

Pennsylvania Recycling Markets Center Corporation

RMC

**Recycling Fund Advisory Committee
Recycling Economic Impact Study
Project Updates**

07 October 26



Pennsylvania
Recycling Markets Center
Keystone of Circular Economy

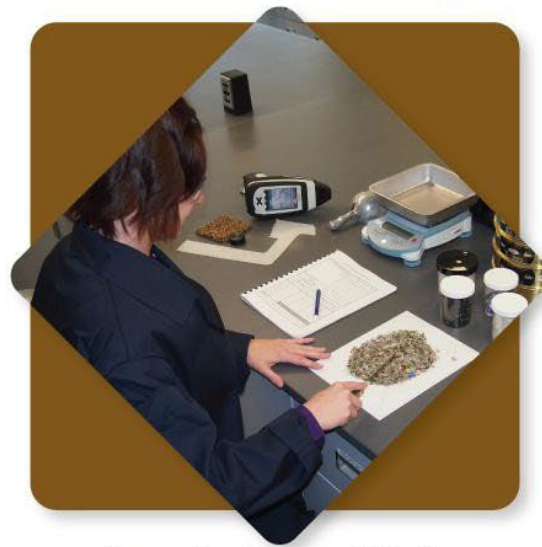
MISSION OF CORPORATION

The Mission of the RMC is to expand and develop more secure and robust markets for recycled materials by helping to overcome market barriers and inefficiencies.

Experts helping industry decision makers throughout Pennsylvania.



Feedstock Conversion



Research & Commercialization



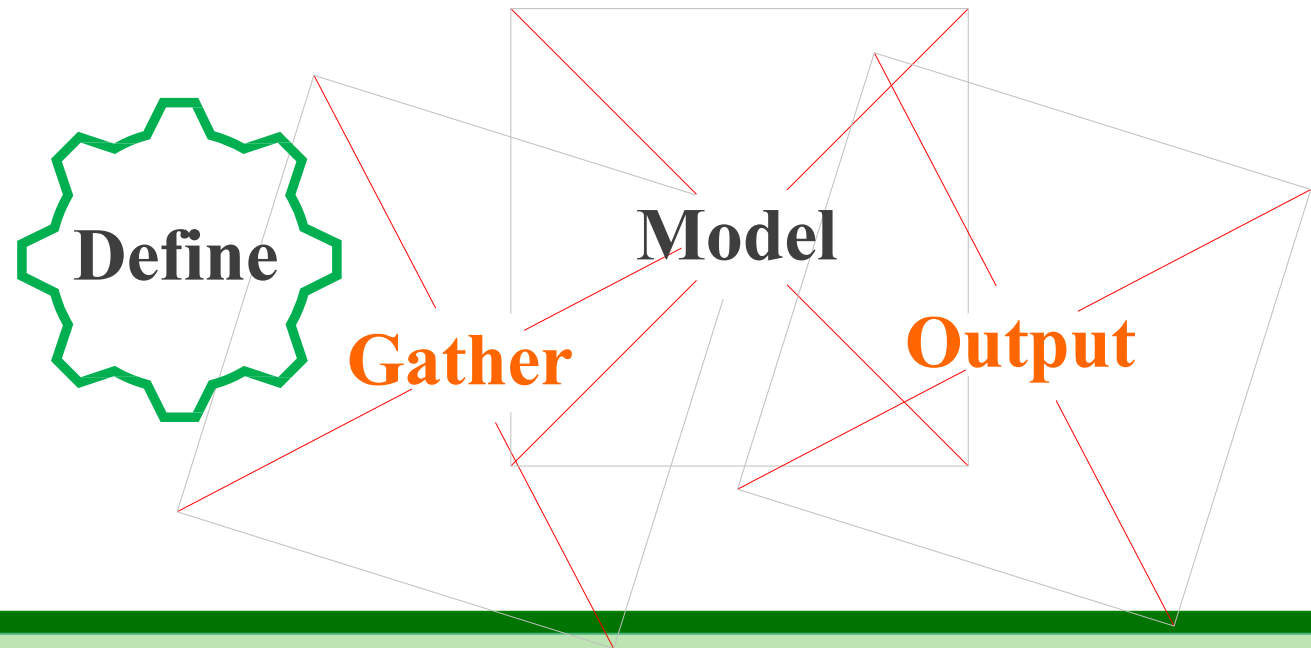
Technology Acceleration



Outreach & Information Portal

Impact Study Methodology

- Producing an analysis involved the following steps:
 - Defining the industry
 - Gathering data
 - Economic modeling
 - Creating outputs



