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# Procurement of Products Containing Recovered Material: A Summary of Activities in Seven States

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Office of Recycled Materials  
U.S. Department of Commerce  
National Bureau of Standards  
Washington, DC 20234

July 1981



U.S. DEPARTMENT OF COMMERCE  
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A SUMMARY OF ACTIVITIES IN SEVEN  
STATES**

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U.S. Department of Commerce  
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Washington, DC 20234

July 1981

**U.S. DEPARTMENT OF COMMERCE, Malcolm Baldrige, *Secretary***  
**NATIONAL BUREAU OF STANDARDS, Ernest Ambler, *Director***



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## INTRODUCTION AND BACKGROUND

This report provides a summary, conclusions, and recommendations gleaned from a series of studies carried out in seven states on the procurement of products containing recovered or recycled materials. The participating states were Washington, Colorado, Minnesota, Michigan, New York, New Jersey and Florida. In addition to the seven states, the National Association of State Purchasing Officials (NASPO) participated as project observer and has provided a position paper reflecting the study and the future directions of public purchasing related to the procurement of products containing recycled or recovered materials.

The role of the National Bureau of Standards in this specific area of public purchasing originates with the mandates of Sections 5002, 5003, and 6002 of the Resource Conservation and Recovery Act (RCRA) (P.L. 94-580) as amended (P.L. 96-462). The relevant sections of these two laws are reproduced in Appendix A.

In selecting the participating states the NBS endeavored to select one state in each Federal region. However, several states that were approached could not participate at that time. It was then decided that in addition to the states that could participate in the study to select some states with contiguous boundaries so that the reader of the state reports might compare the experiences of these states with regard to products, manufacturers, and local distributors within the same geographical region. These state pairs were Minnesota and Michigan, and New York and New Jersey.



The states were first approached through their respective Office of Procurement. If the Office of Procurement could not directly take a grant or could not carry out the tasks for any reason, they were asked to recommend a group who could undertake the project. These recommendations are reflected in the title pages of the individual state reports. The state procurement office in each state did offer full cooperation with the study teams and worked closely with them.

The task activities that NBS asked the states to perform are indicated in the following work statement:

1. Survey and report on state statutes pertaining to the procurement of products containing recovered materials.
2. Report on past, current or future programs and other State activities related to the procurement of products containing recovered materials.
3. Identify and report any legal, institutional, procedural, economic, or technical barriers to the state procurement of products with recovered materials.
4. Identify and report on any successful or unsuccessful attempts to procure products with recovered materials. This should include those initiated by state solicitation or offerings by suppliers and manufacturers.
5. Provide a listing of the State's top ten products purchased based on volume and/or dollar value. This should include any cooperative purchases for local governments, special districts or agencies.



6. Provide a listing, based on the best knowledge and experience in the State, of products that are most amenable to the inclusion of recovered materials. If not included in listing of ten products in item (5), then please provide volume and dollar value of such purchases.
7. For the list of products selected for item 6, provide all pertinent specifications, test methods, performance criteria and other information related to the procurement of each product.

The summary section which follows is presented in the order that the activities are listed in the work statement. The information was compiled from reading the individual state reports and summarizing the results. Highlights of specific state activities are presented following a general summary of each task. For further details regarding any of the participating states, interested parties are advised to read the specific state reports.

#### Summary of Responses to Task Activities

1. SURVEY AND REPORT ON STATE STATUTES PERTAINING TO THE PROCUREMENT OF PRODUCTS CONTAINING RECOVERED MATERIALS.

The purpose of this task was to determine if, in fact, there are specific prohibitions regarding the purchase of products containing recycled materials within each specific state. Lack, or removal, of such barriers could set the stage for the state to create the market demand cited as the main ingredient for recycling to take place.

There are no statutory prohibitions in the seven states surveyed to the procurement of products containing recovered materials. In fact, some states have statutes indicating a preference for these products. The states all make reference in their respective laws concerning recycling, resource recovery and procurement. Many states encourage the recycling of waste materials, but the lack of specific statutes and/or state procurement programs limits the extent to which the states are able to carry out federal policy with respect to the spirit of RCRA.

At present, the thrust toward procurement of materials originally destined for waste stems from the use of recovered materials as a means to achieve energy conservation. Minnesota, Washington, Michigan and New York have specific solid waste management acts or resource recovery acts that clearly indicate the intent of each state to procure products containing recovered materials. Colorado, Florida and New Jersey activities in procurement are covered under several other state acts or plans. Summaries of state statutes pertaining to procurement follow.

Colorado: The only current pieces of legislation dealing with recovered materials are the Colorado Land Use Act which encourages, but does not mandate, the recycling of waste materials and the reuse of water, and a section in Article 20 of the State Statutes that requires labeling of recycled oil.

The State feels that there are no legal barriers to the procurement and use of such products. The State Director of Purchasing has issued several memoranda to staff outlining methods for implementing the provisions of Section 6002 of RCRA. The primary method for accomplishing the objectives set forth was the use of a formula adjusting an incoming bid to account for energy conservation which in many cases could be accomplished through the use of reclaimed materials. Details of the formula and the memoranda are shown in the Appendix to the Colorado report.

Florida: There is no legislation specifically requiring or favoring the procurement of products containing recovered materials in the State of Florida. Existing legislation pertaining to recycled product procurement does so tangentially. For example, Chapter 350 (Florida Public Service Commission) Section 350-12(1)(E) declares that freight rates should "... not discriminate against the transport of solid waste, recovered resources, or recycled materials and which rates shall, whenever practicable, provide an incentive for resource recovery and recycling."

The State Energy Conservation Plan contains a portion on procurement, but specific wording concerning the use of recovered material as a means for energy conservation is absent. The report indicates that there are no legal barriers to the procurement of products containing recovered materials in the state.

Michigan: State statutes in Michigan neither help nor hinder the procurement of products containing recycled materials. The Solid Waste Management Act requires regions or counties to consider a comprehensive waste management approach. Although not explicitly stated, procurement could be construed to be included in this approach. The Resource Recovery Act refers indirectly to the issue by promoting the use of recycled materials by business and the general public. Although there is a lack of state legislative directives and specific programs aimed at procurement, nothing was found to expressly or indirectly prohibit or exclude the purchase of recycled products.

Minnesota: The State's role in the area of procurement comes under the Solid and Hazardous Waste Management Act, which contains a charge to the Commission to issue guidelines for procurement of both commodities that can be recycled as well as products containing recycled materials. Procurement guidelines are to be written defining percentages of recovered material, performance specifications and any preferences necessary to procure such commodities.

New Jersey: State Senate Bill 2174, passed March 1971, establishes a preference for the purchase of products containing recovered materials whenever the price is competitive and the quality suitable. Such preference is to be stated in the advertisement for bids. A complete text of the Senate bill is shown in the Appendix to the New Jersey report.



New York: The Resource Recovery Act, in the 1980 laws of New York State, makes a policy statement encouraging resource recovery. The Commissioner of the Department of Environmental Conservation is charged to review the state plan annually and recommend legislation for encouraging procurement, and provide incentives for developing or expanding markets that promote the return of recycled materials to productive use. Section 201 of the Act directs the purchase of recycled paper when price and quality are acceptable, directs elimination of discrimination against recycled paper products, and directs state agencies to cooperate. Chapter 597 of the laws of 1979 addresses the use of re-refined oil by the state, and directs the commissioner to investigate the possible use of such oil.

Washington: The State Solid Waste Management Act, first passed in 1969 and amended in 1976, directs the Department of Ecology with responsibility for solid waste management as well as resource recovery and recycling. There is no specific statute pertaining to procurement of products containing recovered material, but the solid waste management plan does include encouragement for the purchase of products containing secondary materials.

2. REPORT ON PAST, CURRENT OR FUTURE PROGRAMS AND OTHER STATE ACTIVITIES RELATED TO THE PROCUREMENT OF PRODUCTS CONTAINING RECOVERED MATERIALS

Programs and other activities relating to procurement of products containing recycled materials varied from state to state. In general, procurement programs centered on paper products, reclaimed oil,

and asphaltic road materials. Other commodity procurements were attempted with varying degrees of success. It is evident from the capsules of state activity which follow that a great deal of experimentation with recycled material and procurement of products containing such material is going on in a manner that best fits the state, local characteristics, and the availability of suitable products.

Colorado: The State's attempts to procure recycled products stem from the energy conservation programs and involve paper, highway construction materials, and recycled lubricating oil. The Division of Highways is examining possibilities for recycling of asphalt, cement and rubber. Four major tests have been conducted with recycled asphalt since 1977. Old concrete roads are broken up for use as "aggregate" base for new roads - a recycling effort found to be successful and economical. Glass beads used for making reflective paint come from 100 percent recovered glass. Methylene chloride from the State asphalt lab is recycled by a contract vendor and sold back to the state. Currently the State's 1980 tax forms were printed on 100 percent recycled paper. In general, procurement of other types of paper have been unsuccessful due to barriers to be addressed later in this report. Bids were solicited for recycled motor oil, but there were no responses.

Florida: Activities in the State include the procurement of paper with various amounts of recycled fiber which began in 1971. The State Department of Transportation is testing asphalt-rubber mixes for road paving. The rubber for the mix comes from used tires.

Currently, sixteen state specifications require and 10 specifications allow recycled materials originally destined for waste to be included in the products purchased.

Michigan: Current activities include the purchase of recapped tires and re-refined oil. In addition, an attempt was made to procure polypropylene garbage bags made from recovered plastic. These bags did not have performance features equal to the virgin product, and therefore were not purchased.

Minnesota: This State is looking into the use of re-refined lubricating oil for the state automotive fleet. The Department of Transportation is investigating the potential for recycling asphalt road materials, the substitution of plasticized sulphur for Portland Cement, and the use of asphalt-rubber (tires) mixtures for road paving.

