



ECONOMIC IMPACT OF STATE RECYCLING MARKET DEVELOPMENT PROGRAMS

1990-2023

EXECUTIVE SUMMARY



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Executive Summary



Background

In the 1990s, the U.S. Environmental Protection Agency (EPA) launched a program called “Recycling Means Business: EPA’s Market Development Strategy” to help match recycling capacity with the growth in curbside recycling. This program focused on providing states with the resources needed so they could offer business development and technical assistance to encourage companies to invest in recycling markets that, at the time, were considered an emerging and risky enterprise. The EPA’s program was instrumental in launching many businesses state recycling market development resource centers still operating today. Yet in the 2000’s, as recycling grew into a more global market, domestic investment dropped and the EPA support for market development also waned.

In 2021, in response to significant shifts again in the global market, as well as changing curbside materials, the EPA released a [National Framework for Advancing the US Recycling System](#) and once again called out interest in supporting state recycling market development efforts. This aligned with an increasing interest by states to create and fund these centers, with three states establishing new centers by 2022¹. At the same time, private investment has been funneling into collaborative efforts like The Recycling Partnership, Closed Loop Partners, the Carton Council and others to help fund increased and better-quality recycled materials. In 2021, Maine was the first state to pass an extended producer responsibility (EPR) law for packaging.

Three other states followed within a year.² As increased interest grows in how we manage packaging materials at their end of life and how we can stimulate and support packaging recycling, AMERIPEN began to work closer with recycling market development programs to understand how we can close the gap between design and recycling to ensure packaging circularity. Our efforts launched a task force made up of seven different state-based organizations. This group has evaluated corporate recycled content goals against available supply and domestic recycling capacity and developed a best practice guide for establishing state recycling market development centers.

As interest in investing in our domestic recycling system grows, AMERIPEN and our partners in the recycling market development centers felt it would be worthwhile to evaluate the economic impact of these centers. While each program tends to evaluate their unique program for economic and environmental impact, there has been no national study undertaken to evaluate how effective these programs are and how we could better leverage them to meet our emerging goals for increased domestic recovery of packaging. To the best of our knowledge this is the first study of its kind.

¹ Washington State, Maryland and New Jersey.

² California, Colorado and Oregon.



Economic Impact of State Recycling Development Centers

Our data shows that recycling market centers have been associated with the generation of nearly 260,000 full-time equivalent (FTE) jobs over the past 33 years since. With state supplier data and other impacts included, that number balloons to over 990,000 FTEs during the same period. Direct impact businesses have paid employees wages totaling nearly \$22.2 billion and have generated economic activity of over \$89.5 billion. With state supplier data and other impacts included, total wages balloons to nearly \$77 billion and total economic activity to nearly \$280 billion.

Figure 1:
Economic Impact of Recycling Market Center over 33-Year Period

Direct Impact	Job (\$)	Wage (\$)	Output (\$)
Paper	12,662	1,177,301,728	6,783,409,891
Plastics	1,334	109,345,485	558,358,269
Metal	28,393	3,697,668,812	31,115,320,163
E-Recycling	44,694	3,545,247,233	7,037,231,565
MRFS	172,452	13,624,817,950	44,048,518,433
Subtotal	259,535	22,154,381,209	89,542,838,321
Supplier Impacts	159,911	12,119,616,177	36,382,527,723
Induced Impacts	571,879	43,546,246,488	153,971,875,159
Total Impacts	991,325	77,820,243,873	279,897,241,203

The study also notes that some materials are better represented in this growth, with municipal recycling facilitation or sortation centers appearing to benefit the most from recycling market centers, indicating there is an interest in locating in states that have an emphasis on recycling.