For purposes of the study, Pennsylvania recycling's direct industry is defined by three key segments:

- **Core recycling**, which includes both public and private recycling and hauling operations, recyclable material wholesalers, and MRF's.
- **Reuse/remanufacturing**, which is comprised of food recovery and distribution, tire re-treaders, wood reuse, clothing and textile reuse, and used auto parts.
- **Downstream manufacturing**, which covers a wide range of mills, foundries, and processors that recycle materials like glass, metals, plastics, and electronics.

Data Integration

- Data comes from all available sources
 - Data gathered at the facility level.
 - Use trade association data where available.
 - Trade Sources and municipal review.



Data Cleaning

- All records are verified and mapped by John Dunham & Associates and the Recycling Markets Center:
- Records are manually searched and mapped to physical locations.
- All business, location, and relevant technical information is cataloged.
- Closed or invalid locations are removed.

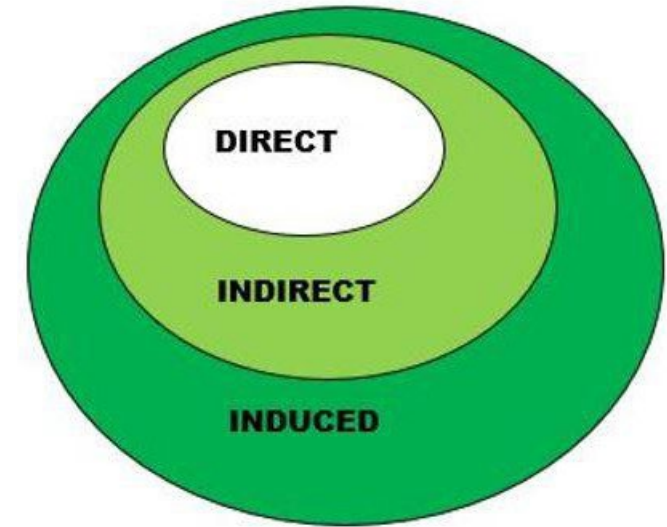


Economic Output

- **Direct Impacts** - are those jobs, wages, or economic output, solely attributable to the industry defined for the study, in this case the grain and feed industry are those firms that engage in services related to the production, processing, distribution, and industrial use of grain and feed products.
- **Supplier (Indirect) Impacts** – those effects that result from firms in the defined (or Direct) industry purchasing goods and services from other industries.
- **Induced Impacts** - are the response by the economy that occurs through re-spending of income received by payments made to employees and business owners measured in the direct and supplier parts of the economy.

Economic Modeling

- Utilize IMPLAN, an Input-Output Model:
- Measures industry impact across the broad economy usually in terms of employment, output, wages and taxes.
- How it works:
 - Historical Use and Make Matrices.
 - Define linkages between suppliers and producers.
 - “Shock” a static system and see how it rebalances.
- What it measures:
 - How large is an industry, a company or an economy.
 - How are other firms and geographies impacted by a specific project or policy.



-  Direct output (economic contribution) of Pennsylvania recycling industry
-  Effect of direct spending in regional Supplier firms and their employees
-  Induced economic effect re-spending by employees of the industry and supplier firms

RMC – Outreach & Information Portal – REI

- 2026 Recycling Economic Impact Study
 - State-Wide Study (2002, 2017)
 - Measures economic impact of entire recycling industry and ripple effect
 - Direct, Supplier, Induced
- Vitals
 - 319,628 jobs
 - \$130.5 Billion dollars of total economic impact
 - \$76.9 Billion in economic activity at entities collecting and processing recycled materials, entities in the reuse of goods and materials, entities utilizing recycled materials as part of their production process
 - \$27 Billion dollars in annual wages
 - \$11.2 Billion dollars in federal, state, local taxes
 - Released at AWI on 08Apr with DEP Secretary Jessica Shirley



Contact Information

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RMC / IPS Equipment

- Steel & Propane Recovery – IPS
- (5) 1lb., (2) 20lb.



