legislative Assembly becomes effective.

A-Eng. SJR 18

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SENATE JOINT RESOLUTION 18

Whereas the conservation of energy and energy resources is of vital importance to the people of the State of Oregon; and

Whereas new sources of energy are being explored and developed in order to maintain the quality of life of the people of the State of Oregon; and

Whereas it is to the benefit of the people of the State of Oregon to encourage the use of alternative energy sources by private citizens; and

Whereas solar energy has been determined to be a viable alternative energy source for the purposes of heating and cooling; now, therefore,

Be It Resolved by the Legislative Assembly of the State of Oregon:

That the Director of Extension Services at Oregon State University with assistance from the University of Oregon is directed to formulate information relating to the construction and use of solar energy heating and cooling systems and to require that county extension agents distribute such information to the public.

A-Eng. SJR 32

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SENATE JOINT RESOLUTION 32

Be It Resolved by the Legislative Assembly of the State of Oregon:

Paragraph 1. Sections 1, 2 and 3, Article XI-D of the Constitution of the State of Oregon, are repealed, and the following sections are adopted in lieu thereof:

SECTION 1. (1) The Legislative Assembly shall by law provide for the management, development and conservation of natural energy resources which are nonnuclear in nature. Such provisions shall enable development of hydroelectric, geothermal, solar and other natural energy resources available within the State of Oregon and for that purpose may authorize allocation of state funds to public or private utilities or agencies for the development or conservation thereof, except that priority shall be given in distribution of both the funds allocated and the energy developed to the public and private utilities or agencies operating within the State of Oregon in whole or in part in proportion to the share of Oregon's energy demands each such utility or agency supplies at the time of the enactment of this section.

(2) Notwithstanding the limitations contained in sections 7 and 8, Article XI of this Constitution, the credit of the state may be loaned and indebtedness incurred in an amount not to exceed, at any time, one and one-half percent of the true cash value of all taxable property in the state for the purpose of providing funds with which to carry out the provisions of this Article.

SECTION 2. Bonds issued pursuant to section 1 of this Article shall be the direct obligation of the State of Oregon and shall be in such form, run for such periods of time and bear such rates of interest as shall be provided by law. Such bonds may be refunded with bonds of like obligation.

SECTION 3. Ad valorem taxes shall be levied annually upon all taxable property within the State of Oregon in sufficient amount to provide for the repayment of principal and interest of the bonds issued pursuant to section 1 of this Article. The Legislative Assembly may provide other revenues to supplement or replace such tax levies.

Paragraph 2. The amendment proposed by this resolution shall be submitted to the people for their approval or rejection at the next regular general election held throughout the state.

State of Rhode Island, &c.

IN GENERAL ASSEMBLY

JANUARY SESSION, A. D. 19 77

RESOLUTION

CREATING A SPECIAL LEGISLATIVE COMMISSION TO STUDY AND EVALUATE ECONOMICALLY FEASIBLE ENERGY CONSERVATION ALTERNATIVES

RESOLVED, That a special legislative commission be and the same is hereby created consisting of nine (9) members: five (5) of whom shall be from the house of representatives, not more than four (4) from the same political party, to be appointed by the speaker; four (4) of whom shall be from the senate not more than three (3) from the same political party, to be appointed by the majority leader; and whose purpose it shall be to study and evaluate economically feasible energy conservation alternatives for private, public, commercial, and industrial consumers including but not limited to, the development of solar energy systems, and the feasibility of financial and tax incentives to encourage the implementation of energy conservation alternatives.

Forthwith upon the passage of this resolution, the members of the commission shall meet at the call of the speaker of the house and organize and shall select from among themselves a chairman. Vacancies in said commission shall be filled in like manner as the original appointmer

The membership of said commission shall receive no compensation for their services.

All departments and agencies of the state shall furnish such advice and information, documentary and otherwise, to said commission and its agents as is deemed necessary or desirable by the commission to facilitate the purposes of this resolution.

The director of administration is hereby authorized and directed to provide suitable quarters for said commission; and be it further

RESOLVED, That the commission shall report its findings and recommendations to the general assembly on or before March 1, 1978.

CHAPTER 202.

AN ACT Relating to the Assessment of Solar Energy Heating and Cooling Systems.

H 5503
77-H 5583-
Approved
May 13, 1977.

It is enacted by the General Assembly as follows:

[Chapter and section references assigned by secretary of state. P.L. 1961, ch. 91. (§43-2-2.1)].

“Section 1. Chapter 44-3 of the general laws entitled, ‘Property subject to taxation,’ as amended is hereby further amended by adding thereto the following section:

Valuation of solar energy units for tax purposes.

“44-3-19. VALUATION OF SOLAR ENERGY UNITS. — A solar heating, cooling or heating and cooling system in an existing or newly constructed residential or nonresidential building shall be assessed at no more than the value of a conventional heating, cooling, or heating and cooling system necessary to serve the building.

“The provisions of this section shall expire and is hereby repealed April 1, 1997.

Act effective, when.

“Sec. 2. This act shall take effect upon its passage.”

SOLAR ENERGY DEVICES—FRANCHISE TAX EXEMPTION

CHAPTER 584

H. B. No. 858

An Act relating to an exemption from the franchise tax for certain persons manufacturing, selling, or installing solar energy devices; amending Section (1) of Article 12.03, Title 122A, Taxation—General, Revised Civil Statutes of Texas, 1925, as amended.

