

REPORT

Revitalizing Recycling

Exploring Market Development Strategies,
Minimum Content Mandates, and Infrastructure Investments



HYOUNG CHANG/MEDIANEWS GROUP/THE DENVER POST VIA GETTY IMAGES

RECYCLING POLICY TOOLKIT

Revitalizing Recycling: Exploring Market Development Strategies, Minimum Content Mandates, and Infrastructure Investments

The National Conference of State Legislatures is the bipartisan organization dedicated to serving the lawmakers and staffs of the nation's 50 states, its commonwealths and territories.

NCSL provides research, technical assistance and opportunities for policymakers to exchange ideas on the most pressing state issues, and is an effective and respected advocate for the interests of the states in the American federal system. Its objectives are:

- Improve the quality and effectiveness of state legislatures.
- Promote policy innovation and communication among state legislatures.
- Ensure state legislatures a strong, cohesive voice in the federal system.

The conference operates from offices in Denver, Colorado and Washington, D.C.



PAUL CHINN/THE SAN FRANCISCO CHRONICLE VIA GETTY IMAGES

The development of recycling markets is essential for fostering and sustaining the demand for recyclable materials while encouraging production of products derived from such materials. By diverting these materials from the waste stream and facilitating their transformation into new products, these markets play a pivotal role in the recycling sphere. Without well-established end markets, recycling as we currently know it would not be feasible.

However, disruptions and restrictions in export markets over the last few years, combined with the decline in commodity values for specific materials have compelled states across the nation to reassess and prioritize our domestic recycling market. In light of those challenges, this report aims to delve into the critical issues and obstacles associated with recycling market development—examining policy measures considered and implemented by states to promote such development while also exploring funding mechanisms to aid those efforts.

This report addresses:

- **Recycling Market Development History and Key Issues**
- **State Policy Options for Recycling Market Development**
 - Data Studies and Market Research
 - Recycling Market Development Centers & Programs
 - Recycling Content Mandates
 - Recycling Infrastructure Tax Credits & Financial Support for Industry
- **Funding for Recycling Market Development**

Recycling Market Development History and Key Issues

The concept of developing a market for recycled products in the United States emerged in the 1990s, as cities, counties and states began to take efforts to enhance the economic vitality of the recycling industry.

By the turn of the 21st century, [more than half of U.S. states](#) had implemented recycling collection mandates. Still, they faced significant obstacles, including the lack of outlets for materials and the high costs of collection and processing, which often outweighed fluctuating commodity values. Nevertheless, [several states led the charge](#) to foster recyclable market development in the 1990s, with New York, North Carolina, and Washington state at the forefront.

For instance, North Carolina’s Department of Environmental Quality, began to issue grants in the 1990s through its [Recycling Business Development Grant Program](#) to support the state’s recycling businesses and promote material recovery and end-use development. In 1994, the Environmental Protection Agency (EPA) followed in states’ footsteps and launched “[Recycling Means Business: EPA’s Recycling Market Development Strategy](#).” The program included funding for state recycling and reuse business centers, economic development advocates, and for the establishment of recyclable commodities trading systems.

Efforts to maintain investments in domestic end markets continued but slowed down during the 2000s due to financial constraints, political factors and other limitations. However, in 2018, state policy initiatives related to recycling market development regained momentum following China’s “National Sword” trade restrictions. The “National Sword” policy banned the importation of certain types of solid waste, mixed paper and plastics and imposed strict contamination limits on recyclable materials. While other international markets, such as Vietnam and India, emerged as alternatives, they too began to implement their own restrictions. The effects of the policy left a substantial portion of the U.S. recycling industry in search of alternative domestic markets, prompting states to take action to foster them.

Furthermore, the COVID-19 pandemic had varying effects on different recyclable commodities. Some, such as recyclable corrugated cardboard and recyclable mixed paper, experienced increased demand, while others such as recycled plastics and certain scrap metals, faced declining demand. Although most commodities have recovered since the peak of the pandemic, the desire to build strong and resilient recycling markets remains a priority for policymakers and stakeholders alike.