New Jersey: Almost all paper products purchased by the state contain some recycled fiber. Printing papers currently used contain 45 percent recycled fibers. Data processing printer ribbon is reprocessed for reuse by the State. This saves the State 70 percent compared to the cost of new ribbons.

Other procurements include cloth wiping rags with no discrimination as to fiber content or source, reflective glass beads from cullet, silver recovery from photo processes for resale, and the recycling of bituminous concrete for road applications. A cooperative



effort on the part of the Department of Energy and the Department of Environmental Protection has developed the New Jersey Advisory Committee on Recycling to investigate and recommend recycling activities within the state.

New York: Current activities include procurement of paper and paper towels with recycled fiber, reflective glass spheres from cullet, and wool coats containing recycled wool. Asphalt - rubber mixes are used for paving and maintenance. Additional information on the other activities of the state are given in the state report.

Washington: The State is currently purchasing pellets of wood waste for use as a fuel for heating various state facilities. The State Highway Division is also experimenting with asphalt-rubber (tires) mixtures as well as reusing old asphalt in road building.

3. IDENTIFY AND REPORT ANY LEGAL, INSTITUTIONAL, PROCEDURAL, ECONOMIC, OR TECHNICAL BARRIERS TO THE STATE PROCUREMENT OF PRODUCTS WITH RECOVERED MATERIALS.

As cited in the response to task activity 1, there are no legal barriers to the procurement by the states of goods containing recovered material. Lack of specific guidelines, specifications, product performance criteria, test methods, or general information regarding the use of recovered material in products offered for public purchase apparently leads to uncertainty in procuring one product over its virgin counterpart, as well as to reluctance of suppliers or manufacturers to offer

or to publicize the use of recovered materials in products. This study has shown that many products procured today do contain recovered or recycled materials, but in many instances the purchasing officials are not aware of that fact when they buy the commodity.

Quite often products with recovered material tend to be more costly than the virgin counterpart due to the costs of recovery, transportation and manufacturing. Public purchasing officials must, in most cases, adhere to age-old policies of low bid buying. This policy tends to reduce the competitive nature of the recycled with respect to the virgin counterpart.

Product availability is another barrier to procurement. The lack of supply of a particular product in a city, state or region tends to reduce or entirely eliminate the number of bidders. This causes concern on the part of the purchasing official that the bids - and consequently his agency customers requirement for a product will not be met. Thus, the purchasing official is often reluctant to solicit bids. On the other hand, distributors of products with recycled materials are hesitant to order or stock such products because the market is not large enough to warrant the associated cost of obtaining, warehousing, and delivering these products. The individual state reports cite many examples of the problems associated with product availability.

When a purchasing official does decide to purchase products containing recycled materials, the amount of recycled material in a product is usually difficult to ascertain. In some cases manufacturers are

reluctant to list the percentages of recycled material because of fears, real or imagined, that the product may be viewed as inferior. State purchasing agents who may use recycled content as a means of determining the winning bid, may be reluctant to accept the percentages cited by vendors. A program defining recycled materials and establishing labeling requirements, supported by test methods, could help alleviate this problem.

Another barrier arises from societal attitudes toward recycled materials. Both the "man-in-the-street" and the customer agency, will consistently select new products over a recycled one. A coordinated education/information program promoting the quality, performance and desirability of recycled products may prove helpful in developing more equitable attitudes among manufacturers, vendors, buyers and users. The following is a synopsis of the individual state responses on the question of barriers to procurement.

Florida: No direct legal barriers prevent the state from procuring recycled goods. However, manufacturers are often reluctant to reveal percentages of recycled material due to fear of rejection by the prospective consumer or to protect any competitive edge that may have been gained due to the use of such material. Purchasers within individual agencies are able to circumvent the normal procurement route and purchase through their own agency if they do not wish to purchase recycled products on state contracts. Because customers do not usually order large quantities of items

containing recyclables, inventories do not turn over quickly; products remain in the distributor's warehouse for long period of time. There is no specific clause in the bid package allowing or encouraging the use of recycled materials. There are very few manufacturers in Florida who use recovered materials in the manufacturing process, thus transportation costs become an important factor in the bid price for these products.

New Jersey: The State uses the low-bid approach when purchasing products and thereby effectively reduces the ability of recycled products to compete with virgin product counterparts. Freight rates and taxes on recovered material are also problems which increase product cost. The State also cites the difficulty involved with identifying secondary material content, lack of performance specifications for products and consumer attitudes as other significant barriers to the procurement of products containing recycled materials. For paper, the State cites increased product cost, longer delivery time and lack of vendors as the major barriers to procurement.

Michigan: Lack of a coordinated education/information program promoting the purchase and use of recycled products hinders state efforts in this direction. No specific state legislation directs the state to procure recycled products. This, coupled with the low-bid approach, tends to restrict competition of recycled products compared with virgin products. General apathy toward recycled products as an aid to energy and resource conservation is also prevalent. If



direct dollar savings are not immediately obvious, the level of cooperation is extremely low. There are no precedents on product performance criteria, the procedure to follow when tests are to be conducted, nor the manner in which information is to be gathered, evaluated and reported. Finally, buyers are in need of positive support from the parent agency when they take the risk of procuring and using recycled products.

Minnesota: No state statutes prohibit Minnesota from procuring recycled products, products with reclaimed or recycled parts, rebuilt or refurbished products, or used products. The major barrier to procuring these products is the state mandate to award bids to the lowest bidder who is responsive to both quality and performance.

The State also cites the "preference for recycled products" in competition with other programs such as awarding bids to economically or socially disadvantaged business, small business, handicapped or rehabilitation industries and correctional industries. Because of these existing preferential procurement policies, there is general resistance to giving preference to recycled products unless better product performance could be proven.

There appear to be significant attitudinal barriers against recycled, remanufactured or used products, especially with regard to rebuilt engine parts and re-refined oil. The development of educational and information programs is needed to allay negative feelings and to separate fact from fiction.

Finally, lack of staff time and technical information tends to reduce any incentive to try new approaches, test new products, or evaluate bids and thus continually improve, modify or update purchasing specifications.

New York: New York cites the lack of manpower, performance criteria, test methods, information, product availability, and price, as deterrents to procurement. In addition, the words "new equipment;" "new" and "used" all require clarification when defined with respect to recycled materials. Here again it is indicated that supply of products and the reluctance to cite the percentage of recycled materials in a product apparently inhibits the purchase of such products in the normal procurement process.

Colorado: This western state shares many of the same barriers as those listed above: lack of information on products; lack of indicating of the percentage of recycled materials in a product; lack of proper definition of what is considered a recovered material; lack of product standards; and limited supply and availability. State purchasing agents lack confidence regarding the information they receive from the vendors. They are also unsure of where the procurement of recycled products fits in with other preferential programs such as small business or correctional institution industry.

Washington: There are few legal barriers to procurement of recyclables which can be identified within the codes of the State of Washington. Standard practice is to buy new equipment since

bidders are requested to give latest date of manufacturing and latest state-of-the-art; a need for new products rather than used, rebuilt or recycled products is thus implied. There is also a need for more definitive guidelines regarding the best method by which the intent of RCRA might be carried out.

4. IDENTIFY AND REPORT ON ANY SUCCESSFUL OR UNSUCCESSFUL ATTEMPTS TO PROCURE PRODUCTS WITH RECOVERED MATERIALS. THIS SHOULD INCLUDE THOSE INITIATED BY STATE SOLICITATION OR OFFERINGS BY SUPPLIERS AND MANUFACTURERS.

All of the states taking part in this study have procured products with recovered material. This material may have been "home" or "prompt" scrap, from municipal waste, or rebuilt or remanufactured items. Although the definition of waste as defined by RCRA has not been the main focus, procurement of recycled products in these states has been going on for a long time and should be considered in a positive fashion.

The seven states all tried to procure recycled paper with varying degrees of success. The least successful was the procurement of fine bond paper. The most successful efforts were those concerned with "lesser quality" paper products such as tissues, towels, boxes, tablets, etc.

All the states involved in this study are investigating the use



of recycled materials in road surfacing and as sealants for road maintenance. A hot mix asphalt pavement mixture has been used effectively in Minnesota; up to 75 percent of the used asphaltic pavement has thus been kept out of landfills. New York has issued contracts for experimental road work using recycled rubber from tires in sealants, expansion joints and asphalt pavements. These programs are being carried out on an experimental basis. It is not yet standard practice to contract for these items on a regular basis.

Programs for recycling and re-refining oil are underway in Minnesota, Michigan, New Jersey and Washington. Michigan recently invited four oil re-refiners to bid on the state automotive fleet contract. If a re-refiner's bid is successful, all state vehicles will be using re-refined oil. In addition, the 540 local governments who use the state contract to obtain oil will also use re-refined oil.

Other areas where attempts were made to procure recycled products include glass beads for use in reflective highway paint, retread tires, polypropylene liner bags for trash, wool coats, wood waste for secondary fuel, steel posts for street signs, aluminum sign blanks, and batteries using recycled lead. Many of these and other attempts to procure recycled products were hampered by inadequate or nonexistent guidelines, specifications and test

methods for such products.

Summaries of specific state attempts to procure recycled products taken from the state reports follow.

Colorado: The State purchases beads for reflective paint made from glass cullet. A company offered 100 percent recycled aluminum sheet stock to the State for the manufacture of license plates. The bid was not accepted because the sheet stock could not pass the performance criteria required for the plates.

The State of Colorado has tried to procure recycled fine papers with no success. Over a three year period, the State had 138 non-responses to bids. In responses to bids for envelopes over the three year period, only one out of 27 bidders stated a percent range of recycled material. The bid was not accepted because of unreliable figures. Currently, state tax forms are printed on 100 percent recycled paper.