Be it enacted by the Legislature of the State of Texas:

Section 1. Section (1), Article 12.03, Title 122A, Taxation—General, Revised Civil Statutes of Texas, 1925, as amended, is amended⁴⁵ to read as follows:

"(1) The franchise tax imposed by this chapter shall not apply to:

"(a) an insurance company; surety, guaranty, or fidelity company; transportation company; sleeping, palace car, and dining company now required to pay an annual tax measured by their gross receipts;

"(b) a corporation organized as a railway terminal corporation and having no annual net income from the business done by it;

"(c) a nonprofit corporation organized for the exclusive purpose of promoting the public interest of any county, city, or town, or other area within the state;

"(d) a nonprofit corporation organized for the purpose of religious worship;

"(e) a nonprofit corporation organized for the purpose of providing places of burial;

"(f) a nonprofit corporation organized for the purpose of holding agricultural fairs and encouraging agricultural pursuits;

"(g) a nonprofit corporation organized for strictly educational purposes, including a corporation organized for the sole purpose of providing a student loan fund or student scholarships;

"(h) a nonprofit corporation organized for purely public charity;

"(i) a savings and loan association chartered or authorized to operate as a building or savings and loan association under the provisions of the Texas Savings and Loan Act (Article 852a, Vernon's Texas Civil Statutes);

"(j) an open-end investment company, as defined in and subject to the Federal Investment Company Act of 1940 (15 U.S.Code, secs. 80a-1 et seq.), and which also is registered as such investment company under The Securities Act, as amended (Articles 581-1 et seq., Vernon's Texas Civil Statutes);

"(k) a nonprofit corporation organized for the sole purpose of educating the public in the protection and conservation of fish, game, and other wildlife, as well as grasslands and forests;

"(l) a nonprofit water supply or sewer service corporation organized in behalf of cities or towns pursuant to Chapter 76, Acts of the 43rd Legislature, 1st Called Session, 1933, as amended (Article 1434a, Vernon's Texas Civil Statutes);

45. V.A.T.S., Tax.-Gen. art. 12.03, § (1).

"(m) a nonprofit corporation organized for the purpose of constructing, acquiring, owning, leasing, or operating a natural gas facility in behalf of and for the benefit of a city or residents of a city;

"(n) a nonprofit corporation organized for the purpose of providing convalescent homes or other housing for persons 62 years of age or older or for handicapped or disabled persons without regard to whether the corporation is for purely public charity;

"(o) a nonprofit corporation engaged exclusively in the business of owning residential property for the purpose of providing cooperative housing for any person or persons;

"(p) a corporation exempted from the payment of a franchise tax by the provisions of any of the laws of this state other than this chapter;

"(q) a nonprofit corporation which has been exempted from the federal income tax under the provisions of Section 501(c)(3), (4), (5), (6), or (7) of the Internal Revenue Code of 1954, as amended, as it existed on January 1, 1975; and

"(r) corporations engaged exclusively in the business of manufacturing, selling, or installing solar energy devices, which term, for the purposes of this chapter, means a system or series of mechanisms designed primarily to provide heating or cooling or to produce electrical or mechanical power or both by means of collecting and transferring solar-generated energy and includes mechanical or chemical devices having the capacity for storing solar-generated energy for use in heating or cooling or in the production of power."

Sec. 2. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended, and that this Act take effect and be in force from and after its passage, and it is so enacted.

Passed by the House on May 13, 1977, by a non-record vote; passed by the Senate on May 25, 1977; Yeas 31, Nays 0.

Approved June 15, 1977.

Effective Aug. 29, 1977, 90 days after date of adjournment.

ENERGY DEVELOPMENT ACT

CHAPTER 838³⁵

H. B. No. 1799

An Act relating to the creation and administration of an Energy Development Fund to support research in and development of alternative energy sources and making an appropriation to the fund.

Be it enacted by the Legislature of the State of Texas:

Short title

Section 1. This Act shall be known as "The Texas Energy Development Act of 1977."

Declaration of policy

Sec. 2. The legislature finds and declares that:

(1) Texas, the largest producer and consumer of energy among the 50 states, currently relies on oil and gas to supply at least 98 percent of its energy needs. Texas and the United States have less than 10 years' supply of oil and gas reserves based on current rates of production.

(2) Although an end to federal price controls on oil and gas would stimulate greater development of oil and gas supplies, the rapid depletion of these fossil fuels is inevitable.

(3) The nation and the state must develop known resources of more plentiful fuels and begin the shift to total reliance on alternate abundant energy resources.

(4) Development of alternative energy technologies is both an expensive and risky activity which often discourages adequate funding by private sources alone. Precedent exists for government involvement in research, development, and demonstration of new technologies.

(5) While the major responsibility for energy research, development, and demonstration lies with the federal government, federal programs will often overlook projects of regional or state significance in order to concentrate on national priorities. Federal programs often bypass competent local research facilities in preference to federal laboratories or contractors.

(6) Other states have been able to attract federally funded energy development projects with the use of matching funds or seed money. Texas is interested in competing with these other states to secure such projects.

(7) The most effective development of alternate technologies depends on the close cooperation and coordination among federal, state, and local governments and private participants. Such coordination can be enhanced through the planning, programming, and implementation of a state energy development fund.

(8) Funding of energy research and development under this Act should concentrate on technologies which offer the realistic promise of significant energy contributions within 25 years and which are of particular importance to Texas.

35. Vernon's Ann.Civ.St. art. 4113(47b) §§ 1 to 9.

Definitions

Sec. 3. In this Act:

- (1) "Fund" means the Energy Development Fund created by this Act.
- (2) "Board" means the Energy Development Fund Board.
- (3) "Person" means an individual, corporation, association, organization, business trust, or any other legal entity.

Creation of the Energy Development Fund

Sec. 4. The Energy Development Fund is created in the state treasury and is composed of funds provided by legislative appropriation, not to exceed \$5 million, plus such additional funds as are received from other sources in accordance with Section 7 of this Act. The fund is created to support research in and development of solar, geothermal, lignite, biomass, wind, conservation, and other alternate abundant energy resource technologies. Expenses incurred in the administration of this Act shall be payable out of the fund at a level not to exceed 10 percent of the total appropriated.

Creation of the Energy Development Fund Board

Sec. 5. There is created an Energy Development Fund Board which shall consist of the members of the Texas Energy Advisory Council.