Determining the responsibility for creating and supporting the development of these markets has been subject to interpretation. The Resource Conservation and Recovery Act (RCRA) has been interpreted to require the U.S. Department of Commerce to stimulate the development of domestic markets for recycled materials. However, [the Government Accountability Office \(GAO\) found](#) that Commerce officials have not fulfilled this obligation, despite claiming that their efforts to stimulate international markets satisfy RCRA obligations. As a result, the GAO has recommended that Congress consider clarifying whether the responsibility of the Secretary of Commerce under RCRA includes stimulating the development of domestic markets for recyclables, or if the responsibility should be reassigned to another agency.

In 2021 the EPA unveiled its National Recycling Strategy, which identifies actions to strengthen the U.S. recycling system, including improvement of markets for recycled commodities through market development. The future of recycling market development in the U.S. remains a dynamic and evolving landscape, shaped by various factors including financial risks and geopolitical realities.



TIM SLOAN/AFP VIA GETTY IMAGES

State Policy Options for Recycling Market Development

States that initially kickstarted their recycling market development programs in the 1990s and early 2000s, are now experiencing a renewed sense of vigor, driven by various factors including trade disruptions, fluctuating commodity values, and increased demand for recycled content. In fact, several states, including Colorado, New Jersey and Maryland, have taken proactive steps to establish new recycling market development offices or centers.

In addition to creating dedicated agency offices, states legislatures across the nation have also passed legislation to encourage comprehensive studies of their existing recycling portfolios identifying specific market development needs. Furthermore, states have also established recycled content mandates to incentivize the creation of additional end markets and have increased investment in strengthening their recycling infrastructure.

Support for Data Studies and Initial Market Research

Many states recognize the importance of assessing their recycling market development needs as an initial step towards strengthening their recycling markets. These assessments have involved conducting studies to evaluate existing markets and outline their state-specific needs. By undertaking such assessments of existing commodities and material end-markets, states can gather essential data and gain a comprehensive understanding of the current realities of their recycling environment.

Some state examples include:

- **New Hampshire** ([HB 617, 2019](#)) which established a legislative committee to study the state of recycling programs in the state in light of changing market conditions and challenges faced by state and municipalities in running those programs.

The [report](#) found that New Hampshire’s “reduced support for solid waste management planning and assistance over the years has left it incapable of adequately responding” to the challenges within the waste management sector. The study highlighted the lack of an in-state materials recovery facility for single stream recycling, and the need for funding to develop “creative, effective solutions” to better use resources and recycling. Additionally, the study called for a promotion of recycling by increasing state procurement of products with high recycled content, and for the state to work with entrepreneurs to “become an incubator for solid waste recycling and reduction innovation.”

- **Illinois** ([HB 3068, 2019](#)) which created a Statewide Materials Management Advisory Committee (MMAC) comprised of industry professionals and other stakeholders to provide recommendations to the General Assembly on ways to expand waste reduction, recycling and reuse in the state, in a manner which not only protects the environment, but also promotes economic development. The legislation also called for a complete analysis of markets available for materials diverted from state landfills.

The [MMAC’s report](#) outlined waste management needs in the state, setting the stage for future action. The report examined existing waste management and materials management infrastructure, documented landfill disposal capacity, outlined a need for more drop-off recycling locations in rural areas, and provided recommendations to the state. Recommendations included establishing a materials management market development advisory board and increasing consumer education.

- **Rhode Island** ([SR 2582, 2022](#)) requested the Rhode Island Resource Recovery Corporation to conduct a comprehensive study of plastics recycling. Results of the Rhode Island study can be found [here](#).

Assessments play a crucial role in understanding a state’s recycling needs, setting the stage for future legislative endeavors aimed at bolstering market development and infrastructure where needed. For

example, in 2014, Minnesota’s Legislative Audit Commission [directed](#) the Office of the Legislative Auditor to evaluate recycling and waste reduction in the state. The [assessment](#) found that the states existing recycling measurement system was flawed, and the Minnesota Pollution Control Agency lacked sufficient resources for developing markets for recyclable materials, with the majority of those surveyed reporting that the MPCA was “somewhat,” or “very” ineffective at developing markets for recycled materials. The report recommended the state not only provide additional resources dedicated to end-market development in the state to “encourage additional recycling,” and help meet recycling goals, but also that the legislature consider incentives that encourage disposal methods consistent with the states’ waste management hierarchy of which waste reduction and reuse sit at the top, followed by recycling.