Michigan: The State has consistently purchased products that contain 60 - 100 percent recycled material. Examples include computer hardware components, steel sign posts, batteries with recycled lead and glass beads for road use. In 1975 the State purchased a small number of "hot cap" retread tires, but performance of these tires was unacceptable. Presently the State is evaluating a "cold-cap" retreading process. If tests are successful, the State would begin to purchase retread tires for fleet use. Since

April 1980, Michigan has been studying the availability and performance characteristics of recycled paper. If availability, performance and price are competitive, the State will add such paper to the list of approved products.

New York: The State currently procures paper towels with recycled fiber. Glass beads for pavement striping are 100 percent recovered glass. The contract for men's coats allow for the use of 100 percent reprocessed or reused wool; the State has purchased 468 dozen of such coats. Current investigations deal with recycling of asphalt road surfaces, use of glass and rubber in road surfaces to improve durability and skid resistance, and use of re-refined lubricating oil. The State also is recovering silver from film processing operations in various state facilities.

Florida: In addition to the programs indicated in task two, the State of Florida has contacted suppliers and manufacturers to obtain lists of available products that contain recycled materials. Responses from various companies indicate that one company has aluminum products containing 90 percent recycled aluminum, while another company can provide lower cost drums to be used as road barriers. In the area of paper products, a manufacturer is interested in producing recycled natural gradecut-size paper, but is unsure of the market. Another paper company informed Florida that their bond contains 70 percent post-consumer waste fibers. This same company also outlined the manufacture of envelopes using recycled material whose

composition is similar to that of the bond paper containing 70 percent post-consumer waste fibers.

Washington: Responses to this task are similar in nature to task two. In discussing items other than those described in task two, Washington is still in a developmental stage. The State solicited bids for office copiers containing recycled materials and received responses from potential suppliers. However, the lack of state guidelines makes it difficult for purchasing officials to interpret the laws, thus hindering full implementation of RCRA. This in turn makes it difficult for equipment containing recovered material to successfully compete with new equipment on a price basis. The Washington State Purchasing Division requested the supplier to suggest changes in the State law to alleviate these procurement problems.

New Jersey: Activity in New Jersey with regard to attempts to procure recyclables centered around paper for legislative printing, as well as most of the paper products purchased by the State. Reprocessed printer ribbons cost 70 percent less than new products. The Department of Transportation in New Jersey is using recycled material in road surfaces and in maintenance projects. Other purchases are mentioned in response to task two.

Minnesota: In addition to purchase of paper products containing recovered material, Minnesota purchases steel and aluminum and glass products, fuel oil, wiping rags, and asphalt products. Recycled asphalt aggregate is 30-70 percent recycled material and is used in a majority of road surfaces in Minnesota. Many of the Minnesota purchases are directed at energy conservation measures which are



included in life cycle costing formulas so as to ensure the purchase of the best product.

5. PROVIDE A LISTING OF THE STATE'S TOP TEN PRODUCTS PURCHASED BASED ON VOLUME AND/OR DOLLAR VALUE. THIS SHOULD INCLUDE ANY COOPERATIVE PURCHASES FOR LOCAL GOVERNMENTS, SPECIAL DISTRICTS OR AGENCIES.

When the seven states indicated the top ten products purchased by their state by dollar value, several categories appeared on more than half of the lists. These categories were:

<u>Category</u>	<u># of States</u>
Fuel oil	6
Automotive, major transportation equipment	6
Office machines and equipment	4
Paper and office supplies	4
Medical, dental, hospital and laboratory supplies	4

The following chart indicates the ranking of products purchased by the states based on volume and/or dollar value. The category listings in the chart indicate that in most cases, some recycled products could be or are included when items in these categories are procured. In some instances, products do contain recycled materials, but this fact is not indicated in the bid because of fear of rejection based on attitude, poor labeling practices, or lack of knowledge.

RANKING OF PRODUCTS PURCHASED BASED ON VOLUME/DOLLAR VALUE

Item	Colo	Fla	Mich	Minn	NJ	NY	Wash
Ed. and rec. supplies and services	1						
Buildings and improvements	2		10				
Food and food services	3						
Land, land improvements	4						
Medical, dental, hospital, laboratory supplies	5	5		10			8
Light and power	6						
Building and grounds construction materials	7			4			
Telephone and telegraph	8						
Motor vehicle repairs and supplies	9			9			
Printing and reproduction, photo supplies	10					4	5
Heat	11						
Automotive--major transportation equipment		1	3	3	4,6	3	2
Lamps--lighting		2					
Fuel oil--residential							
Fuel oil--heating; diesel and kerosene		3,4	7	1	1,10	1	1
Reflective sign material		6					
Closed circuit TV		9					
Tires and tubes		10					
Salt (road)			4		8	8	
Paper and office supplies			5	5	7		4
Drugs			8				
Ofc. machines, computers, typewriters, copy machines		7,8	1	6		6	
Coal			9			9	
Food other than meat and poultry			2	2			
Chemical products				7			
Books, maps, publications				8	5		
Gasoline					2	2	
Bituminous concrete and materials					3	10	
Lumber and basic wood materials							6
Ofc. furnishings and furniture					9	7	7
Radio equipment							3
Paint, general and highway							9
Word processing equipment							10

6. PROVIDE A LISTING, BASED ON THE BEST KNOWLEDGE AND EXPERIENCE IN THE STATE, OR PRODUCTS THAT ARE MOST AMENDABLE TO THE INCLUSION OF RECOVERED MATERIALS. IF NOT INCLUDED IN LISTING OF TEN PRODUCTS IN ITEM (5), THEN PLEASE PROVIDE VOLUME AND DOLLAR VALUE OF SUCH PURCHASES.

When the states were queried as to the types of products that they considered amenable to the inclusion of recovered materials almost every one indicated various types of paper and paper products, materials for road resurfacing and maintenance, aluminum, steel, glass, plastics, and oil. Many of these items were included within the list in response to item (5). Specific items designated by each state may be seen in the individual state reports.



## RECOMMENDATIONS

The states participating in this study indicate that purchases made by their procurement divisions do, in fact, include many products containing recycled materials. In some instances, the purchasing agent is unaware that the procured product contains recycled material because it is not labelled as to content, or the vendor chooses not to disclose such information for fear that the product may be viewed as inferior. There has been a long-standing bias against purchasing recycled goods and a preference for goods made from virgin materials, even when the quality of the two items is comparable.

Many states indicate that the lack of standards and specifications for recycled products inhibits state procurement of products containing recycled materials. This information is needed by procurement offices in all states so that proper procurement decisions might be made. The importance of the link between products containing recycled materials and energy conservation is noted by several states. This point should be stressed in an educational program in order that more efficient allocation of resources might be effected.

The following pages set forth recommendations taken verbatim from the seven state reports and express the position of each individual state that participated in the study.

STATE OF FLORIDA

RECOMMENDATIONS

- ° The Legislature should amend Chapter 287 of the Florida Statutes, entitled "Department of General Services, Duties", by extending the life-cycle cost concept under 287.083(5) to include the amount of energy used in the processing and manufacturing of a product. A formula similar to that adopted by the State of Colorado (see Appendix IV), which takes into consideration the percentage of recovered material in a product, should be studied/revised/adopted for use by the State of Florida.
  
- ° All bid invitations for products that potentially may contain recovered material should include a clause requiring a certification of the percentage of recovered material within the product. The certification should originate from the raw material manufacturer; an average range should be indicated if an exact percentage is impossible; and a failure to respond should be interpreted as 0 percent recovered material.
  
- ° The definition of "recovered material" in the bid should be the same as that adopted in the federal "Solid Waste Disposal Act Amendments of 1980":

The term "recovered material" means waste material and by-products

which have been recovered or diverted from solid waste, but such term does not include those materials and by-products generated from, and commonly used within, an original manufacturing process.

- All product suppliers should be aware of the State's policy to procure goods containing recovered materials. A clause similar to the following, adopted from the State of Colorado (see Appendix IV) should be included in all bids:

"The State of Florida encourages the purchase of goods using recycled/recovered materials. Bids will be adjusted downward so as to include the energy conservation value of products that contain some percentage of recycled/recovered materials. Please certify on your bid the amount of recycled/recovered material by percent of total weight of each component."

- The Governor's Energy Office should endorse the procurement of products containing recovered materials as a means of conserving energy and specifically include this strategy in the "State Energy Conservation Plan".
- The Governor and Cabinet should revise in stronger terms and issue another resolution to the state agencies supporting the procurement of products containing recovered material. It should be the responsibility of the Division of Purchasing to publicize the resolution and administer the directives.

- The Division of Purchasing should publicize all the advantages of procuring products containing recovered materials (e.g., energy savings, raw material savings, buff color of recycled paper better for the eyes, etc.). This should be accomplished through the Division's quarterly newsletter and workshops around the State.
- The Department of General Services or another designated governmental body should enforce the purchasing regulations described in both Chapter 287 of the Florida Statutes and the Rules and Regulations of the Division of Purchasing. State agencies must not be allowed to procure other than contract items, excluding defined exceptions.
- If a product containing recovered material is awarded a bid and meets all specifications and quality and quantity requirements, the products should be the only choice on contract. It should not be offered as an alternative.
- In the event of a low bid tie for a certain contract, the Division of Purchasing should award the contract to the product with the higher percentage of recovered material.
- The Legislature should amend Chapter 212 of the Florida Statutes, entitled "Tax on Sales, Use, and Other Transactions," by extending the tax exemption under 212.08(7) (p) to all resource recovery equipment, and striking the clause limiting the exemption to equipment" ...owned or operated by or on behalf of any county or municipality."



- The Public Service Commission should investigate the rate schedules charged for the transport of both recycled and virgin materials to reveal whether or not the directive of 350.12 (1) (e) of the Florida Statutes, which states that "...rates shall, whenever practicable, provide an incentive for resource recovery and recycling," has been instituted.
  