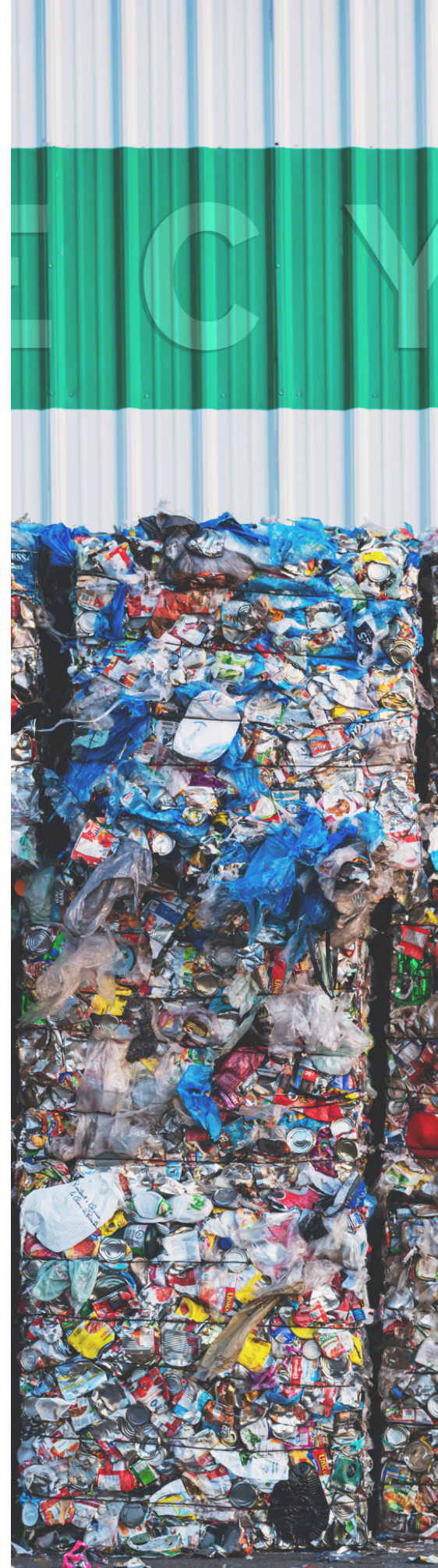


Figure 2

Industries Positively Correlated with Establishment of a Recycling Market Center

Industry	Percent Difference
Iron and Steel Mills	82.30%
Materials Recovery Facilities	106.1%
Computer Repair	38.80%
Other Paperboard Container Mfg	22.60%
Rolling and Extruding Mills	11.30%
Plastic Bottle Manufacturing	10.50%
(Converted Paper Products Mfg.	6.80%
Secondary Processing Nonferrous	7.90%
Aluminum Plate/Foil Mfg.	5.10%
Secondary Aluminum Smelting	-11.10%
Polystyrene Manufacturing	-40.90%
Corrugated and Fiber Box Mfg.	-12.10%
Other Business Support Services	-46.90%

Additionally, the study uncovered a strong correlation between states with higher gross domestic product (GDP) tending to invest in recycling development—indicating that there is a strong correlation between business concentration and an interest in recycling which could open up further exploration on how best to align state interests with business needs.



Figure 3

Recycling Market Center Coverage by Gross Domestic Product

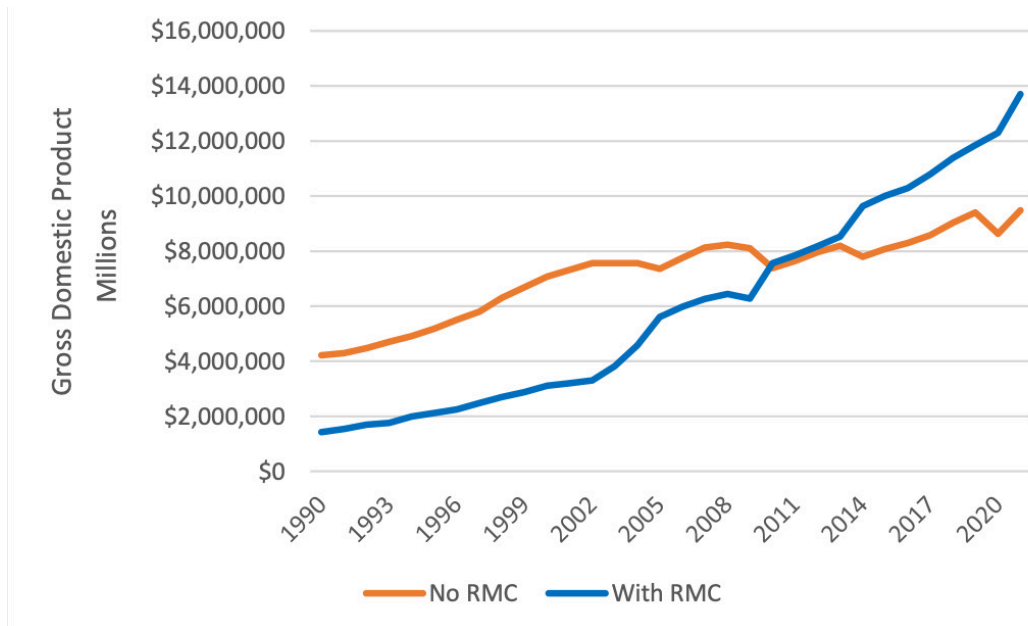
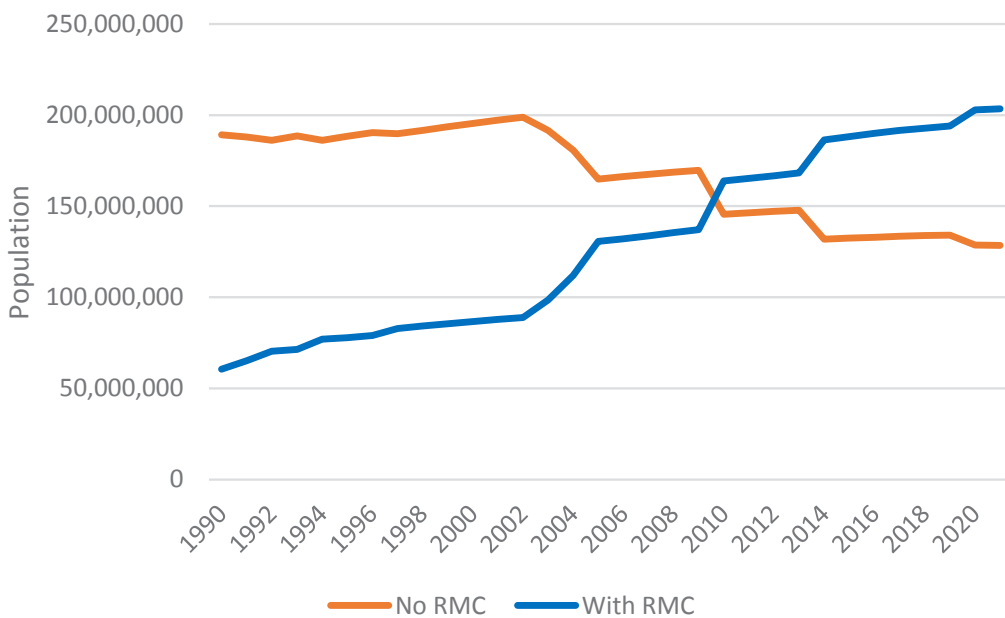


