

# FUTURE DIRECTIONS FOR STATE RECYCLING PROGRAMS

Northeast Recycling Council  
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## BACKGROUND

*Future Directions for State Recycling Programs* was prepared by the Northeast Recycling Council to capture the lessons learned during more than ten years of aggressive state efforts to promote waste prevention and recycling. It was developed with input from all thirteen of NERC's member organizations as well as other interested parties.

*Future Directions* presents 15 suggested policies to guide future efforts, along with examples of potential implementation actions. The suggested policies are primarily intended to guide states and NERC, but many also could be implemented and/or supported by the federal government, private industry and others. While many of the policies have already been implemented to varying degrees in one or more states, no one state has fully implemented them all. And, since each of the ten Northeastern states is unique, it is unlikely that all the suggested policies would be feasible or appropriate to implement within any one state.

NERC has prepared this paper for several reasons:

- It will assist in establishing priorities for future NERC efforts;
- It will be used as a basis for providing NERC input to states as they evaluate potential changes to recycling laws and policies;
- It will assist in providing NERC's input to the White House Summit on Recycling, to be held in Fall, 1998; and
- It provides an opportunity to air the diverse perspectives of NERC members.

The following sections include a summary list of the suggested policies, a brief overview of past state waste prevention and recycling efforts, and more detailed descriptions of the suggested policies, including examples of potential implementation actions.

## *Terminology*

In this paper, "recycling" is broadly defined as the collection, processing and use of scrap materials as manufacturing feedstock (including composting), and the collection, processing and resale of used products intended to be reused for their original purpose (often termed "reuse" or "remanufacturing"). "Waste prevention" is defined as activities which reduce the amount of scrap materials or used products generated (often termed "source reduction"). "Supply side" refers to

efforts to increase collection of scrap materials. “Demand side” refers to efforts to increase demand for scrap materials and used products. “System wide” refers to efforts which address the entire materials management system.

## **LIST OF SUGGESTED STATE POLICIES**

### **System Wide Policies**

1. Waste prevention and recycling efforts should be incorporated into a coherent sustainable development strategy.
2. States should promote involvement by all players necessary to ensure proper stewardship of resources and products produced.
3. States should eliminate disincentives to waste prevention and recycling.

### **Waste Prevention Policies**

4. States should establish waste prevention goals.
5. States should promote waste prevention through business assistance programs.
6. States should incorporate waste prevention in all aspects of recycling and materials management policies.

### **Supply Side Policies**

7. States should maintain aggressive statewide recycling goals covering the full range of waste materials generated.
8. States should promote increased efficiency and cost-competitiveness of local waste diversion programs.
9. States should expand the focus of recycling collection programs to target those materials, from all types of generators, which have viable markets.

### **Demand Side Policies**

10. Demand side programs should drive supply side expansions by targeting materials with high recovery and value-adding potential.
11. Demand side programs should also target reuse and remanufacturing markets.

12. States should strengthen and broaden their commitment to increase government purchase of recycled and other environmentally preferable products.
13. States should aggressively promote environmentally preferable purchasing efforts by large private organizations.
14. States should establish dedicated recycling business development programs.
15. States should consider regulatory and legislative market drivers to increase demand for recycled materials, where needed to overcome market barriers and inefficiencies.

## **OVERVIEW OF PAST STATE WASTE PREVENTION AND RECYCLING EFFORTS**

Since the 1980's, the ten Northeastern states have undertaken a wide range of efforts to promote recycling. The sections below provide brief summaries of these efforts, categorized into supply side, demand side, waste prevention and system wide efforts. Following the summaries, a chart lists the range of activities undertaken. Note that, since this paper is focused on state and multi-state efforts, no attempt is made to summarize the many efforts of other groups who have also supported waste prevention and recycling, such as local governments, private industry, trade associations and non-profits.

### ***System Wide Efforts***

An emerging trend among recycling advocates and the broader environmental community is to consider environmental goals from a broad, systems perspective, including the entire life cycle of all materials used, from extraction through production, consumption and disposal or recycling. Although few states have formally addressed system wide issues, there have been efforts focused in this area, including life-cycle studies of materials, documentation of environmental and economic statistics, and projects to identify opportunities to reduce system wide costs.