- The Legislature should amend Chapter 556 of the Florida Statutes, entitled "Bedding Inspection," by revising the separate labeling requirements for new and used material under Section 556.061(4)(c), if the quality and sanitation of the new and used material are comparable.
  
- The Bureau of Standards should review the specifications for Paper Milk Cartons and Cotton Core Mattresses to revise the prohibitive language applying to recycled material.
  
- The Bureau of Standards should encourage the nationally recognized testing laboratories to hasten their efforts to adopt test procedures and standards for all potentially recyclable materials.

- The Division of Purchasing should publicize the purchasing requirements of the federal Resource Conservation and Recovery Act as they apply to state procurement using federal funds.
- The Division of Purchasing should investigate the possibility to procure and use re-manufactured/re-built products. For example, IBM is apparently capable and willing to supply its equipment with 70 percent recovered materials (re-used casings, etc.).
- The State should research the feasibility of purchasing a warehouse in the Tallahassee area to store and subsequently supply products for the local state agencies.
- An effort should be made to develop a national directory to consolidate the names, addresses, and types of products of manufacturers using recovered materials in the production process.
- The Division of Purchasing the Governor's Energy Office; and the Department of Environmental Regulation, Resource Recovery Section; should coordinate an information exchange program on the procurement of products containing recovered materials so that relevant facts can be communicated to all parties and the efforts of each agency are not duplicated.
- The Governor's Energy Office should renew the contract with the Energy Management Office of the Division of Purchasing to administer and implement the recommendations of this report.

## STATE OF COLORADO

### RECOMMENDATIONS

- Procurement of products made from recycled/recovered materials will not be truly feasible until all of society is indoctrinated towards the possibilities of and the need for recycling. It needs to become a way of thinking that is integrated into our lifestyles, requiring an attitudinal change for each person. A national structure needs to be created whereby used materials are collected, separated and recycled.
  
- Purchasing agents cannot buy recycled goods because no such goods are available. Their only hope is that if they are persistent enough, some supplier will see that there exists a virtually untapped market and provide buyers with what they want. Currently the demand is not great enough to generate a supply. If they work consistently together, government purchasing agents can help create a stability in the market demand structure but they cannot do it alone. Private industry and individual consumers must be enlisted to assist in this effort.
  
- Purchasing agent should consider all three stages of a product, its manufacture, its use, and its disposal. Both the amount of resources used to manufacture the item and the environmental problems in doing so should be taken into consideration.<sup>17</sup> Questions must be

17

Arthur H. Purcell, "The Waste Watchers", Anchor Books, Garden City, 1980.



answered concerning the amount of resources the item uses over its lifetime, the amount of environmental damage it causes, its durability and its repairability.

- One must consider, then, whether or not it is wise to lock purchasing agents into buying recycled materials. Allowing flexibility in purchasing decisions might be the best answer, as long as purchasing agents are supplied with information concerning the multitude of choices.
- The first priority on a national scale should be the creation of a labeling program. For a purchasing agent to successfully choose between recycled goods and products made from virgin materials it must be clear to him or her how much of a certain item has been recycled. Without this information no objective decision can be made.
- A national program establishing a variety of standards for products would be helpful in creating an atmosphere of stability for recycled materials. The most important would be standards that successfully assure people that a particular recycled product is of the same quality as an equivalent item manufactured from virgin materials. Perhaps products should also be labeled according to performance characteristics and not just point or source of origin.

- A more difficult set of standards to implement would be those, previously mentioned, regarding packaging. N.B.S. might want to consider helping develop standards requiring a higher level of durability for packaging or requiring that packaging be limited to only one or two recyclable or recycled materials.
- Standards that require that a product contain a minimum amount of recycled material should be explored but implemented only with reluctance.
- There are several programs that might better be directed on a more local scale. The most effective of these would be a motivational program directed towards both the purchasing agent and the requisitioner. The main object of such a program would be to change people's awareness or perception of a situation and by doing so change their behavior.
- One of the ways for a purchasing agent to become motivated to use a new tool is to incorporate that tool into the purchasing system so that it is more difficult not to use than to use. In addition, it must be clear to the purchasing agent that the tool adequately satisfies a need. One of these tools is the incentive formula. One of the reasons it has not been incorporated into bids is that it is far easier not to use it. For it to be used it must become a regular feature in bid invitations rather than the optional insert that it is now.

- Two other tools could be created that would help purchasing agents procure recycled materials.<sup>20</sup> One would be a catalogue listing vendors throughout the nation that sell goods containing recycled/recovered materials. Secondly, in order to insure that those ordering goods are aware that recycled options are available, awards should note those products that contain recycled materials. Each of these tools would decrease the amount of time a purchasing agent would need to procure a recycled item and thereby increase the amount of such items purchased.
  
- In order to ensure a large enough demand for recycled goods, States and possibly the regions of the Federal Government might consider banding together to place some of their orders for products. Such a large demand would very likely generate its own supply. This type of ordering policy could also result in lower prices. An added benefit might result from the concentration of buyers. There would be less duplication of efforts across States.
  
- Another policy that might indirectly help promote paper recycling is the passage of a law requiring less intense paper brightness. As noted earlier, such paper would be beneficial for health reasons, use less energy due to the decreased amount needed in the bleaching of the paper and help keep recycled paper competitive.

<sup>20</sup>The National Buyers' Guide to Recycled Paper (Environmental Educators Inc.) was an early attempt at this type of catalogue.

## STATE OF MICHIGAN

### RECOMMENDATIONS

The following recommendations are based on findings and conclusions from the MERRA study of Michigan practices in the procurement of products containing recovered materials. These recommendations are designed to stimulate greater state and local procurement of recycled products.

- ° An individual should be designated within the Purchasing Division to advocate, promote, and assist the procurement of products containing recovered materials. This individual, through the Purchasing Division, would research and test any recycled product sought by a governmental department or section. The presence of such an advocate would advertise and strengthen the state's commitment to energy efficient procurement. The Energy Engineer, now assigned to the Purchasing Division, could fill this assignment.
- ° A statewide survey of local procurement practices should be conducted to assess current practices, needs, and future directions of energy-related local procurement.
- ° A follow-up program based on the survey should then provide the information, expertise, and motivation necessary to help local governments procure recycled products.
- ° A liason person should be designated to inform Michigan



government units involved in solid waste management planning about the close relationship of recycled product acquisition to waste disposal. The person would coordinate the various groups concerned to promote the purchase and use of recycled products.

- A study should be conducted in Michigan to determine if establishment of a legislative preference for recycled goods is desirable or practicable.
- A government-wide promotional campaign should be implemented to inform and educate purchasers and consumers about the link between recycled products and energy conservation. The negative view of recycled products should be systematically replaced with a positive attitude, receptive awareness, and readiness to try products containing recovered materials.
- The state should encourage the development of Michigan industries engaged in resource recovery and the manufacture of products incorporating recovered materials.



agencies coupled with positive public relations efforts may help to eliminate the negative connotation of "recycled."

Procurement divisions need a product catalog of vendors and manufacturers of products that contain recovered materials, remanufactured or rebuilt parts.

While the procurement of products with recovered materials should be a major concern as it relates to energy and resource conservation and waste management, state governments can make an equally important contribution through sound resource management practices in the areas of waste reduction, resource conservation, waste management, and resource recovery.

STATE OF NEW JERSEY  
RECOMMENDATIONS BY PROJECT TEAM

- That the recycled quantity certificate currently included on a number of paper contracts be expanded to all state paper contracts. This vendor self-certification is the only method currently available to assist the government in verifying recycled material content.
  
- That a clear and up-to-date definition of "recycled" be included in contracts for products which are amenable to inclusion of recovered materials (particularly paper). The current GSA definition should be used. In addition, a statement on the front of the bid package should specify that the State of New Jersey is interested in expanding its purchase and use of recycled products.
  
- That a complete review be devoted to studying the feasibility of revising the State's lubrication contract to allow for the use of re-refined oil. The military specification has already made the first step by removing the requirement that lubricating oils contain only virgin oil.
  
- That the Division of Purchase and Property's Business Specialist be assigned to assist the buying staff in locating additional firms which market products using recycled materials. This will provide the State with new sources of supply and will



continue the work of the Project Staff who through the use of survey questionnaires were able to add 25 vendors to the State's bidding list. (16 paper-products companies, 7 retreaders and 2 oil re-refiners.)

- ° That a contact be made with the State's DOT in order to discuss the possibility of revising the crushed stone aggregates and bituminous concrete contracts to allow recycled materials. Since the DOT has already successfully contracted for the breaking up, reprocessing and use of asphalt this may be implemented without too much difficulty.
- ° That continued research be devoted to the study of the use of retreaded tires. Although their use may be in limited applications, it appears that cost savings are possible. Contacts have already been made with five of the major national tire companies.
- ° That the necessary language be included in all State printing contracts requesting that the printer use recycled papers whenever possible.
- ° That a Circular Letter be sent by the Purchase Bureau to all State using agencies describing the requirements of the Federal Resource Conservation and Recovery Act, P.L. 94-580 as it relates to the purchase of recycled products when using federal funds.

- That a federal specification and testing unit be established (possibly jointly through EPA, GSA and NBS). This group could provide direction to the states by serving as a central storehouse of case studies, specifications and quality tests.
- Education regarding recycled misconceptions, bias, etc. is necessary for state vendors, using agencies, and buyers.
- Advocate the expansion of cost-effective resource recovery programs in order to increase the material feedstocks for industry. Procurement success depends on a constant supply and stable prices.
- The individual states, possibly through the National Association of State Purchasing Officials (NASPO) or the National Institute of Governmental Purchasing (NIGP) should begin a catalog file of all firms that they currently do business with which market recycled products. This would be broken down by commodities (eg: paper, oil, tires, etc.) and could eventually be printed and disseminated to all states for their use in future bids. This would provide exposure to the affected firms and surely bring many unknown firms to the attention of government procurers.
- Report to the appropriate Federal and State officials barriers which exist that adversely effect the recycling industry and press for remedial action.