Creation of Market Development Programs and Centers

The Southeast Recycling Development Council [emphasizes](#) the crucial role market development centers play in fostering “collaboration, innovation and partnership along the entire recycling value chain.” A number of states with previously established recycling market development programs, including Minnesota, South Carolina, Pennsylvania and Michigan, have seen their programs revitalized with a renewed sense of urgency and bolstered by increased financial and personnel resources. Concurrently, several other states, including Washington, Colorado, New Jersey, Maryland and New York, have initiated efforts to establish new recycling market development centers or programs.

- **Colorado** ([HB 1159, 2022](#)) created a circular economy development center to grow existing markets, create new markets, and provide the necessary infrastructure, systems, and logistics to create a sustainable circular economy for recycled commodities in the state. One of the primary roles of the center is to connect end markets to existing state grants and other incentives.
- **Maryland** ([HB164, 2021](#)) required the state’s Office of Recycling to “promote the development of markets for recycled materials and recycled products” through efforts such as helping connect recycled materials, especially hard-to-recycle ones, with suitable end markets.
- **Colorado** ([SB20-055, 2020](#)) directed the state’s Department of Public Health and Environment to create a plan for a new recycling market development center.
- **New Jersey** ([S-3939, 2019](#)) called for the creation of a Recycling Market Development Council that would report on best practices to reduce the contamination of recyclables and recommend ways to stimulate demand for the materials.



DON EMMERT/AFP VIA GETTY IMAGES

- **Washington** ([SB5545, 2019](#)) authorized the creation of a Recycling Development Center to incentivize new companies to process recyclable materials and develop more local end markets, and an advisory board including recycling industry representatives would guide the center's activities. Anticipating the action, the state's Department of Ecology [contracted a report](#) that outlined effective approaches to supporting recycling development that the newly commissioned Recycling Development Center could take once it was established.
- **Texas** ([SB 649, 2019](#)) mandated the Texas Commission on Environmental Quality to produce a [Market Development Plan](#) on using recyclable materials as feedstock in processing and manufacturing.

Recycled Content Mandates

One approach to reduce the impact of fluctuating market forces on recyclable materials is through the implementation of recycled content mandates. Given that, many states have enacted minimum recycled content mandates to encourage the incorporation of more recycled materials into products, thus creating a consistent demand for them. Recycled content mandates differ from extended producer responsibility (EPR) laws in terms of responsibility. While a recycled content mandate requires manufacturers to use a specific percentage of recycled material in their products, an EPR law pushes the responsibility for the recycling, reuse or disposal of products to the manufacturer of the virgin product.

Several states have established minimum recycled content requirements for state purchases of paper products, however much of the existing legislation predominately focuses on plastic materials, with the primary goal of driving demand for material recycling, regardless of the price differences between virgin and recyclable materials.

When considering the expansion of similar mandates to the pulp and paper industry, concerns have been raised from industry regarding potential disruptions to existing supply chains and the environmental impact associated with transporting recovered fiber long distances across the nation to provide material for such mandates. Similarly, concerns have been raised regarding sustainable resource scarcity, particularly concerning recycled plastics (rPET). Some [organizations](#) anticipate shortages and difficulties in meeting ambitious demand for rPET due to these concerns.