### ***Waste Prevention Efforts***

Most states adopted or endorsed the integrated waste management hierarchy, explicitly recognizing waste prevention (or *source reduction*) as the preferred strategy. However, relatively less effort has been expended than on recycling, which offered more rapid increases in waste diversion and was more readily understood and implemented. State waste prevention efforts have included the establishment of waste exchanges, business assistance programs and technical and financial assistance.

### ***Supply Side Efforts***

Most state recycling efforts initially focused on increasing the recovery of waste materials by promoting the establishment of municipal curbside and drop-off recycling collection programs

targeting residences. In market terms, these efforts had the effect of increasing the supply of recycled materials available for use by domestic processors and manufacturers or for export. States have promoted increased recovery through such policies as recycling and/or waste diversion goals and mandates, technical and financial assistance, public education, deposit laws and other incentives. These efforts have been very successful, and a high percentage of residences now have access to recycling services, and recycling rates for many “traditional” materials like bottles, cans and newspaper have doubled or tripled, and may be approaching their upper maximum. With some notable exceptions, few states have expressly promoted the expansion of recycling collection programs targeting commercial and industrial sources.

***Demand Side Efforts***

As supply side programs grew, the importance of market demand and material value quickly became evident. Some states instituted market development programs with the goal of increasing demand and stabilizing the value of recovered materials. Formed in 1987 to help coordinate state recycling programs, the Northeast Recycling Council became increasingly focused on market development. And, in 1994, the U.S. EPA began supporting state market development efforts, including projects in nine of NERC’s ten states, through the *Jobs Through Recycling Initiative*. Demand side efforts include government procurement programs, promoting private procurement and targeted business development programs offering a range of services to assist recycling businesses to start-up and expand operations. The recycling processing and manufacturing infrastructure has grown considerably since the late 1980s, with the paper industry alone investing over \$10 billion in new recycled paper manufacturing facilities, the advent of post-consumer plastics reclaimers, composting facilities for yard trimmings and other organics, increased utilization of recycled glass by container manufacturers and the establishment of a myriad of small businesses handling diverse waste streams.

**The Range of Past State Waste Prevention and Recycling Efforts**

**System Wide Efforts**

- Life Cycle Studies
  - of waste management approaches
  - of specific products/materials
- Documenting Environmental/Economic Benefits
- System Cost Studies
- Local Integrated Waste Management Planning Assistance/Models
- Promoting Private/Public Partnerships
- Labeling/Environmental Marketing
  - voluntary programs
  - mandates
- Support for Multi-State Regional Programs
- Market Information/Trading Systems

Technical Assistance to Businesses

- waste audits/planning
- research studies
- information/training

Financial Assistance

- grants
- loans
- tax credits

Materials Exchange Programs

Public Education/Promotion

**Waste Prevention Efforts**

## Supply Side Efforts

### Recycling Goals

- legislated or agency policy
- at state or local level
- by material or product

### Planning Requirements

- on local governments
- on businesses

### Recycling Participation Mandates

- on businesses
- on residences

### Incentives to local governments/generators

- promoting “pay as you throw” pricing
- recycling report cards
- recognition/awards
- deposit/return systems
- revenue sharing from state facilities
- disposal facility surcharges

### Waste Disposal Bans

### Grants

- to local governments
- to non-profits
- to businesses

### Direct Investment in Recycling Infrastructure

### Technical Assistance

- to local governments
- to businesses
- market information
- research studies
- recycling coordinator training

### Public Education

- school curricula
- promotions
- preparation of outreach materials

### State Facility Recycling Programs/Executive Orders

- offices
- corrections and other institutions

## Demand Side Efforts

### Government Purchasing

- mandates/goals/executive orders
- product preferences
- price preferences
- adoption of recycled content spec.s
- adoption of performance spec.s
- inter-agency coordination
- multi-state purchasing
- information/directories
- vendor fairs/workshops
- promotion
- technical assistance
- dedicated recycled procurement staffing in DOTs, purchasing agencies, etc.