STATE OF NEW YORK  
CONCLUSION AND RECOMMENDATIONS

Conclusion

- We strongly suspect that there are larger numbers of goods purchased containing recycled materials than we were able to identify within the time constraints of this report. We are optimistic that the stigma associated with recycled materials will diminish through the use of standards and test procedures that guarantee an acceptable level of quality. As this transpires, more recovered products will be identified and new products will become available containing recovered materials.
  
- Development of specifications and test procedures guaranteeing quality will allow removal of many of the barriers to the procurement of products containing recycled-recovered materials. As public confidence in products containing recycled products increases, industry may then be willing to more heavily invest in the production of goods containing recycled material as they will be assured of a competitive market.

Recommendations

- Establish and fund a federal recycled/recovered materials specification review program. This group in conjunction with other standards organizations such as ASTM, would review federal

and standards organization specifications, and test procedures, for possible restrictions to products containing recovered materials. Once specifications were identified, the group would work toward developing, where reasonable and practical, specifications and test procedures guaranteeing quality, and "neutral" to the inclusion of recovered materials. This group could be a central clearinghouse with information on recycled product specifications and test procedures that would be made available for voluntary inclusion in State purchasing solicitations.

- Encourage funding of technical type individuals in each State's purchasing function to concentrate on recycled materials. This group could recommend when the incorporation of specifications developed in the federal program might be included in the State's purchase solicitations. The above would also identify and remove restrictions and write purchase specifications and test procedures containing clauses to accept recovered materials for specific purchases. Once a product area amenable to recovered materials was identified, the group would work with the appropriate State agencies and legislative officials in guaranteeing a waste stream so that the used product would be available for recycling.



## STATE OF WASHINGTON

### RECOMMENDATIONS

- That consideration be given to combining the procurement programs required under EPCA and RCRA into one program with adequate funding and personnel to insure the success of both.
- That a clear definition of the difference between "used" and reclaimed or recycled materials be developed, and that a contract clause be developed by NBS or NASPO for use by procuring activities reflecting that difference.
- That no attempt be made to develop "preferences" for vendors using recycled materials, but that no limitation be placed on a vendor wishing to go into an area of interest, and further that barriers resulting from any existing preference programs be eliminated.
- That standards, qualified products lists, and specifications be developed centrally by NBS, NASPO, and other centralized activities in order to generate a universal document useable by all rather than simply a regional approach. This would apply to large item procurements, such as paper, tires, asphalt, typewriters, etc. which are bought by every government agency.
- That in developing methods of buying materials containing reclaimed or recycled materials, the principal consideration be the percentage

of recycled material used equated to energy savings.

- That area differences be considered in developing procurement procedures i.e., the Northeast is different from the Northwest and NBS attempts at centralization must accept that fact.
- That NBS define and develop recovery procedures and programs to be used with precious metals, spelling out what net returns should be and what the states can expect if they implement such programs.
- That attachment 0 to the Federal Circular A110 published by OMB and OFPP be rewritten to include the general provisions of RCRA as it pertains to procurement when using federal funds.
- That the State Purchasing Division (S.P.D.) conduct an extensive training program both in house and throughout the political subdivisions which rely on S.P.D. for procurement actions as to the intent and meaning of RCRA.
- That buyers be made aware that appraisal of their manner of performance will reflect their application or lack thereof of the intent of the Act.
- That solicitations for bids always contain the provision that,

unless there is statutory exclusion, the use of reclaimed materials in the fabrication of a supplied item will be given equal consideration with new materials.

- ° That NBS and the Department of Commerce work more closely with manufacturers to insure ready identification of products containing reclaimed or recycled materials in an attempt to remove the stigma attached to "used" equipment.

## NASPO POSITION PAPER

The National Association of State Purchasing Officials (NASPO) is pleased to participate in the survey and report by the Office of Recycled Materials of the National Bureau of Standards regarding the interest and activities of state purchasing offices in buying recycled products. Questions and answers are overdue with respect to the purchasing functions of the states and the reduction of solid waste. Thus, in this inquiry the Bureau is touching upon a resource whose usefulness has not been given adequate attention.

Since its formation following World War II, NASPO, an affiliate of The Council of State Governments, has consistently sought to identify and foster the best principles and practices in public purchasing. In doing so, the interest of the taxpayer is kept paramount. This tradition, coupled with the responsibility of its members for contracting for some eight to ten billions of dollars annually of equipment, materials, and supplies, suggests that the Association should play a constructive role in developing policies and recommendations for encouraging the practicable recovery and re-use of such items.

In selecting seven states for a limited study, the Office of Recycled Materials sought primarily to ascertain whether there are barriers -- legal, institutional, procedural, economic, or technical -- which hamper or prevent the purchase of recycled products by these states.

Prior to discussing the results of the survey, however, it should be



recognized that recycled products come about in several ways. There are products made from discarded material, some of which are bought and sold in the regular course of business. Where such manufacture is the market practice and is offered in the form of standard products, as in the case of wiping rags, glass spheres for reflective paints and signs, and coarse paper items such as chipboard, impediments to their purchase are insignificant or non-existent.

Further, there are items offered in the normal course of trade which are generally thought of as "recycled"; among these are retread tires and data processing hardware. Then there are such things as building materials and wood pellets used for fuel that are made from unused waste products. Finally, there are numerous items which can be and are rebuilt, ranging from automotive parts to concert grand pianos.

Production utilizing material in any of these forms reduces the amount of solid waste and in this commentary, therefore, NASPO gives consideration to the use or re-use of materials and products either recovered or diverted from waste, essentially as described under Section 1004 (14), amended, of the federal Solid Waste Disposal Act.

Generally, impediments to the purchase of these products are most evident where such a product has characteristics regarded as inferior to the virgin product, has a higher acquisition or use cost, or both. Bond papers, for example, made from recovered paper material for use as a letter-heads or for duplicating, typically are darker in tone (that is, are more gray; have lower "brightness") where whiteness is esteemed; have

inferior erasability; and often are higher in price. Resistance to their purchase and use, therefore, tends to be wide-spread.

An interesting difference can be observed here. When manufactured with a content of recovered cotton fiber, usually twenty-five percent or more, from waste cloth, the paper takes on a premium quality as to appearance and performance and commands a higher price than the best grade "all-sulphite" bond sheet.

Continuing with bond paper as an example, when made from recovered paper it suffers from another failing, lack of availability, which further operates as a barrier to its purchase. On one hand, the State purchasing or contracting authority requires reliability of supply to satisfy the needs of the numerous using agencies its office must serve. On the other hand, the mill that produces such paper must depend upon a supply of waste papers which is often uncertain and erratic.

This example of bond paper acknowledges the close identification that has become established between the use of post consumer waste paper and recycling as a whole. Such a tie-in is almost invariably made a part of law, policy, and discussion of recovered material. But perhaps it is appropriate to question whether there is not an overemphasis on the recovery of paper for re-use as paper in relation to the overall aspects of recycling equipment, materials, and supplies. Alternatively, for example, waste paper (especially the low grade, ground wood compositions which constitute a high percentage of the waste volume) can be used

as fuel, or as insulation, agricultural mulch, and other things; if not recovered it biodegrades.

Performance, price, and availability, then, are major market influencing factors which surround, and thereby may deter or prevent, the purchase of any product but perhaps they apply more critically to recycled or used items.

Taken together, the questions raised and problems cited in the responses from the seven states selected for the study are seen by NASPO to be broadly representative of those existing among all the states. It is significant to note that there are few if any direct legal barriers to the purchase of recycled products. On the contrary, at least one-half of the states surveyed have law or policies supporting the purchase of them. There are, however, certain legally implied impediments which need to be properly understood.

One encumbrance relates to fundamentals of competitive sealed bidding, the procurement method under which state governments generally are required to obtain equipment, materials, and supplies. The courts hold that the purpose of competitive bidding is the conservation of public funds. Tenders submitted under competitive bidding are evaluated, therefore, as to suitability and economy for the state. Products offered which are made from recovered material frequently are less suitable for the purposes intended and/or are less economical to buy or to use.

Economy is not, of course, necessarily equivalent to or determined by



initial price. State purchasing is increasingly concerned about the cost-effectiveness of the products it buys. Its objectives are becoming more results oriented. Thus, in evaluating competitive bids on differing brands and on products with differing characteristics, price/performance relationships are established to arrive at optimum economy. In recent years this practice has become extensive especially in the purchase of products which consume energy, wherein the cost of energy required for operation is calculated and made a factor in determining overall cost. This results not only in conservation of energy and greater economy, but provides incentive for manufacturers to make their products more energy efficient. Other identifiable costs of owning and using the item proffered also are added to the bid, or acquisition, price.

In terms of economy, some recycled products, such as retread tires and wiping rags, are found to be cost effective, while others are not.

Another legally related impediment involves the view the purchasing office takes of its responsibilities. It sees as a basic function the duty to meet in an economical and timely manner the legitimate needs of the program agencies it serves. Where products containing recovered material fulfill these criteria under the principles of competitive bidding, barriers to purchasing them do not exist or essentially are eliminated, with the caveat that while objection to a characteristic or a product (such as low brightness in a bond paper) on the part of using agencies does not necessarily govern the purchasing decision, neither is it likely to be completely ignored.



As a manifestation of its duty to serve the needs of using agencies, purchasing offices tend to favor the purchase of new products, and as a general policy they may provide that all offerings by bidders shall be new products unless specifically provided otherwise in the Invitation for Bids. Such natural averseness to the uncertainties inherent in the purchase of used merchandise has been seen within purchasing as prudent and in keeping with good practice. To the extent this way of thinking acts to impede the purchase of recycled products, however, it could be substantially relieved by education and appropriate definitions.