Administration of the fund

Sec. 6. (a) The board shall administer the fund.

(b) The board shall promulgate a plan for the development of alternative energy technologies. Such a plan shall prescribe detailed regulations for: submission and solicitation of proposals, evaluation and selection of proposals by an impartial group of technical experts, the disbursement of contracted funds, project cost accounting, and project reporting requirements. Such a plan shall be published within 60 days of the effective date of this Act. Within 90 days thereafter, the board shall adopt the plan following public hearing and appropriate review.

(c) The board may contract with universities, nonprofit institutions, and other persons that meet the criteria for funding adopted by the board.

Additional sources of funding

Sec. 7. The board may receive funds from private or public sources for the purposes of this Act.

Initial appropriation

Sec. 8. There is hereby appropriated to the Energy Development Fund from the General Revenue Fund the sum of \$1,500,000.

Effective date

Sec. 9. This Act shall take effect on September 1, 1977.

Emergency

Sec. 10. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an impera-

tive public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended, and that this Act take effect and be in force from and after its passage, and it is so enacted.

Passed by the House on May 23, 1977, by a non-record vote; and that the House concurred in Senate amendments to H.B. No. 1799 on May 30, 1977, by a non-record vote; passed subject to the provisions of Article III, Section 49a, of the Constitution of the State of Texas; passed by the Senate, as amended, on May 28, 1977, by a viva-voce vote; passed subject to the provisions of Article III, Section 49a, of the Constitution of the State of Texas.

Approved June 16, 1977.

Effective Sept. 1, 1977.

**PROPOSED CONSTITUTIONAL AMENDMENTS—TAX
EXEMPTION FOR SOLAR OR WIND-
POWERED ENERGY SOURCES**

S. J. R. No. 53

Proposing an amendment to Article VIII, Section 2, Subsection (a) of the Texas Constitution to authorize the legislature to exempt from taxation solar or wind-powered energy devices.

Be it resolved by the Legislature of the State of Texas:

Section 1. That Article VIII, Section 2, Subsection (a) of the Texas Constitution be amended to read as follows:

“(a) All occupation taxes shall be equal and uniform upon the same class of subjects within the limits of the authority levying the tax; but the legislature may, by general laws, exempt from taxation public property used for public purposes; actual places of religious worship, also any property owned by a church or by a strictly religious society for the exclusive use as a dwelling place for the ministry of such church or religious society, and which yields no revenue whatever to such church or religious society; provided that such exemption shall not extend to more property than is reasonably necessary for a dwelling place and in no event more than one acre of land; places of burial not held for private or corporate profit; solar or wind-powered energy devices; all buildings used exclusively and owned by persons or associations of persons for school purposes and the necessary furniture of all schools and property used exclusively and reasonably necessary in conducting any association engaged in promoting the religious, educational and physical development of boys, girls, young men or young women operating under a State or National organization of like character; also the endowment funds of such institutions of learning and religion not used with a view to profit; and when the same are invested in bonds or mortgages, or in land or other property which has been and shall hereafter be bought in by such institutions under foreclosure sales made to satisfy or protect such bonds or mortgages, that such exemption of such land and property shall continue only for two years after the purchase of the same at such sale by such institutions and no longer, and institutions of purely public charity; and all laws exempting property from taxation other than the property mentioned in this Section shall be null and void.”

Sec. 2. The foregoing constitutional amendment shall be submitted to a vote of the qualified electors of this state at an election to be held on the first Tuesday after the first Monday in November, 1978, at which election the ballots shall be printed to provide for voting for or against the proposition: “The constitutional amendment authorizing the legislature to exempt from taxation solar and wind-powered energy devices.”

Adopted by the senate on May 17, 1977: Yeas 28, Nays 2; adopted by the house on May 26, 1977: Yeas 132, Nays 11, one present not voting.

Filed without signature.

Filed with the Secretary of State, May 27, 1977.

3370

R E S O L U T I O N

1 WHEREAS, A continuing abundant supply of energy is vital to
2 Texas' future economic growth; yet, even with conservation measures
3 and expected price increases, the projected energy requirements
4 will exceed our ability to provide for them; and

5 WHEREAS, Texas has always been a leader among states in the
6 development of energy reserves and should continue its leadership
7 in the energy field now by encouraging the development of
8 alternative, nonexhaustible energy sources; and

9 WHEREAS, As an expression of its commitment to finding
10 solutions to the energy problem, the state government should
11 encourage the adoption of alternative heating and cooling systems
12 in new state buildings; and

13 WHEREAS, Although additional funds for construction of such
14 buildings would be necessary, since structures utilizing
15 alternative energy systems are more expensive, the energy savings
16 which result would more than compensate for this cost; now,
17 therefore, be it

18 RESOLVED, That the House of Representatives of the 65th
19 Legislature hereby request all state agencies, departments,
20 colleges, and universities to encourage feasibility studies and
21 demonstration projects that make use of alternative energy sources
22 in the construction of new state buildings; and, be it further

23 RESOLVED, That an official copy of this resolution be
24 forwarded to the heads of all state agencies, departments,
1 colleges, and universities as an expression of the concerned views
2 of the members of the House of Representatives of the State of
3 Texas.

ENERGY POLICY ADOPTION

1977

GENERAL SESSION

Enrolled Copy

S. C. R. No. 1

By Edward T. Beck

A CONCURRENT RESOLUTION OF THE GENERAL SESSION OF THE 42ND LEGISLATURE OF THE STATE OF UTAH, THE GOVERNOR CONCURRING THEREIN; ADOPTING AS THE ENERGY POLICY FOR THE STATE OF UTAH THE COMPREHENSIVE ENERGY POLICY SUBMITTED TO THE LEGISLATURE AND THE GOVERNOR BY THE JOINT LEGISLATIVE COMMITTEE ON ENERGY POLICY IN THEIR ENERGY POLICY REPORT; AND COMMENDING THIS COMMITTEE AND ITS MEMBERS FOR THEIR EFFORTS IN PREPARING THIS REPORT.