### Private Purchasing

- buy recycled alliances
- promotion
- information/directories
- technical assistance
- voluntary agreements
- mandates
- coordination with industry associations

### Business Development Assistance

- coordination with “mainstream” business development programs
- dedicated recycling business dev. staff/offices
- financing assistance
  - grants
  - loans
  - tax credits
  - bonds
  - support for investment forums
  - information/training
  - outreach/promotion to financiers
- technical assistance
  - technology validation/develop.
  - conversion to secondary materials use
  - siting
  - permitting
  - marketing
  - sourcing supplies
  - market information
  - training
  - research studies
- pro-active business plan development

### Minimum content mandates

### Fees/Monetary Incentives

- on products
- rebates/incentive payments

## **SUGGESTED POLICIES TO GUIDE FUTURE STATE RECYCLING EFFORTS**

The following suggested policies are broad in scope, and can potentially impact a wide range of specific programs and activities. NERC did not seek consensus among its members on the most appropriate way to implement each policy. The examples of actions listed under each policy are provided merely to illustrate some of the many opportunities to implement each policy.

### ***A Note on Goals***

NERC members discussed at length the usefulness of goals in driving waste prevention and recycling, and generally agreed that goals provide an important focal point for planning, provide a basis for measuring success and are useful in securing resources for programs. (See suggested policies #4 and #7.) Notwithstanding this, some NERC members cautioned that placing too much emphasis on goals and measurement diverts scarce resources from running programs that actually produce results. Some of the issues discussed include:

- *Recycling, waste prevention or diversion*  
Separate goals can be established for recycling and for waste prevention, or a combined waste diversion goal can be established.
- *Measurement*  
Measures used in goals can include total tonnage of waste recycled, generated, source reduced and/or diverted; these numbers can be converted to per-capita figures or percentages; or, qualitative goals can be established which indicate a direction rather than a quantitative measure. There was disagreement also over whether states could ever achieve standardization in the way goals are established and measured.
- *Scope of generator and material types included*  
Goals can apply separately to residential, commercial, industrial, construction & demolition debris, agricultural waste and/or other types of generators and materials.
- *Usefulness in driving industrial recycling*  
Some NERC members cautioned that establishing arbitrary goals for various industry sectors could backfire, and urged cooperative efforts with industry groups to establish voluntary goals which are realistically attainable and measurable.

NERC members agreed to consider further the role of goals during a future meeting. Possible actions include refining the suggested policies included herein, working to adopt recommended standards for state goals, and working with industry groups to establish regional, industry-specific goals.

## ***SYSTEM WIDE POLICIES***

### ***1. Waste prevention and recycling efforts should be incorporated into a coherent sustainable development strategy.***

The most important benefits of waste prevention and recycling involve long-term economic and environmental factors which can best be addressed through a broad sustainable development strategy. While some view waste prevention and recycling solely as back-end waste management practices, a growing body of research shows that they have important economic and environmental benefits which span the entire materials flow system, from materials extraction through production, consumption and disposal. It has been shown, for example, that compared to manufacturing with virgin materials and disposing consumed products, recycling usually results in reduced timber harvesting and mining, conserves energy and reduces emission of pollutants, including greenhouse gases<sup>1</sup>. The economic benefits are also increasingly well documented, including reduced business operating costs accruing through waste prevention, and local economic development accruing through value adding activities targeting secondary resources which traditionally had been disposed. Viewed from the perspective of sustainable development, waste prevention and recycling are important strategies for enhancing the long-term efficiency of the overall materials management system, and ultimately of our macroeconomic system, and are principles which should be applied to the full range of materials consumed.

Examples of Implementation Actions:

- Prepare a state materials management plan addressing the full range of materials consumed.
- Integrate recycling and waste reduction into broader environmental and sustainable development efforts (e.g., State Climate Change Action Plans or National Performance Partnership Agreements) to garner resources and justify the importance of the programs.
- Track materials flows through state economies.
- Establish ongoing programs to gather economic and environmental statistics.
- Establish indicators to measure progress in the overall sustainability of state materials use patterns.