Difficulties attending the fluctuating availability of various products made from recovered material are magnified by the fact that states buy most of these types of items under indefinite quantity contracts, a technique which attracts favorable prices while simultaneously reducing administrative costs. These "term" contracts, usually advertised for competitive bids and awarded on an annual basis, establish the supplier and price of an item but do not designate specific quantities or delivery dates. Instead, orders are placed, or releases made, for delivery as needed throughout the contract period. This requires the supplier to have the contract item in stock or readily available in order to make prompt deliveries of diverse quantities against numerous unscheduled orders, if the contract is to work successfully.

Finally, a broad based problem which has a negative effect on the purchase of products containing recovered materials has to do with

standards, specifications, tests, and other criteria necessary for product comparison and evaluation. To the extent that such standards are made high to improve quality and acceptability, availability is adversely affected. Similarly, to the extent that specifications are written rigidly, competition as well as availability is adversely affected. On the other hand, widening the limits of standards and specifications is not appropriate without workable criteria for making comparative price/performance evaluations.

The complexity of this technical problem is somewhat illustrated by the indefiniteness of a provision often found in policy statements and specifications applicable to products made from recovered materials. The provision stipulates that the products shall utilize "recovered materials to the maximum extent possible," and usually adds that vendors shall certify the amounts of recovered materials used in the products offered.

While this may favorably influence increased use of recovered material, without adequate performance criteria such information is not sufficient for making sound purchasing decisions.

On the whole, then, barriers to the purchase of products made from recovered material are associated with practicalities. And the obstacles can best be overcome by finding practical solutions, not by mandate.

Of primary importance on an item by item basis is the matter of cost-effectiveness. This goes directly to the public purchasing objectives of economy and conservation of funds. Crucial to establishing cost-effectiveness is the technical work necessary in developing effective

standards and specifications, and criteria for evaluating price/performance factors. Beyond this, are there particular cost benefits resulting from reductions in solid waste that can be denominated and taken into account?

Enhancing the acceptability of recycled products involves both technological and educational efforts. Quality and performance of the products are improved through technology. This in turn improves acceptability, as does favorable use experience. Much can be done to dispel negative attitudes on the part of using agencies by successful experience gained from the purchase of rebuilt or remanufactured items with adequate safeguards as to condition and performance, such as transformers, auto and truck parts, laundry equipment, engines, pianos, electric motors, and office machines. No one questions the efficacy of this today in the case of data processing equipment; it has become standard trade practice. However, the purchase of such items can be economical as well as reduce solid waste.

Not only can technology improve the performance and acceptability of a recycled product, as has recently occurred with engine lubricating oil, it can reduce the price to be competitive with, or lower than, a comparable product using virgin material. Another factor in reducing price is increased production, which is motivated by greater acceptability and larger demand. Concomitantly, increased production brings about improved supply and availability.

Replies to the survey tend to support information from other experience to the effect that there is need for more discourse between the purchasing



community and manufacturers in various product areas in order to advance mutual understanding regarding technology, availability, and competitive evaluations. Accomplishing this would likely depend upon initiatives on the part of the former.

NASPO views this undertaking by the NBS Office of Recycled Products as useful and productive, especially if construed as an initial step. Responses to the several components of the project work statement were indicative of three important conclusions: (1) that the state purchasing offices appreciate the need to expand purchases of recycled products and reduce solid waste; (2) that the principal barriers to accomplishing this are lack of suitable standards, specifications, and price/performance criteria for individual materials; (3) that there is need for a continuing means of interstate communication to focus attention, inspire cooperation, and transmit experiences.

The validity and practicality of these conclusions could be tested by experiments involving all states working in a few selected product areas.

Acceptability of recycling as a concept is likely to be affected in a positive way by growing economic considerations. This is already noticeable in the case of waste lubricating oils, as evidenced by visits during March 1981, of more than 100 purchasing, energy, and other administrators and officials from 47 states to the new re-refining plant being operated by the State of North Carolina. Traditionally, the United States has recovered some 20 percent of its waste paper for production of additional



paper; in Germany, the figure exceeds 30 percent, and Japan imports certain grades of waste paper for this purpose. Declining highway revenues are spurring states to use more reclaimed materials in road construction and maintenance. These and other examples of the effect of economic factors suggest that in terms of procurement, perhaps the substantive aspects of recycling are only beginning to get underway.

Collectively, the purchasing programs of the fifty states have extensive capacity for new and progressive ideas. But unfortunately, there is no mechanism or system available for stimulating, assembling, organizing, disseminating and exchanging these ideas. If the problems pertaining to the purchase of recycled products were identified and articulated in a manner to challenge state purchasing programs, and if an effective information exchange could be established, it could be expected that workable solutions would be forthcoming to the extent they are available.

This broad-based, unique resource for innovation needs to be instituted and utilized to its full advantage.

Finally, there are supplementary ways by which NASPO might conduce to more buying and use of recycled products. An established information exchange would strengthen the success potential of related endeavors in which NASPO engages with other professional organizations, including current programs with ASTM (American Society for Testing and Materials) and NIGP (National Institute for Governmental Purchasing). And the Association could supply additional motivational support by institutional

means such as consideration by its Executive Committee of formal endorsement of the concept, or a resolution to this purpose presented to the full membership for adoption at its annual conference.

If the purchasing knowledge and resources of the states are to be applied to the manifold questions inherent in the buying of recycled products, NASPO recommends that it be done by means of a program under the aegis and direction of the Council of State Governments.

One way in which such a program could test, and demonstrate, its effectiveness would be by assigning selected product areas to different groups of states. Thus, one group could focus on the policies and problems associated with the purchase of rebuilt and remanufactured items. Another group could work in the field of recovered papers. A third group could concentrate on the entire spectrum of energy resource items, including the extended use or reclamation of oils. Among additional areas of examination could be the recycling of highway construction materials, and the inhouse reconditioning of various kinds of equipment (office, transportation, furniture, etc.).

The program would require experimentation, and as appropriate, a trial and error approach. Test procurements would be made. Experiences would be analyzed, summarized, and disseminated to all of the states and to numerous interested parties. The Council of State Governments would exercise coordination in providing a policy or oversight component, and in securing the active participation of the industrial sector, local governments, trade associations, and of standards and specifications groups such as the

American Society for Testing and Materials and the American National Standards Institute. The cooperation and assistance of a number of Federal agencies would also be needed.

Benefits from such a program, properly managed, would be many and varied, including gains which could be considered both short-term and long-term, primary and secondary, practical and theoretical. In addition to reduction of solid waste would be, for example, the fostering or the achievement of:

- A deeper understanding of the need for recycling
- More clearly defined and usable standards and specifications
- More complete and reliable information from manufacturers
- Increased realization of savings through use of recycled items
- More serviceable product labeling
- A greater commitment by purchasing to the acquisition of recycled products
- More explicit performance criteria for comparing recycled and virgin products
- A better ability to calculate "social" cost benefits in evaluating bids
- More artful drafting of Invitations for Bids
- Added acceptability of recycled articles on the part of program agencies

- Improved testing and evaluation capabilities of the individual states
- A larger market for recycled products
- More widely disseminated information among the purchasing community as to availability of recycled commodities
- A better identification of problems capable of solution; of those not so amenable; and of alternatives
- The inception of an ongoing public purchasing information exchange system
- Increased conservation of public funds



APPENDIX A

“Subtitle E—Duties of the Secretary of Commerce in Resource and Recovery

“FUNCTIONS

42 USC 6951. “SEC. 5001. The Secretary of Commerce shall encourage greater commercialization of proven resource recovery technology by providing—

- “(1) accurate specifications for recovered materials;
- “(2) stimulation of development of markets for recovered materials;
- “(3) promotion of proven technology; and
- “(4) a forum for the exchange of technical and economic data relating to resource recovery facilities.

“DEVELOPMENT OF SPECIFICATIONS FOR SECONDARY MATERIALS

Publication of guidelines.  
42 USC 6952.

“SEC. 5002. The Secretary of Commerce, acting through the National Bureau of Standards, and in conjunction with national standards-setting organizations in resource recovery, shall, after public hearings, and not later than two years after the date of the enactment of this Act, publish guidelines for the development of specifications for the classification of materials recovered from waste which were destined for disposal. The specifications shall pertain to the physical and chemical properties and characteristics of such materials with regard to their use in replacing virgin materials in various industrial, commercial, and governmental uses. In establishing such guidelines the Secretary shall also, to the extent feasible, provide such information as may be necessary to assist Federal agencies with procurement of items containing recovered materials. The Secretary shall continue to cooperate with national standards-setting organizations, as may be necessary, to encourage the publication, promulgation and updating of standards for recovered materials and for the use of recovered materials in various industrial, commercial, and governmental uses.

Cooperation with national standards-setting organizations.

“DEVELOPMENT OF MARKETS FOR RECOVERED MATERIALS

42 USC 6953. “SEC. 5003. The Secretary of Commerce shall within two years after the enactment of this Act take such actions as may be necessary to—

- “(1) identify the geographical location of existing or potential markets for recovered materials;
- “(2) identify the economic and technical barriers to the use of recovered materials; and
- “(3) encourage the development of new uses for recovered materials.

“TECHNOLOGY PROMOTION

42 USC 6954. “SEC. 5004. The Secretary of Commerce is authorized to evaluate the commercial feasibility of resource recovery facilities and to publish the results of such evaluation, and to develop a data base for purposes of assisting persons in choosing such a system.