~~Be it resolved by the Legislature of the State of Utah, the Governor concurring therein:~~

WHEREAS, one of the more far-reaching, world-wide developments over the last several years has been that of an increasing shortage of sources of energy that can be utilized in an economic and environmentally protective manner;

WHEREAS, this shortage has been made more acute by the marked increase in the prices of various sources of energy, particularly the fossil fuels, and also its ever-increasing rate of consumption;

WHEREAS, as a means of lessening the effect of such shortage of energy there is need of developing an integrated energy policy for the United States and for the various states comprising it;

WHEREAS, to accomplish this for the State of Utah the Governor and the Legislature of Utah during 1976 created a Joint Legislative Committee on Energy Policy, which Committee commenced meeting in June, 1976, to develop an energy policy for the state and submit it to the General Session of the Utah Legislature scheduled to convene on January 10, 1977, and to the Governor of this state;

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WHEREAS, this Committee has had a large number of meetings since June, 1976, and has expended great effort in developing an energy policy for the state, putting this in the form of a preliminary energy policy report for consideration by concerned citizens of this state;

WHEREAS, this preliminary energy policy report has been considered in hearings held in many strategic cities over the state to allow for further input by the citizens of the state, all of which has been further considered by the Joint Legislative Committee on Energy Policy in preparing the final draft of their energy policy report;

WHEREAS, the final draft of the energy policy report of this Committee has been submitted to the Utah Legislature and to the Governor and contains the following as the proposed comprehensive energy policy for the State of Utah:

COMPREHENSIVE ENERGY POLICY FOR UTAH

No single factor has been more central to the development of the United States as a world power and to the living standards and aspirations of its citizens than a reliable, adequate and generally available supply of energy in multiple forms and at low prices. The committee recognizes that the state and the nation face serious and impending shortages of energy in the future. Immediate action will be required to promote conservation and development of the nation's energy resources and to promote the wise use of existing energy in order to meet this challenge. Inasmuch as substantial undeveloped energy resources lie within the boundaries of the State of Utah, it is appropriate that the State of Utah adopt energy policies that will be in the best interest of the nation and the citizens of Utah.

Similarly, the committee recognizes the great wealth of scenic and recreational resources situated within the boundaries of the state and the responsibility of the state to preserve these resources, to develop them for the benefit of the people of

S. C. P. No. 1

Utah and to make them available for the use of all people of all generations.

The committee recognizes that the energy needs of the state and nation are inextricably tied to population's demand and economic realities, and that society's attitudes and expectations in this regard are the foundation of our energy policy. The committee also recognizes these attitudes and expectations may change and necessitate a reexamination of this energy policy.

The nation's current increasing dependence upon foreign energy sources and its reliance upon the nation's least abundant energy resources, oil and gas, place the nation in jeopardy from government actions abroad that are not in the best interests of the United States and from potential energy blackouts at home. The state cannot by itself set an energy policy. International events and economic and pricing policies are outside the state's influence; furthermore, it is recognized that cooperation and coordination between federal, state and local governments and industry are essential to achieve orderly energy resource development.

Utah is in the somewhat enviable position of having its electricity produced from coal-fired and hydroelectric plants rather than from oil and gas-fired plants and therefore should be better off than most areas in terms of resource availability. Currently, energy prices in Utah compared with the rest of the nation are low. In the future, as the world price of oil rises and the costs of producing fossil fuels increase, all energy prices will undoubtedly rise in spite of such energy saving measures as conservation and in spite of increased production of in-state resources.

Conservation of energy for economic and availability reasons is of paramount importance and a separate state committee is in the process of formulating a state conservation plan. It is questionable, however, whether conservation alone can reduce the

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growth in energy demand significantly without basic changes in American lifestyles and standards of living. Therefore, energy development must occur and should be designed to protect the natural and scenic value of the state for future generations.

While development of all Utah's energy resources, both renewable (solar, geothermal and wind) and nonrenewable (oil, gas, coal and synthetic fuels) are viewed as desirable, it is recognized that a major portion of the state's and nation's increased energy demand should be met by increased coal production. This coal development should, where possible, be utilized for in-state electric generation and for the development of a diversified state industrial base; however, exportation of the raw material should also be sought where such exportation brings the greatest net benefits for the welfare of Utah citizens.

In order to encourage development, Utah should aggressively seek out and develop for maximum public benefit its undeveloped water resources so far as may be consistent with environmental values. Water is a scarce resource and the proper development of Utah's in-state water and its interstate water allocations are necessary to provide water for Utah's increasing population as well as for agriculture, industry and energy development.

Energy resource development can result in many benefits for the state, including jobs for Utah's increasing population, increased tax and royalty income and increased economic prosperity for its citizens; however, there can be negative aspects to development, particularly in its initial phases. State and local government must prepare for the impacts of energy development. This means assuring a proper financial base to allow local governments to provide adequate public services for the expected increased population caused by energy development. The state should help local government assess the impacts of

S. C. P. No. 1

proposed development and provide technical and financial assistance to local communities.

Environmental constraints often imposed by the Federal Government impose limits to energy development. Utah's environmental standards should be related to the needs of its citizens while recognizing valid interstate concerns. The state should assume an active role in the administration of environmental requirements. In general, the state should encourage the siting of industrial development in areas which do not conflict with those having special historic, scientific, archeological, natural or scenic significance. It should immediately analyze the feasibility of establishing "energy corridors" in the state.

The State Energy Policy will need to be updated periodically and the implementation of a policy must be coordinated with state agencies. Currently, there is too much fragmentation in development and administration of state energy policy. A standing energy policy committee should be established, composed of selected private citizens and representatives from state agencies having responsibilities related to community affairs and energy development. This committee should coordinate energy programs and develop recommended energy policy for submission to the Governor and Legislature.