### ***2. States should promote involvement by all players necessary to ensure proper stewardship of resources and products produced.***

In the long run, the success of waste prevention and recycling efforts is dependent upon adoption of the principles of extended product responsibility (EPR), and is a shared responsibility among local, state and federal government, private industry, consumers and others. The principle of

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<sup>1</sup> See, for example, "Environmental Life-Cycle Comparisons of Recycling, Landfilling and Incineration: A Review of Recent Studies." Richard Denison. Annual Review of Energy and the Environment, 1996, 21: 191-237.

EPR implies that resource conservation is maximized and pollution is minimized throughout the life-cycle of resources and products. To varying degrees, all stakeholders have demonstrated support for waste prevention and recycling. However, since currently many of the benefits of waste prevention and recycling do not accrue to the same entities responsible for their costs (notably local governments and generators), states should seek opportunities wherever possible to share the costs and responsibilities in appropriate ways. In particular, states should encourage and assist product manufacturers to support waste prevention and recycling by designing products and packaging which minimize waste and can be cost-effectively recycled, by supporting recycling collection programs with technical and financial assistance, by using recycled materials as feedstock and by purchasing recycled-content products wherever possible.

Examples of Implementation Actions:

- Adopt a formal resolution stating that the success of recycling and waste management is a shared responsibility among government, private industry, consumers and others.
- Promote industry responsibility through public-private partnerships, recognition programs and through industry-initiated programs.
- Consider adoption of manufacturer responsibility policies or other legislative/regulatory approaches to encourage extended product responsibility.

### ***3. States should eliminate disincentives to waste prevention and recycling.***

Some state laws and regulations can act as disincentives to recycling and waste reduction by restricting the use of recovered materials or providing incentives to competitive activities. For example, some regulations may require recycled materials to meet more stringent environmental or performance standards to be used in certain applications. Some state and federal policies provide incentives for the extraction of virgin resources such as timber and minerals.

Examples of Implementation Actions:

- Review and streamline the *beneficial use determination* process (or equivalent) and recognize research and approvals of other states. As necessary, adjust the process to eliminate requirements which reduce the competitiveness of recycled materials.
- Evaluate and adjust tax, procurement, road and building construction and other regulations to ensure that disincentives to waste prevention and recycling are removed.

## ***WASTE PREVENTION POLICIES***

### ***4. States should establish waste prevention goals.***

As with recycling, waste prevention goals can help establish a benchmark for measuring success, provide a focal point for planning and, generally, raise the profile of waste prevention efforts. Also, as with recycling goals, there is much debate about the most appropriate way to frame waste prevention goals, including the most appropriate measures to use. Because few data are

available, research is necessary to better understand the potential for achieving waste prevention in different sectors.

Examples of Implementation Actions:

- Sponsor research and work cooperatively with industry and other groups to quantify the potential for reducing waste in different generating sectors (e.g., residences, commercial businesses and different types of industry).
- Establish waste prevention goals for each generating sector, working cooperatively with industry groups.
- Measure progress annually and report findings along side recycling.

***5. States should promote waste prevention through business assistance programs.***

State programs providing direct assistance to businesses to reduce their waste streams have documented cost savings accruing to their clients. These programs are usually most effective when dedicated, trained staff are assigned, but can also be implemented through existing business assistance programs.

Examples of Implementation Actions:

- Establish dedicated programs like WasteCap or WasteWi\$e to provide waste prevention services to businesses.
- Promote incorporation of waste prevention practices within existing business assistance programs.
- Support or sponsor broad education and outreach efforts to the business community.

***6. States should incorporate waste prevention in all aspects of recycling and materials management policies.***

Most states list waste prevention (or source reduction) as a top priority for integrated waste management, while in practice most diversion efforts have focused on recycling. This may be justified, given the potential for recycling to increase waste diversion levels in the short term and the need over the past decade to establish recycling as a long-term, viable program. However, many recycling programs could easily be adapted to promote waste prevention.