“Subtitle F—Federal Responsibilities

“APPLICATION OF FEDERAL, STATE, AND LOCAL LAW TO  
FEDERAL FACILITIES

“Sec. 6001. Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government (1) having jurisdiction over any solid waste management facility or disposal site, or (2) engaged in any activity resulting, or which may result, in the disposal or management of solid waste or hazardous waste 42 USC 6961.

shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural (including any requirement for permits or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief), respecting control and abatement of solid waste or hazardous waste disposal in the same manner, and to the same extent, as any person is subject to such requirements, including the payment of reasonable service charges. Neither the United States, nor any agent, employee, or officer thereof, shall be immune or exempt from any process or sanction of any State or Federal Court with respect to the enforcement of any such injunctive relief. The President may exempt any solid waste management facility of any department, agency, or instrumentality in the executive branch from compliance with such a requirement if he determines it to be in the paramount interest of the United States to do so. No such exemption shall be granted due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation. Any exemption shall be for a period not in excess of one year, but additional exemptions may be granted for periods not to exceed one year upon the President's making a new determination. The President shall report each January to the Congress all exemptions from the requirements of this section granted during the preceding calendar year, together with his reason for granting each such exemption.

Exemptions.

Presidential report to Congress.

“FEDERAL PROCUREMENT

“Sec. 6002. (a) APPLICATION OF SECTION.—Except as provided in subsection (b), a procuring agency shall comply with the requirements set forth in this section and any regulations issued under this section, with respect to any purchase or acquisition of a procurement item where the purchase price of the item exceeds \$10,000 or where the quantity of such items or of functionally equivalent items purchased or acquired in the course of the preceding fiscal year was \$10,000 or more. 42 USC 6962.

“(b) PROCUREMENT SUBJECT TO OTHER LAW.—Any procurement, by any procuring agency, which is subject to regulations of the Administrator under section 6004 (as promulgated before the date of enactment of this section under comparable provisions of prior law) shall not be subject to the requirements of this section to the extent that such requirements are inconsistent with such regulations.

“(c) REQUIREMENTS.—(1) After two years after the date of enactment of this section, each procuring agency shall procure items composed of the highest percentage of recovered materials practicable consistent with maintaining a satisfactory level of competition. The decision not to procure such items shall be based on a determination that such procurement items—

“(A) are not reasonably available within a reasonable period of time;

“(B) fail to meet the performance standards set forth in the applicable specifications or fail to meet the reasonable performance standards of the procuring agencies; or

“(C) are only available at an unreasonable price. Any determination under clause (ii) shall be made on the basis of the guidelines of the Bureau of Standards in any case in which such material is covered by such guidelines.



"(2) Agencies that generate heat, mechanical, or electrical energy from fossil fuel in systems that have the technical capability of using recovered material and recovered-material-derived fuel as a primary or supplementary fuel shall use such capability to the maximum extent practicable.

"(3) After the date specified in any applicable guidelines prepared pursuant to subsection (e) of this section, contracting officers shall require that vendors certify the percentage of the total material utilized for the performance of the contract which is recovered materials.

"(d) SPECIFICATIONS.—(1) All Federal agencies that have the responsibility for drafting or reviewing specifications for procurement item procured by Federal agencies shall, in reviewing those specifications, ascertain whether such specifications violate the prohibitions contained in subparagraphs (A) through (C) of paragraph (2). Such review shall be undertaken not later than eighteen months after the date of enactment of this section.

"(2) In drafting or revising such specifications, after the date of enactment of this section—

"(A) any exclusion of recovered materials shall be eliminated;

"(B) such specification shall not require the item to be manufactured from virgin materials; and

"(C) such specifications shall require reclaimed materials to the maximum extent possible without jeopardizing the intended end use of the item.

"(e) GUIDELINES.—The Administrator, after consultation with the Administrator of General Services, the Secretary of Commerce (acting through the Bureau of Standards), and the Public Printer, shall prepare, and from time to time revise, guidelines for the use of procuring agencies in complying with the requirements of this section. Such guidelines shall set forth recommended practices with respect to the procurement of recovered materials and items containing such materials and with respect to certification by vendors of the percentage of recovered materials used, and shall provide information as to the availability, sources of supply, and potential uses of such materials and items.

"(f) PROCUREMENT OF SERVICES.—A procuring agency shall, to the maximum extent practicable, manage or arrange for the procurement of solid waste management services in a manner which maximizes energy and resource recovery.

"(g) EXECUTIVE OFFICE.—The Office of Procurement Policy in the Executive Office of the President, in cooperation with the Administrator, shall implement the policy expressed in this section. It shall be the responsibility of the Office of Procurement Policy to coordinate this policy with other policies for Federal procurement, in such a way as to maximize the use of recovered resources, and to annually report to the Congress on actions taken by Federal agencies and the progress made in the implementation of such policy.

#### "COOPERATION WITH ENVIRONMENTAL PROTECTION AGENCY

"SEC. 6003. All Federal agencies having functions relating to solid waste or hazardous waste shall cooperate to the maximum extent permitted by law with the Administrator in carrying out his functions under this Act and shall make all appropriate information, facilities, personnel, and other resources available, on a reimbursable basis, to the Administrator upon his request. 42 USC 6963.



"APPLICABILITY OF SOLID WASTE DISPOSAL GUIDELINES TO EXECUTIVE  
AGENCIES

"SEC. 6004. (a) COMPLIANCE.—(1) If—

42 USC 6964.

"(A) an Executive agency (as defined in section 105 of title 5, United States Code) has jurisdiction over any real property or facility the operation or administration of which involves such agency in solid waste *management* activities, or

"(B) such an agency enters into a contract with any person for the operation by such person of any Federal property or facility, and the performance of such contract involves such person in solid waste *management* activities,

then such agency shall insure compliance with the guidelines recommended under section 1008 and the purposes of this Act in the operation or administration of such property or facility, or the performance of such contract, as the case may be.

*Ante*, p. 2803.

"(2) Each Executive agency which conducts any activity—

"(A) which generates solid waste, and

"(B) which, if conducted by a person other than such agency, would require a permit or license from such agency in order to dispose of such solid waste,

shall insure compliance with such guidelines and the purposes of this Act in conducting such activity.

"(3) Each Executive agency which permits the use of Federal property for purposes of disposal of solid waste shall insure compliance with such guidelines and the purposes of this Act in the disposal of such waste.

"(4) The President shall prescribe regulations to carry out this subsection.

Regulations.

"(b) LICENSES AND PERMITS.—Each Executive agency which issues any license or permit for disposal of solid waste shall, prior to the issuance of such license or permit, consult with the *Administrator* to insure compliance with guidelines recommended under section 1008 and the purposes of this Act.

*Ante*, p. 2803.

PUBLIC LAW 96-482—OCT. 21, 1980

- 42 USC 6952. SEC. 21. (a) Section 5002 of the Solid Waste Disposal Act is amended by striking out "the date of the enactment of this Act" and inserting in lieu thereof "September 1, 1979".
- 42 USC 6953. (b) Section 5003 of such Act is amended by striking out "the enactment of this Act" and inserting in lieu thereof "September 1, 1979".
- (c)(1) Subtitle E of such Act is amended by inserting the following new section after section 5004:

"NONDISCRIMINATION REQUIREMENT

- Marketing policies, establishment. 42 USC 6955. "SEC. 5005. In establishing any policies which may affect the development of new markets for recovered materials and in making any determination concerning whether or not to impose monitoring or other controls on any marketing or transfer of recovered materials, the Secretary of Commerce may consider whether to establish the same or similar policies or impose the same or similar monitoring or other controls on virgin materials."
- (2) The table of contents for such Act is amended by inserting the following new item after the item relating to section 5004:

"Sec. 5005. Nondiscrimination requirement."

- 42 USC 6962. SEC. 22. Section 6002 of the Solid Waste Disposal Act is amended as follows:

(1) in subsection (c)(1), by deleting the first sentence and inserting in lieu thereof the following: "After the date specified in applicable guidelines prepared pursuant to subsection (e) of this section, each procuring agency which procures any items designated in such guidelines shall procure such items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, considering such guidelines.";

(2) in subsection (c)(1)(C), by striking "clause (ii)" and inserting in lieu thereof "subparagraph (B)";

(3) in subsection (c)(2), by deleting "recovered material and recovered-material-derived fuel" and inserting in lieu thereof the following: "energy or fuels derived from solid waste";

(4) in subsection (c)(3), by deleting everything after "vendors" and inserting in lieu thereof a colon and the following:

"(A) certify that the percentage of recovered materials to be used in the performance of the contract will be at least the amount required by applicable specifications or other contractual requirements and

"(B) estimate the percentage of the total material utilized for the performance of the contract which is recovered materials.";

(5) by amending subsection (d), to read as follows:

"(d) SPECIFICATIONS.—All Federal agencies that have the responsibility for drafting or reviewing specifications for procurement items procured by Federal agencies shall—

"(1) as expeditiously as possible but in any event no later than five years after the date of enactment of this Act, eliminate from such specifications—

"(A) any exclusion of recovered materials and

"(B) any requirement that items be manufactured from virgin materials; and

"(2) within one year after the date of publication of applicable guidelines under subsection (e), or as otherwise specified in such guidelines, assure that such specifications require the use of recovered materials to the maximum extent possible without jeopardizing the intended end use of the item."

Federal procurement items.

(6) in subsection (e), by deleting the second sentence and inserting in lieu thereof the following: "Such guidelines shall—

"(1) designate those items which are or can be produced with recovered materials and whose procurement by procuring agencies will carry out the objectives of this section; and

"(2) set forth recommended practices with respect to the procurement of recovered materials and items containing such materials and with respect to certification by vendors of the percentage of recovered materials used,

and shall provide information as to the availability, relative price, and performance of such materials and items and where appropriate shall recommend the level of recovered material to be contained in the procured product. The Administrator shall prepare final guidelines for at least three product categories, including paper, by May 1, 1981, and for two additional product categories, including construction materials, by September 30, 1982. In making the designation under paragraph (1), the Administrator shall consider, but is not limited in his considerations, to—

Product categories, guidelines.