Examples of state minimum recycled content mandates include:

- **Connecticut** ([SB 928, 2021](#)) directed the Connecticut Commissioner of Energy and Environmental Protection to develop recycled content requirements for "products sold in the state."
- **Washington** ([SB 5022, 2021](#)) created a requirement for producers of many common single-use plastics to include a minimum amount of recycled material in their products. The law aims to boost domestic markets for recycled materials and reduce the economic dependence on virgin plastics.
- **California** ([AB 793, 2020](#)) created recycled content standards for plastic beverage containers subject to the California Refund Value and is aimed at helping to improve the market for recycled plastic by increasing the demand.
- **Maryland** ([HB164, 2021](#)) requires the state's Office of Recycling to identify opportunities to bolster recycled material use within the state and encourage state agencies and others to use products with recycled content.
- **New Jersey** ([SB 2515, 2020](#)) establishes recycled content requirements for plastic containers, glass containers, paper carryout bags, reusable carryout bags made of plastic film, and plastic trash bags; prohibits sale of polystyrene loose fill packaging.

Recycling Infrastructure Tax Credits and Financial Support for Industry

During the late 20th century, [a number of states](#) established recycling tax credits to support the expansion and improvement of sorting and processing equipment in the recycling industry. However, in the early-to-mid 2000s, many of these credits and grants expired.

As discussed earlier, changes in global recycling markets led to significant challenges for the recycling community. Stricter quality control requirements imposed by previous export markets resulted in the rejection of a substantial amount of recyclable materials from the U.S. due to high levels of contamination. In response, the recyclable materials industry has accelerated efforts to modernize and improve existing recycling infrastructure, including sorters and processors, with a focus on enhancing the quality of commodities.

State governments have also recognized the need to support the recycling industry and have reinvigorated efforts to provide assistance. For instance, [New Jersey's Recycling Market Development Council](#) recommended the state reestablish a low-interest recycling equipment/infrastructure loan program for the recycling industry to enable them to invest in facilities which would ultimately enhance recycling within the state. The state's Department of Environmental Protection previously administered a low-interest recycling loan program for the private sector in the late 1980s through 1996. Additionally, in 2021 [Minnesota's Pollution Control Agency](#) recommended increased investment in recycling processors so recyclable materials can be "efficiently prepared for end markets that are close to home."

It should be noted that while many commodities faced significant setbacks due to geopolitical factors, certain sectors experienced more positive outcomes in terms of new investment and need for investment may differ by commodity. According to the [Northeast Recycling Council](#), import bans spurred additional increases in recycled paper capacity with over 25 new recycled paper mill projects completed since National Sword alone.



PAUL BERSEBACH/MEDIANEWS GROUP/ORANGE COUNTY REGISTER VIA GETTY IMAGES



ROBERT NICKELSBURG/GETTY IMAGES

Funding for State Recycling Market Development

The development of successful recycling markets requires sufficient funding which can be obtained from a variety of sources, including state grants, solid waste fees, private sector partnerships, federal funding sources and more.

Federal

At the federal level, several funding sources are available to support different aspects of recycling market development, one of which is the [Solid Waste Infrastructure for Recycling Grant program](#) administered by the EPA. This program, authorized by the [Save our Seas 2.0 Act](#), and funded through the [Infrastructure Investment and Jobs Act](#), provides an annual allocation of \$55 million in grants. These grants aim to improve and enhance post-consumer materials management and infrastructure; support improvements to local post-consumer materials management and recycling programs; and assist local waste management authorities in making improvements to their local waste management systems. States and territories have the opportunity to utilize this funding to develop, update, or implement post-consumer materials management plans and for other data collection purposes.

In Spring 2023, the EPA announced plans to provide funding to eligible states and territories which chose to “opt in” to the funding opportunity, and in Fall 2023 the agency [announced](#) the recipients for SWIFR Grants for States and Territories. Falling under the state and territory grant category are projects ranging from data collection in states across the country including Arkansas, Connecticut and Kansas; assessment of community needs in Montana and updating solid waste management plans in Rhode Island and others. The allocation of non-competitive funding was determined through a formula process which includes a base amount for all states and territories, with additional funds based on individual programmatic factors. Grant program guidance can be found [here](#).

State

Despite the availability of some federal funding, states have taken the lead in funding their recycling market development initiatives. Many have implemented measures to reestablish capital investment and grants for such efforts. These state-level actions include a variety of initiatives, such as recycling market development grants for early-stage projects such as market assessments and feasibility studies, low or no interest loans for recycling equipment and infrastructure, and recycling infrastructure grants for shovel-ready projects.