ENERGY AND THE ECONOMY OF UTAH

(1) The state should recognize its responsibility to facilitate the availability of energy to meet the needs of its citizens and to assure meaningful jobs for Utah's growing population.

(2) The state should encourage the diversification and dispersion of energy demand by attracting various types of industries and by encouraging the locations of industries in areas outside the Wasatch Front.

OIL AND NATURAL GAS

(33) The state should support the exploration for and development of Utah's oil and gas resources for intrastate markets and for export. The state should encourage expanded application of secondary and tertiary reserve recovery of these resources.

SYNTHETIC FUELS

(34) The state should support and facilitate oil shale development, tar sand development and coal gasification and liquefaction on a demonstration basis.

ALTERNATIVE ENERGY TECHNOLOGIES--RENEWABLE RESOURCES

(35) Innovative energy technologies should be encouraged by the state.

SOLAR ENERGY

(36) Solar energy should not be viewed as an exotic future alternative but as a potential present-day supplement to traditional energy sources which, when used in optimal combination, can make a contribution to the satisfaction of energy demands. The state should support development and use of this resource.

GEOHERMAL

(37) State and local governmental entities should regard geothermal energy as a potential present-day supplement to traditional energy sources for the heating of entire communities, for electrical generation and for steam for industrial purposes.

WIND

(38) Wind as an energy resource should be considered a supplemental energy source for local projects.

HYDROELECTRIC

(39) Hydro as an energy source should be considered in conjunction with water development projects.

SOLAR ENERGY RESEARCH INSTITUTE

1977

GENERAL SESSION

Enrolled Copy

S. C. R. No. 2

By Edward T. Beck

Arthur L. Kimball

A CONCURRENT RESOLUTION OF THE 42ND LEGISLATURE OF THE STATE OF UTAH, THE GOVERNOR CONCURRING THEREIN, EXPRESSING SUPPORT FOR THE ESTABLISHMENT OF THE SOLAR ENERGY RESEARCH INSTITUTE IN UTAH BY THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION; AND DEMONSTRATING THEREBY THE COMMITMENT OF THE STATE TO THE DEVELOPMENT OF ALTERNATIVE ENERGY SOURCES AND TO THE DEVELOPMENT OF SOLUTIONS AND METHODS FOR THE EFFECTIVE UTILIZATION OF SOLAR ENERGY.

Be it resolved by the Legislature of the State of Utah,
the Governor concurring therein:

WHEREAS, the world's supply of readily available energy sources is limited and is decreasing rapidly;

WHEREAS, this shortage has been made more evident and acute by marked price increases and increasing consumption;

WHEREAS, alternative energy sources must be developed to lessen the effects of such shortage and to prolong the life of the non-renewable resources currently available;

WHEREAS, the Solar Energy Research Institute was established by the National Solar Energy Research, Development and Demonstration Act of 1974 to perform such "research, development, and related functions" as determined by the Energy Research and Development Administration;

WHEREAS, the Energy Research and Development Administration has determined the general mission of the Solar Energy Research Institute to be to support the Energy Research and Development Administration's solar energy program, to contribute to

S. C. R. NO. 2

establishing an industrial base for solar energy, and to foster wide-spread use of solar technology; and

WHEREAS, the State has submitted a proposal to the Energy Research and Development Administration suggesting the State of Utah as a permanent home for the Solar Energy Research Institute and outlining a comprehensive plan for its organization and management.

NOW, THEREFORE, BE IT RESOLVED, that the State of Utah fully supports and recommends the establishment of the Solar Energy Research Institute in Utah.

BE IT FURTHER RESOLVED, that the Secretary of State of Utah send copies of this Resolution to the President of the United States, each member of the congressional delegation from the State of Utah, and to the Energy Research and Development Administration.

INTERIM STUDY ASSIGNMENTS

1977

GENERAL SESSION

Enrolled Copy

S. J. R. No. 37

By Richard C. Howe

Warren E. Pugh

Omar B. Bunnell

Karl N. Snow, Jr.

Darrell G. Resntron

A JOINT RESOLUTION OF THE 42ND LEGISLATURE OF THE STATE OF UTAH;
DIRECTING THE LEGISLATIVE MANAGEMENT COMMITTEE TO ASSIGN TO
THE APPROPRIATE INTERIM STUDY COMMITTEE ITEMS OF STUDY AND
REQUESTING A REPORT TO THE 43RD LEGISLATURE.

Be it resolved by the Legislature of the State of Utah:

WHEREAS, the Legislative Management Committee is created by law as a permanent committee to provide management direction for the interim study of the Legislature; and

WHEREAS, the 42nd Legislature has been confronted with important legislative problems which require additional investigation and study,

NOW, THEREFORE, BE IT RESOLVED, that the 42nd Legislature of the State of Utah directs the Legislative Management Committee to assign to the appropriate interim study committees the duty to study and prepare a legislative program as they determine proper for the 43rd Legislature or earlier if indicated from, but not limited to, the following items of study:-

(1) Pollution Reduction Incentives--to study the impact and desirability of providing tax incentives to polluting sources when such sources reduce the pollution below standards imposed by law.

(2) Waste Management and Recovery--to study the proper role of the state in the management of solid and oil wastes, including recovery systems for the use of the wastes in energy and

S. J. R. No. 37

(63) Governance of Education--to study the governance of higher education and public education and the need for a single policy direction for all of education. (H.J.R. No. 71)

(64) Western Interstate Nuclear Compact--to study and report to the 1978 Budget Session the benefits of Utah's involvement in the Western Interstate Nuclear Compact in relation to its monetary contribution.

(65) Utah State Fair--to study the cost and feasibility of upgrading or tearing down existing buildings at the Utah State Fair, to recommend the use of the Fairgrounds and future development and report the findings to the 1978 Budget Session.

(66) State Museums--to study the control, administration and funding of museums throughout the state.

(67) Head Start--to study the need to continue head start programs.