Figure 4

Recycling Market Center Coverage by Gross Domestic Product



One of the arguments frequently promoted for increased recycling investment is the rapidly changing material stream. Recycling systems, originally designed in the 1990s, are now outdated, with many lacking the means to process increased plastics, lighter weight materials and new packaging formats. Developing end markets and supporting shifts to sorting and reprocessing so the quality of recyclable feedstock remains high will be a continued need as long as innovation remains central to business. The data indicates that job growth is, for the most part, correlating with the shifts in curbside recyclables. Although not the highest employer, the greatest areas of job growth is in plastics, which also coincides with some of the fastest growing recyclable streams.



Better Data is Needed

This analysis was dependent on somewhat limited data made available from existing state recycling market centers, often supported by government through different grants and state budget appropriations. While this analysis shows a positive impact of recycling market centers over time, it is not correlated with the budgetary expenditures and staffing effort put into them. Without knowing data related to the size and scope of the programs offered by each state-based recycling market center, and the industries that they are targeting in each state, it is impossible to determine the nuances behind program success. For example, it is currently unknown if budget matters, if programs are targeting certain materials, etc.

If more information on the characteristics and underlying data of these operations were made available, it might be possible to determine best practices and how other industries might benefit from state recycling market development centers.



Conclusion

Based on a thorough analysis of available data, development of state-based recycling market centers has helped states attract recycling-based businesses, particularly in sectors like paper and paperboard manufacturing, and metals smelting and production. This suggests that much like other state economic development programs, assistance such as grants, tax forgiveness, technical services and research and development can help encourage recycling dependent businesses to locate in specific areas – particularly those industries at the margin.

As packaging materials and sectors seek to advance circularity, state recycling market development centers offer a unique skill set that matches state resources with private interests to advance an industry. When these centers collaborate with industry to drive resources to areas of need, we can collectively benefit and create a more circular economy.





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ABOUT JOHN DUNHAM & ASSOCIATES

John Dunham and Associates (JDA) is a leading economic consulting firm specializing in the economics of fast-moving issues. JDA is an expert at translating complex economic concepts into clear, easily understandable messages that can be transmitted to any audience. Our company's clients include a wide variety of businesses and organizations, including some of the largest companies in America.

John Dunham is a professional economist with over 30 years of experience. He holds a Master of Arts degree in Economics from the New School for Social Research as well as a Master of Business Administration from Columbia University. He also has a professional certificate in Logistics from New York University. Mr. Dunham has worked as a manager and an analyst in both the public and private sectors. He has experience in conducting cost-benefit modeling, industry analysis, transportation analysis, economic research, and tax and fiscal analysis. As the Chief Domestic Economist for Philip Morris, he developed tax analysis programs, increased cost-center productivity, and created economic research operations. He has presented testimony on economic and technical issues in federal court and before federal and state agencies.

ABOUT AMERIPEN

The American Institute for Packaging and the Environment – is a coalition of stakeholders dedicated to improving packaging and the environment. It is the only material inclusive packaging association in the United States representing the entire packaging supply chain, including materials suppliers, packaging producers, consumer packaged goods companies and end-of-life materials managers.

AMERIPEN focuses on science and data to define and support its public policy positions and those positions are accordingly based on rigorous research rooted in a commitment to achieve sustainable packaging, and effective and efficient packaging recovery and recycling policies.

The U.S. packaging industry contributes \$537.91 billion in total economic output to the national economy and is responsible for nearly 1.7 million jobs. These workers earn over \$117.73 billion in wages and benefits, and members of the industry and their employees pay \$43.46 billion in direct federal, state, and local taxes.

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