"(A) the availability of such items;

"(B) the impact of the procurement of such items by procuring agencies on the volume of solid waste which must be treated, stored or disposed of;

"(C) the economic and technological feasibility of producing and using such items; and

"(D) other uses for such recovered materials."

SEC. 23. Section 6004 of the Solid Waste Disposal Act is amended by— 42 USC 6964.

(1) inserting immediately after "an executive agency (as defined in section 105 of title 5, United States Code)" in subsection (a)(1), "or any unit of the legislative branch of the Federal Government";

(2) inserting after "Each Executive agency" in subsection (a)(2), "or any unit of the legislative branch of the Federal Government"; and

(3) inserting after "The President" in subsection (a)(4) "or the Committee on House Administration of the House of Representatives and the Committee on Rules and Administration of the Senate with regard to any unit of the legislative branch of the Federal Government".

#### "COOPERATION WITH THE ENVIRONMENTAL PROTECTION AGENCY

42 USC 6963.

"SEC. 6003. (a) GENERAL RULE.—All Federal agencies shall assist the Administrator in carrying out his functions under this Act and shall promptly make available all requested information concerning past or present Agency waste management practices and past or present Agency owned, leased, or operated solid or hazardous waste facilities. This information shall be provided in such format as may be determined by the Administrator.

"(b) INFORMATION RELATING TO ENERGY AND MATERIALS CONSERVATION AND RECOVERY.—The Administrator shall collect, maintain, and disseminate information concerning the market potential of energy and materials recovered from solid waste, including materials obtained through source separation, and information concerning the savings potential of conserving resources contributing to the waste stream. The Administrator shall identify the regions in which the increased substitution of such energy for energy derived from fossil fuels and other sources is most likely to be feasible, and provide information on the technical and economic aspects of developing integrated resource conservation or recovery systems which provide for the recovery of source-separated materials to be recycled or the conservation of resources. The Administrator shall utilize the authorities of subsection (a) in carrying out this subsection."



**APPENDIX B**



## STATE REPORTS

<u>GCR #</u>	<u>Title</u>
NBS-GCR 81-308	Procurement of Products Containing Recycled/Recovered Materials in the State of Colorado
NBS-GCR-91-309	State of Florida: The Procurement of Products Containing Recovered Materials
NBS-GCR 81-310	Procurement of Products Containing Recovered Materials: A Study of State of Michigan Practices
NBS-GCR 81-311	A Study of Resource and Energy Conservation Practices in the Procurement and Management of Commodities (Minnesota)
NBS-GCR 81-312	Procurement of Produces Containing Recycled Materials in the State of New Jersey
NBS-GCR 81-313	Procurement Practices in New York State of Products Containing Recycled Materials
NBS-GCR 81-314	State of Washington: A Study of Procurement of Products Containing Recycled Materials
NBS-GCR 81-309 Supplement 1	An Analysis of the Procurement Policies of: Dade County, The City of Miami, The Dade County School System, Miami Dade Community College

**APPENDIX C**

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**APPENDIX D**





October 2, 1979

Memorandum For The Record

From: Joseph G. Berke, Manager  
Resource Recovery Program

Subject: Mandatory Procurement Policies Under  
EPCA (PL 94-163) and RCRA (PL 94-580)

The purpose of this memo is to highlight the mandatory procurement policies of the Energy Policy and Conservation Act (EPCA) PL 94-163 and the Resource Conservation and Recovery Act (RCRA) PL 94-580. This preliminary analysis will examine the overlaps and impacts of these Acts on (1) State and local purchasing practices and (2) technical support necessary to enable procuring agencies to meet the objectives of these acts.

From the intent of both acts, the common nature of many products, and the fact that State and local procurement officials are called upon to fulfill the objectives of both acts, it is imperative that close working relations be developed between and among State solid waste offices, State Energy Offices, procurement agencies and industry. Furthermore, in order to effectively carry out the mandates of the Acts, the procurement agencies and their staff must be supported both technologically and politically.

EPCA requires, under section 362C,3 that every proposed state energy conservation plan, in order to be eligible for Federal assistance, must include "mandatory standards and policies relating to energy efficiency to govern the procurement practices of such State and its political subdivisions." RCRA, in turn, requires via section 6002 that any procuring agency "... shall procure items composed of the highest percentage of recovered materials practicable consistent with maintaining a satisfactory level of competition." RCRA further defines, in section 1004, #17, "procuring agency" as any Federal agency or any State agency or agency of a political subdivision of a State which is using appropriated Federal funds for such procurement, or any person contracting with such agency with respect to work performed under such contract.

For those products that are of concern from both an energy and resource recovery viewpoint the entire public procurement process is essentially dictated by Federal statute. To be more specific, a product common to both acts (i.e., recycled oil, tires, paper) must be procured on an energy efficiency/conservation basis under EPCA; in addition if more than \$10,000 of Federal funds are used cumulatively, the requirements of RCRA become effective. EPCA, via section 383, provides further

directives dealing with recycled oil. This section is concerned with the promotion of the use of recycled oil, reduction of environmental hazards from waste oil, development of test procedures for determination of substantial equivalency or re-refined or otherwise processed used oil to new oils. This is particularly relevant to the preparation of procurement specifications for this oil. Finally, this section also provides for "... educating persons employed by Federal and state governments and private sectors of the economy..." In RCRA, via section 5002, (c), (b), the recycled oil problem is addressed by requiring agencies to use the product as a recovered-material-derived fuel.....to the maximum extent practicable. Once again, procurement plays a major role in the specification and acquisition process for the customer agency.

The technological support required to carry out resource and energy conserving procurements are discussed and provided for in the two acts. RCRA, via section 5002, provides the mechanisms for State and local agencies to obtain information on materials recovered from waste. This section provides for development of specifications that "... shall pertain to the physical and chemical properties and characteristics of such materials with regard to their use in replacing virgin materials in various industrial, commercial and governmental uses." This is the basic information required if procurement must consider material substitution, replacement or recycling in products offered to public markets.

RCRA, via section 5003, provides for developing the economic feasibilities, new uses for, and the locations of existing and potential markets for recovered materials. Economics and market potential information can provide the basis for changing previously restrictive purchasing policies (i.e., low price vs. life cycle cost purchasing). Finally, RCRA, via section 2003, provides on-site technological support via the "Resource Conservation and Recovery Panels." These panels consist of teams of personnel including Federal, State and local employees or contractors to provide State and local governments upon request with technical assistance on solid waste management, resource recovery and resource conservation. Procurement plays a major role in resource recovery and conservation and thus becomes eligible for assistance. The services of such teams shall be provided without charge to State and local governments.

EPCA provides technical information on various products, test methods and procedures as well as product labeling. Section 322 identifies the coverage of products for initial attention. As an example, furnaces under this section may eventually be burning refuse derived fuels and thus provides potential overlap with RCRA. EPCA in section 323 provides for the development of test procedures for operating costs, useful measures of energy consumption and other data to assist consumers in making purchasing decisions. Public procurement is a large "consumer group" requiring similar information on how to most efficiently spend the public dollar and at the same time conserve energy and resources. EPCA,

in section 363, provides technical assistance to States, upon request in a way similar to that of RCRA. For products common to both acts, any technical assistance stemming from EPCA and RCRA should be coordinated.

Since the offering of products to the public markets is a voluntary function on the part of industry, the product specifications, performance factors, and procurement policies must be developed in close cooperation with the manufacturing and supply sectors. EPCA and RCRA procurement and technical support mandates lend themselves very well to some form of continuing industry/government forum to address energy and resource conservation through procurement.



U.S. DEPT. OF COMM. <b>BIBLIOGRAPHIC DATA SHEET</b> <i>(See instructions)</i>	1. PUBLICATION OR REPORT NO. NBSIR 81-2316	2. Performing Organ. Report No.	3. Publication Date July 1981
4. TITLE AND SUBTITLE PROCUREMENT OF PRODUCTS CONTAINING RECOVERED MATERIAL: A SUMMARY OF ACTIVITIES IN SEVEN STATES			
5. AUTHOR(S) Joseph G. Berke and Catherine H. Hudson			
6. PERFORMING ORGANIZATION <i>(If joint or other than NBS, see instructions)</i> NATIONAL BUREAU OF STANDARDS DEPARTMENT OF COMMERCE WASHINGTON, D.C. 20234		7. Contract/Grant No.  8. Type of Report & Period Covered	
9. SPONSORING ORGANIZATION NAME AND COMPLETE ADDRESS <i>(Street, City, State, ZIP)</i> Office of Recycled Materials National Bureau of Standards Washington, DC 20234			
10. SUPPLEMENTARY NOTES This report summarizes seven individual state reports on the procurement of products containing recovered materials. <input type="checkbox"/> Document describes a computer program; SF-185, FIPS Software Summary, is attached.			
11. ABSTRACT <i>(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)</i> This report summarizes the major study carried out in seven states dealing with the procurement of products containing recycled/recovered materials as specified in the Resource Conservation and Recovery Act (P.L. 94-580) and its amendments (P.L. 96-482). The report lists current state activities, regulations, statutes and policies, as well as technical, institutional and economic barriers to the public procurement of recycled products. A list of recommendations and suggested actions are also included.			
12. KEY WORDS <i>(Six to twelve entries; alphabetical order; capitalize only proper names; and separate key words by semicolons)</i> Economic, institutional, technical barriers; procurement; purchasing; recovered/recycled materials; resource recovery			
13. AVAILABILITY <input checked="" type="checkbox"/> Unlimited <input type="checkbox"/> For Official Distribution. Do Not Release to NTIS <input type="checkbox"/> Order From Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. <input type="checkbox"/> Order From National Technical Information Service (NTIS), Springfield, VA. 22161		14. NO. OF PRINTED PAGES 75 15. Price \$8.00	