(68) University Village--to study for the 1979 Budget Session the electrical, plumbing, insulation and ventilating problems in the buildings of University Village at the University of Utah to determine the proper steps and funding required to correct the problems. (S.J.R. No. 30)

➔ (69) Energy Policies--to study the development of legislation to implement the state energy policy as adopted by S.C.R. 1 of the 1977 General Session.

(70) Vitro Tailings--to study for the 1978 Budget Session the alternatives for relocating the vitro tailings, including considerations of public health and safety and economic feasibility.

(71) Epilepsy Discrimination--to study current state law to discover provisions which may wrongfully discriminate against persons suffering from epilepsy or which may not protect them from discrimination and to determine if needed services are being provided such persons. (H.J.R. No. 53)

§ 58-16.4. **Certified solar energy equipment, facilities or devices.** — A. Certified solar energy equipment, facilities or devices, as defined herein, are hereby declared to be a separate class of property and shall constitute a classification for local taxation separate from other classifications of real or personal property. The governing body of any county, city or town may, by ordinance, exempt or partially exempt such property from local taxation in the manner provided by subsection D.

B. 1. As used in this section the term "*certified solar energy equipment, facilities or devices*" shall mean any property, including real or personal property, equipment, facilities, or devices, certified by the State certifying authority to be designed and used primarily for the purpose of providing for the collection and use of incident solar energy for water heating, space heating or cooling or other application which would otherwise require a conventional source of energy such as petroleum products, natural gas, or electricity.

2. As used in this section the term "*State certifying authority*" shall mean the State Office of Housing in conjunction with local building departments as defined in § 36-97. The State Board of Housing shall promulgate regulations setting forth criteria for certifiable solar energy equipment.

C. Any person residing in a county, city or town, which has adopted an ordinance pursuant to subsection A may proceed to have solar energy equipment, facilities or devices certified as exempt, wholly or partially, from taxation by making application to the local building department on forms to be furnished such department by the State Office of Housing. If after examination of such equipment, facility or device, the local building department determines that the unit primarily performs any of the functions set forth in subsection B and conforms to the requirements set by regulations of the State Office of Housing, such department shall approve such application. The local department shall forthwith transmit all applications to the State Office of Housing which shall certify to the local assessing officer those applicants properly approved by the local building department as meeting all requirements qualifying such equipment, facility or device for exemption from taxation. Any person aggrieved by a decision of the local building department may appeal such decision to the Technical Review Board, which may affirm or reverse such decision.

D. Upon receipt of the certificate from the State Office of Housing the local assessing officer shall, if such local ordinance be in effect, proceed to determine the value of such qualifying solar energy equipment, facilities or devices. The exemption provided by this section shall be determined by applying the local tax rate to the value of such equipment, facilities or devices and subtracting such amount, wholly or partially, from the total real property tax due on the real property to which such equipment, facilities, or devices are attached. This exemption shall be effective beginning in the next succeeding tax year, and shall be permitted for a term of not less than five years; provided, however, in the event the locality assesses real estate pursuant to § 58-811.1, the exemption shall be first effective when such real estate is first assessed, but not prior to the date of such application for exemption.

E. It shall be presumed for purposes of the administration of ordinances pursuant to this section, and for no other purposes, that the value of such qualifying solar energy equipment, facilities and devices is not less than the normal cost of purchasing and installing such equipment, facilities and devices. (1977, c. 561.)

Effective date. — Acts 1977, c. 561, cl. 2, provides that "this act shall be effective on and after January one, nineteen hundred

seventy-eight, except that the Office of Housing may proceed to promulgate regulations prior to such date."

CODE OF VIRGINIA

CHAPTER 20.

SOLAR ENERGY CENTER.

Sec.

10-214. Solar Energy Center created; purposes.

§ 10-214. **Solar Energy Center created; purposes.** — The Virginia Solar Energy Center is hereby created and constituted as a part of the Virginia Energy Office, an executive agency of the Commonwealth of Virginia. The purposes of the Center are: (i) to serve the people of the Commonwealth as a clearinghouse to gather, maintain and disseminate general and technical information on solar energy and its utilization; (ii) to coordinate programs for solar energy data-gathering in Virginia; (iii) to coordinate efforts and programs on solar energy with other State agencies and institutions, other states and federal agencies; (iv) to promote cooperation among and between Virginia business, industry, agriculture and the public related to the use of solar energy; (v) to develop public education programs on solar energy for use in schools and by the public; and (vi) to provide assistance in formulating policies on the utilization of solar energy that would be in the best interest of the Commonwealth.

The intent of the General Assembly is to provide an organization for the purposes set out in this act and to receive non-State funds for such purposes. (1977, c. 601.)

SECOND SUBSTITUTE HOUSE BILL NO. 388

State of Washington
45th Legislature
1st Extraordinary Session

by Committee on REVENUE (originally sponsored
by Representatives McKibbin, Charnley,
Boldt and Lux

Read first time May 23, 1977, and passed to second reading.

1 AN ACT Relating to revenue and taxation; and adding a new section to
2 chapter 84.36 RCW.

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

4 NEW SECTION. Section 1. There is added to chapter 84.36 RCW
5 a new section to read as follows:

6 (1) "Solar energy system" means equipment which meets the
7 minimum standards, if any, promulgated by the United States
8 department of housing and urban development, and which provides for
9 the collection and use of incident solar energy for water heating,
10 space heating or cooling, or other applications which require or
11 would require a conventional source of energy such as petroleum
12 products, natural gas, or electricity and which perform primarily
13 with solar energy. In such other systems in which solar energy is
14 used in a supplemental way, only those components which collect and
15 transfer solar energy shall be included in this definition.

16 (2) Solar energy systems installed as improvements to real
17 property shall be exempt from property taxation.

18 (3) Claims for exemption authorized by this section shall be
19 filed with the county assessor on forms prescribed by the department
20 of revenue and furnished by the assessor. Once filed, the exemption
21 shall be valid for seven years and shall not be renewed. The
22 assessor shall verify and approve such claims as he or she determines
23 to be justified and in accordance with this section. No claims may
24 be filed after December 31, 1981.