While certain states, such as [Washington](#), have policies limiting private investment in market development programs, public-private partnerships have the potential to play a vital role in garnering support and creating new markets for recycled materials.

Several examples of state recycling market development initiatives which provide grants and other financial assistance include:

- [California's Recycling Market Development Zone \(RMDZ\) Program](#) which provides loans, technical assistance and state tax incentives to encourage recycling businesses. Companies located within RMDZs are eligible for state grants and loans, reduced sales taxes on energy and equipment, marketing and technical advice. CalRecycle uses fees from the California Integrated Waste Management Board to fund the state's RMDZ Program.
- [Illinois' Recycling Expansion and Modernization Program](#) provides matching grants to Illinois organizations and businesses to accomplish recycling market expansion and waste reduction goals using a portion of the \$2 per ton tip fee to support such programs.
- [Indiana's Recycling Market Development Program](#) awards grants to aid private businesses to purchase equipment specifically needed to remanufacture recyclable materials into finished products or industrial feedstock; funds for the program are allocated by the legislature.
- North Carolina's Department of Environmental Protection runs the [Recycling Business Assistance Center \(RBAC\)](#) which provides grants to North Carolina recycling businesses. Projects involving the collection, processing or end use of materials in the solid waste stream are eligible for funding. Generally, the grant money is intended to fund sustainable investments in equipment and buildings necessary for increasing the capacity of a recycling business to divert more materials from disposal and into economic use.
- West Virginia's Department of Environmental Protection has a [Recycling Assistance Grant Program](#) which was established by the legislature in 2008 to provide funding to local governments and other interested parties for "planning, initiating, expanding, or upgrading recycling programs ... and assist in recycling market procurement efforts."

Relatedly, in funding recycling market development, it's been suggested that states increase investment in research and development on the recyclable materiality side.

Other nonprofit organizations exist to provide financial and technical support for recycling market development including:

- The [Southeast Recycling Development Council \(SERDC\)](#) which is composed of 11 member states and has a primary purpose of increasing the collection and recovery of materials and concomitantly fostering economic development. Funding for the group is primarily derived from its state members and industry sponsors.
- [Pennsylvania Recycling Markets Center](#), a nonprofit organization, devoted to expanding and developing more secure and robust markets for recycled materials by helping to overcome market barriers and other inefficiencies. Funding for the RMC is provided by the state's Recycling Fund and its business partners which include recycled materials processors, end users of recycled materials and other nonprofit associations.

Furthermore, in recent years other private-public partnerships have emerged, such as those led by brand-backed coalitions including The Recycling Partnership and the [Can Manufacturing Institute](#). Private investors, such as [Closed Loop Partners](#), a venture capital firm, are also actively contributing to recycling market development by directly investing in recycling facilities, including those involved in chemical recycling and small-scale modular recycling systems.

Policy Considerations

While no two state efforts are exactly the same, there are some considerations lawmakers should take into account when examining their states recycling market development needs. The following questions are not requirements lawmakers must take, nor are they in order of priority, but rather food for thought:

- What do recycling markets in the state look like currently? Would a needs assessment be beneficial?
- Are there specific commodities that are in need of support?
- Who are the current stakeholders in your state for recycling market development?
- What differences exist regarding recycling in urban vs.. rural areas, or commercial and residential recyclers?
- Does the state have any existing laws or regulations that encourage or harm recycling markets? If the state already has supportive initiatives, why is additional aid necessary, is there another policy issue that is harming it?
- How would such an effort be financed? If a Market Development Center is established, or tax credits granted, is the state able to appropriate the necessary funds?
- Could a recycled content mandate cause shortages of the material in other existing out-of-state markets?

NCSL Contact:

environment-info@ncsl.org



7700 East First Place, Denver, Colorado 80230, 303-364-7700 | 444 North Capitol Street, N.W., Suite 515, Washington, D.C. 20001, 202-624-5400

ncsl.org

© 2023 by the National Conference of State Legislatures. All rights reserved.