RMC / IPS Equipment

- Steel Recovery & Propane Extraction
- Power System



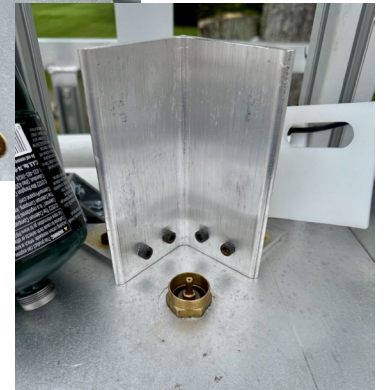
RMC / IPS Equipment

- Pump & Fill Station
- Gas Grill, Forklift



RMC / IPS Equipment

- Propane Extraction



RMC / IPS Equipment

- Scavenger Tank
- Compressor
- Powered by Generator



RMC / IPS Equipment

- Inert Nitrogen Purge & Blanket



RMC – Technology Acceleration

Propane Extraction & Steel Recovery



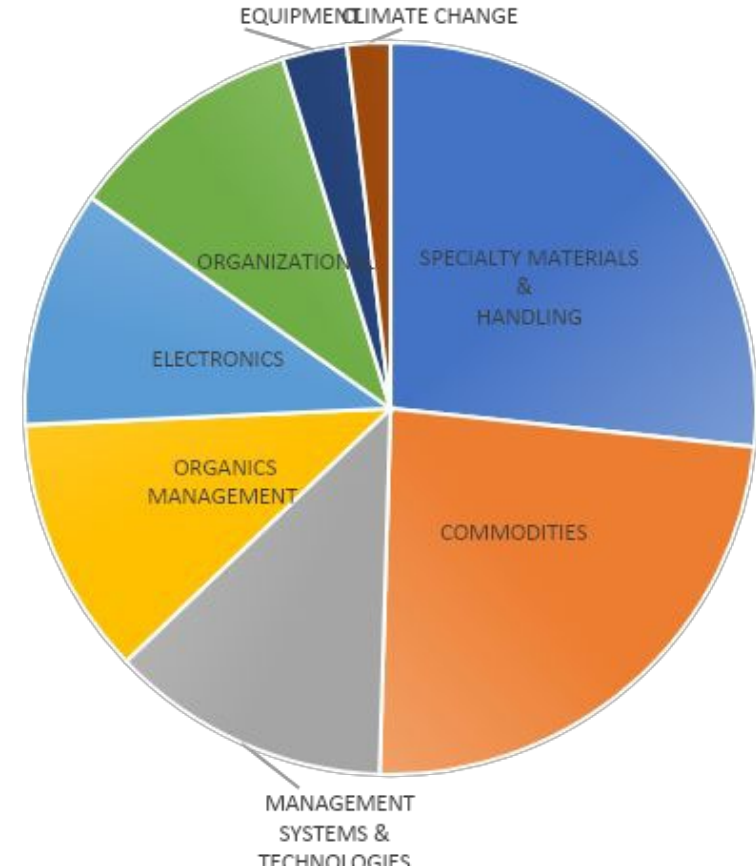
RMC – Programs, Webinar Outreach

- Sustainable Materials Management Program

- Monthly webinar program
- 133 webinars to date, started Sept 2011
- Partnership NRC

- Vitals

- Over 16,500 attendees
- Representation from:
 - 50 states
 - 4 U.S. Territories
 - 10 Canadian Provinces
 - 42 countries



PENNSYLVANIA SURVEY

- 2024 & 2025 State-Wide Survey, RMC / CSR
- **A Survey of Battery Use, Safety, & Disposal**
- Accuracy of plus or minus 3% with a conventional 95% degree of confidence



SURVEY RESULTS 2025

- 73.2% of survey respondents (almost three-quarters) agreed that Pennsylvania should have a law that say: how lithium ion and other rechargeable batteries can be recycled
- 88.0% of survey respondents agreed that Pennsylvanians need more options for the safe handling, disposal, and recycling of lithium ion and other rechargeable batteries
- 66.2% of survey respondents reported they do not know how to recycle lithium ion and other rechargeable batteries



SURVEY RESULTS 2024

- 68.5% of survey respondents believe that Pennsylvania should have a law that says how lithium ion and other rechargeable batteries should be recycled
- 85.0% of survey respondents believe that Pennsylvanians need more options for the safe handling, disposal, and recycling of lithium-ion and rechargeable batteries
- 60.1% of survey respondents reported they do not know how to recycle lithium ion and other rechargeable batteries



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