25 The department of revenue shall promulgate such rules and
26 regulations, pursuant to chapter 34.04 RCW as are necessary and
27 convenient to properly administer the provisions of this section.

STATE OF WISCONSIN

1977 Assembly Bill 1019

Date published*:

CHAPTER 313 , LAWS OF 1977

Vetoed in Part

AN ACT to create 20.835 (2) (e), 71.04 (16), 71.09 (12), 73.03 (14) and 79.25 (8m) of the statutes, relating to tax credits and deductions for alternative energy systems, making an appropriation and granting rule-making authority.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. Declaration of policy. The legislature finds that it is in the interest of the state to use renewable, in-state sources of energy which do not pollute the environment and which diversify the supplies of energy now used in this state. Furthermore, since the long-term advantages to society of many alternative sources of energy are often not reflected in the costs of these sources, the legislature declares that the expedient development of alternative sources of energy not now economically competitive should be fostered by providing temporary state financial incentives, supplementary to federal incentives, which encourage the use of such sources.

SECTION 2. 20.835 (2) (e) of the statutes is created to read:

20.835 (2) (e) *Alternative energy system tax credit.* A sum sufficient to pay the aggregate claims approved under s. 71.09 (12).

SECTION 3. 71.04 (16) of the statutes is created to read:

71.04 (16) (a) All expenses for designing, constructing and installing an alternative energy system, as defined in s. 71.09 (12) (i), which are incurred after April 20, 1977, may be deducted in the year paid, may be depreciated or may be amortized over a period of 5 years. Only an alternative energy system which is installed and which is certified in accordance with the procedure specified in s. 71.09 (12) (e) is eligible for this election. The election, once made, may not be changed.

(b) Expenses ~~incurred~~ paid between April 20, 1977, and December 31, 1978, may be deducted in either the taxable year in which ~~incurred~~ paid or the next taxable year. Vetoed in Part

(c) No expenses incurred after December 31, 1984, may be deducted, depreciated or amortized under par. (a).

SECTION 4. 71.09 (12) of the statutes is created to read:

71.09 (12) (a) Beginning with calendar year 1977 and corresponding fiscal years and thereafter, any natural person owning an alternative energy system installed on the person's property in this state may credit against income taxes due the following percentage of the total cost of the design, construction, equipment and installation of the alternative energy system, but not exceeding \$10,000 of such costs, incurred during the taxable year if such costs exceed \$500 in a single year and the system is certified under par. (c):

1. If the real property improvements on which the system is installed appeared on the local tax roll prior to April 20, 1977:

- a. For 1977 and 1978, 30%.
- b. For 1979 and 1980, 24%.
- c. For 1981 and 1982, 18%.

* Section 990.05, 1975 Wisconsin Statutes. Laws and acts; time of going into force. "Every law or act which does not expressly prescribe the time it takes effect shall take effect on the day after its publication."

d. For 1983 and 1984, 12%.

2. If the real property improvements on which the system is installed appeared on the local tax roll on or after April 20, 1977:

a. For 1977 and 1978, 20%.

b. For 1979 and 1980, 16%.

c. For 1981 and 1982, 12%.

d. For 1983 and 1984, 8%.

(b) Applications for credit under this subsection shall be made on a form prescribed by the department of revenue and attached to the applicant's state income tax return. If the allowable amount of claim under this subsection exceeds the income taxes otherwise due on the claimant's income or if there are no Wisconsin income taxes due on the claimant's income, the amount of the claim not used as an offset against income taxes shall be certified to the department of administration for payment to the claimant by check from the appropriation under s. 20.835 (2) (e). No interest shall be allowed on any payment made to a claimant under this paragraph.

(c) The department of revenue shall approve the credit in par. (a) if:

1. The alternative energy system is a specified model which has been certified by the department of industry, labor and human relations as meeting the standards specified in par. (d); or

2. Based on design calculations or other appropriate documentation, specified by the department of industry, labor and human relations by rule, and submitted by the owner of an alternative energy system, the system has been certified by the department of industry, labor and human relations as meeting the standards specified in par. (d).

(d) The department of industry, labor and human relations, in consultation with the departments of administration ~~and revenue~~, shall establish by rule performance standards for alternative energy systems. The standards shall be established to:

Vetoed in Part

1. Produce the maximum practical amount of energy.

2. Conform, where feasible, with national performance standards promulgated or recognized by the federal government for alternative energy systems.

3. Produce present value benefits in terms of saved energy costs in an amount not less than the total present value cost of designing, constructing and installing the alternative energy system within 25 years after installation of the system.

4. Not hamper individual development of innovative alternative energy systems.

(e) If more than one person owns an alternative energy system eligible for the credit under this subsection, such persons may divide the credit among themselves as desired. Once credit is claimed for an alternative energy system under this section, subsequent owners of the system are not eligible for credit under this subsection for the same system.

(f) No credit may be granted under this subsection if tax credit has been granted for the alternative energy system as an improvement under s. 79.25.

(g) Expenses incurred between April 20, 1977, and December 31, 1978, may be used to compute the credit in either the taxable year in which incurred or the next taxable year.

(h) No person may claim the credit under this subsection for expenses incurred before April 20, 1977, or after December 31, 1984.

(i) In this subsection:

1. "Alternative energy system" means a solar energy system, a waste conversion energy system or a wind energy system, but does not include any equipment which would be present as part of a conventional energy system.

2. "Solar energy system" means equipment which converts and then transfers or stores solar energy into usable forms of energy for space heating or cooling, crop drying, electricity generation or hot water heating.

3. "Waste conversion energy system" means equipment which converts wastes into usable forms of energy but does not include solid fuel-consuming devices used for residential purposes.

4. "Wind energy system" means equipment which converts and then transfers or stores energy from the wind into usable forms of energy.