Examples of Implementation Actions:

- Adjust eligibility criteria for loan, grant, procurement and other programs targeting recycling to explicitly allow participation by waste prevention projects.
- Educate representatives of state programs about how they can support waste prevention.

***SUPPLY SIDE POLICIES***

***7. States should maintain aggressive statewide recycling goals covering the full range of waste materials generated.***

Statewide goals provide a focal point for concerted efforts to promote recycling. As the deadlines for achieving existing goals approach or pass by, several states are evaluating the need to establish new targets. Although existing state goals differ significantly and debate continues over the most appropriate definitions and measures (e.g., percentage, tonnage, per capita, etc.), most agree that publicly announced goals have helped to drive decision makers to allocate resources required to increase recycling. As new goals are adopted, they should remain aggressive (but realistically attainable) and cover a broader spectrum of materials.

Examples of Implementation Actions:

- As recycling goal deadlines pass, establish new goals which are realistically attainable.
- Establish additional goals to cover the full range of waste materials generated, including construction & demolition debris, commercial and industrial waste streams.
- Establish and update regularly statewide plans to achieve the established goals.

***8. States should promote increased efficiency and cost-competitiveness of local waste diversion programs.***

The costs of recycling, composting and waste prevention are largely borne by waste generators and local governments, while many of the benefits accrue elsewhere. Indeed, when compared with landfill or incineration without taking into account the full life cycle of materials and products, recycling may sometimes appear to be uncompetitive. To sustain support for local programs, it is essential that they operate as efficiently as possible.

Examples of Implementation Actions:

- Establish incentives for local programs to increase efficiency, for example, through grant programs, awards and other recognition, technical training and through local planning requirements.
- Track local program costs and establish benchmarks and targets.
- Encourage the adoption of full cost accounting systems by local governments.
- Sponsor pilot demonstration programs of innovative programs.
- Support and sponsor public education programs designed to increase participation and capture rates in existing recycling programs.

***9. States should expand the focus of recycling collection programs to target those materials, from all types of generators, which have viable markets.***

Most state and local waste diversion programs have focused largely or exclusively on residentially generated municipal solid waste; however, in many communities generation by commercial and industrial sources, including construction & demolition waste, can greatly exceed residential generation. Demand for a diverse range of materials generated by these sources has grown and has significant potential for further expansion.

Examples of Implementation Actions:

- Include in recycling coordinator job descriptions responsibility for promoting commercial and industrial recycling.
- Support business assistance programs like WasteCaps to assist in establishing and optimizing recycling programs.
- Establish incentives such as awards, recognition and financial/technical assistance to encourage haulers to offer recycling services.
- Consider disposal bans for select waste material types.

## ***DEMAND SIDE POLICIES***

### ***10. Demand side programs should drive supply side expansions by targeting materials with high recovery and value-adding potential.***

Materials like organics, construction debris and mixed waste paper have tremendous growth potential in market capacity and recovery, and present tremendous opportunities for market development. Therefore, State market development programs should establish these and other materials with high growth potential as top priorities. To effectively drive supply programs, market development efforts should strive to link collection with markets wherever possible, especially for materials, like food waste, with a relatively unestablished collection infrastructure.

Examples of Implementation Actions:

- Establish state priorities for market development by identifying materials with low existing and high potential recovery, which could fuel new profitable business ventures.
- Conduct research to identify barriers and opportunities for “non-traditional” materials.
- Establish criteria for existing financial and technical assistance programs to ensure that scarce resources are used to support highest priority projects.
- Establish local efforts which bring together all players responsible for successful market development projects, including haulers, generators, business professionals, financiers and regulators.

### ***11. Demand side programs should also target reuse and remanufacturing markets.***

Unlike recycling markets, which process and use scrap materials as manufacturing feedstock, reuse and remanufacturing markets process used products to be resold for their original use. Although some reuse markets are well established (e.g., toner cartridges and motor vehicle parts), there is considerable room for growth in many others, such as electronic appliances, shipping pallets and building construction products.