(j) *Approval of rules.* This paragraph does not apply to emergency rules adopted under s. 227.027.

1. "Role of legislative council." Prior to any public hearing on a proposed rule under this subsection, or if no public hearing is required, prior to notification of the standing committees, the department of industry, labor and human relations or the department of revenue shall submit the proposed rule to the legislative council for review. The legislative council shall act as a clearing house for rule drafting and cooperate with the departments and the revisor to:

a. Review the statutory authority under which the department intends to adopt the rule. The legislative council shall notify the department, the joint committee for the review of administrative rules and the appropriate standing committee when the statutory authority is eliminated or significantly changed by repeal, amendment, court decision or for any other reason.

b. Ensure that the procedures for the promulgation of a rule required by this chapter are followed.

c. Review proposed rules for form, style and placement in the administrative code.

d. Review proposed rules to avoid conflict with or duplication of existing rules.

e. Review proposed rules to provide adequate references to relevant statutes, related rules and forms.

f. Streamline and simplify the rule-making process.

g. Review proposed rules for clarity, grammar and punctuation and to ensure plain language.

h. Review proposed rules to determine potential conflicts and to make comparisons with federal regulations.

2. "Legislative council to assist standing committees." The legislative council shall work with and assist the appropriate standing committees throughout the rule-making process. The legislative council may issue recommendations concerning any proposed rule which the department submits under this section.

3. "Notification of standing committees." The department shall notify appropriate standing committees when proposed rules under this subsection are in final draft form by submitting a notice to the presiding officer in each house. Each presiding officer shall refer the notice to one standing committee. The department may withdraw a proposed rule by notifying the presiding officer in each house of the legislature of its intention not to promulgate the rule.

4. "Form of notice." The notice shall include the proposed rule in a form complying with s. 227.024 (1).

5. "Standing committee review." a. A committee may be convened upon the call of its chairperson or a majority of its members to review a proposed rule. A committee may meet separately or jointly with the other committee to which the notice is referred, direct the department to attend the meeting and hold public hearings to review the proposed rule.

b. The standing committee review period lasts for 30 days after the notice is submitted and if within the 30-day period a standing committee directs the department to meet with it to review the proposed rule, the standing committee review period is extended for 30 days from the date of that request.

c. The department may not promulgate a proposed rule during the standing committee review period unless both committees approve the rule prior to the expiration of that period.

d. Either standing committee may disapprove the proposed rule or part of a proposed rule by taking action in executive session to disapprove the rule within the standing committee review period. If both committees fail to take this action, the proposed rule is not disapproved and the department may promulgate the rule.

6. "Joint committee for the review of administrative rules." a. If either standing committee disapproves a proposed rule or part of a proposed rule, the proposed rule or its part shall be referred to the joint committee for the review of administrative rules.

b. The joint committee review period lasts for 30 days after the proposed rule is referred and the joint committee shall meet and take action in executive session during that period.

c. The department may not promulgate a proposed rule or its part which is disapproved by a standing committee unless the proposed rule is approved by the joint committee for the review of

administrative rules or until the bill in subd. 6. e fails of enactment. The department may promulgate portions of the rule which were not suspended, if the committee disapproved only parts of the rules.

d. The joint committee for the review of administrative rules may reverse the standing committee disapproval by taking action to approve the rule within the joint committee review period. The joint committee may uphold the standing committee disapproval by taking action to disapprove the rule within the joint committee review period. The joint committee may remand the proposed rule to the department for further consideration or public hearings or both. If the joint committee disapproves a proposed rule, the department may not promulgate the proposed rule until the bill in subd. 6. e fails of enactment.

e. When the joint committee for the review of administrative rules disapproves a proposed rule or portion of the proposed rule, the committee shall as soon as possible place before the legislature, a bill to support the disapproval. If such bill is defeated, or fails of enactment in any other manner, the proposed rule or portion of the proposed rule may be promulgated. If the bill becomes law, the proposed rule or portion of the proposed rule, may not be promulgated unless a properly enacted law specifically authorizes the adoption of that rule.

SECTION 5. 73.03 (14) of the statutes is created to read:

73.03 (14) (a) In cooperation with the department of administration and the university of Wisconsin system-extension, to develop materials to inform the public of the income tax credits and deductions for alternative energy systems available under ss. 71.04 (16) and 71.09 (12). Such material shall include information on the calculation of the life-cycle costs of alternative energy systems.

(b) To annually prepare a summary of the number of claims under ss. 71.04 (16) and 71.09 (12), including but not limited to information concerning the cost, size and type of each alternative energy system for which a deduction or credit is claimed.

SECTION 6. 79.25 (8m) of the statutes is created to read:

79.25 (8m) Improvements for which credit has been granted under s. 71.09 (12) are not eligible for credit under this section.

SECTION 7. Program responsibilities. (1) In the list of program responsibilities specified for the department of industry, labor and human relations in section 15.221 (intro.) of the statutes, reference to sections "71.04 (16)" and "71.09 (12)" is inserted.

(2) In the list of program responsibilities specified for the department of administration in section 15.101 (intro.), references to sections "71.04 (16)", "71.09 (12)" and "73.03 (14)" are inserted.

SECTION 8. Rules. The department of industry, labor and human relations shall promulgate the rules required by section 71.09 (12) (d) of the statutes, as created by this act, no later than January 1, 1979.

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16. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.) This report reviews State legislation on solar energy, as applied to buildings, which was enacted in 1977. Acts involve tax incentives, sun rights, standards for solar units, and State support of promotion of solar research, solar demonstrations, and solar loans. The Acts are identified and abstracted, and responsible State agencies and officials identified. The Acts, supporting forms and other documents are included in the Appendices.			
17. KEY WORDS (six to twelve entries; alphabetical order; capitalize only the first letter of the first key word unless a proper name; separated by semicolons) Buildings; design; energy; legislation; solar; standards; State.			
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