Examples of Implementation Actions:

- Revise eligibility criteria for existing financial and technical assistance programs to allow reuse and remanufacturing projects to qualify.

- Conduct research to better understand market opportunities involving reuse and remanufacturing.
- Coordinate efforts with associations of reuse businesses and other organizations involved in reuse.

***12. States should strengthen and broaden their commitment to increase government purchase of recycled and other environmentally preferable products.***

All Northeastern states have procurement policies designed to increase purchasing of recycled content products. These policies have been very successful for recycled paper, but much less successful for other products, especially for certain road and building construction products. Several states have also adopted preferences for “environmentally preferable” purchasing. These programs are relatively young and little experience has been acquired.

Examples of Implementation Actions:

- Incorporate recycled content and other criteria directly into bid specifications, rather than relying on price or other preferences.
- Establish minimum levels of purchasing for environmentally preferable products determined to be cost and quality competitive.
- Broaden criteria to include recyclability, reusability, durability, longevity, reduced material consumption and other environmental factors.
- Establish dedicated staffing positions within general services and/or departments of transportation agencies.
- Establish targets for purchasing, especially for products with very strict quality requirements, such as road and building construction products.
- Establish long-term research programs to ensure that adequate information is available to evaluate recycled content and other environmentally preferable products.
- Adopt performance based specifications which do not retard the use of recycled materials.
- Promote multi-state purchasing to enhance the competitiveness of recycled products.

***13. States should aggressively promote environmentally preferable purchasing efforts by large private organizations.***

Private businesses purchase a significant amount of products, and can send a strong market signal to product producers. In the Northeast, the most evident success story is perhaps the voluntary agreements signed in six states committing newspaper publishers to purchase specified levels of recycled-content paper. States can build similar alliances with other private sector organizations to increase purchasing of a wide range of recycled content products. Particularly when focused on large organizations, such efforts can send a powerful market signal.

Examples of Implementation Actions:

- Establish Buy Recycled Business Alliance in conjunction with the National Recycling Coalition.

- Negotiate purchasing commitments by large businesses or associations.
- Support the development of product information through directories and events.
- Support the establishment of purchasing cooperatives.

***14. States should establish dedicated recycling business development programs.***

Many states have established programs and/or staff dedicated to assisting recycling businesses to start-up and expand, and to convert virgin-based manufacturers to recycling. These programs provide a range of essential services to recycling businesses, including financing, business planning, technology, permitting, research data and more. Dedicated staffing and financing programs have proven to be most successful. Dedicated recycling staff can develop an intimate familiarity with the unique opportunities and challenges of recycling business development. And dedicated recycling financing programs draw attention to recycling among both the business and financial communities. At the same time, coordination with existing business development programs can leverage existing resources and serve to institutionalize recycling business development efforts.

Examples of Implementation Actions:

- Establish programs or dedicated staffing within existing state business development agencies.
- Establish new financing programs, allocate portions of existing programs and/or advertise the eligibility of recycling businesses for existing financing programs (especially funds available for research and business start-up).
- Document economic statistics on recycling and reuse businesses to promote the industry to the business and financial communities.

***15. States should consider regulatory and legislative market drivers to increase demand for recycled materials, where needed to overcome market barriers and inefficiencies.***

Most state market development efforts have turned away from regulatory approaches in favor of business assistance, partnerships and advocacy. While these strategies are effective and should be continued aggressively, in some cases regulation or legislation may be appropriate and effective, and can drive innovation in the market place. For materials and products which are toxic or hazardous, abundant in the waste stream, extremely hard to recycle, have low support from industry and/or would benefit from a strong market signal sent by government, this may be the case. By actively keeping such options on the table, states can help encourage industry to sustain efforts to promote recycling.

Examples of Implementation Actions:

- Track the implementation of legislative/regulatory approaches adopted in Europe, Asia and Latin America, as well as those adopted by states in the U.S.
- Evaluate the potential for such approaches to enhance recycling for specific materials or products.