



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Air & Waste Management Conference
November 9, 2022
Emily Freeman

EGLE Recycling Program

Access - Widespread, convenient collection systems

Processing - Regional Materials Recovery Facilities that generate readily accessible material and volume composition data, paired with mechanical and advanced recycling technologies to convert inputs into global commodities.

Market Development - Robust end markets and brand uptake agreements that support a domestic recycling economy.

Education and Outreach - Compelling outreach that drives engagement with consumers, brands, and communities.

Policy - Thoughtful supportive policies that create a level playing field and incentivize materials recovery and infrastructure development.

Partnerships - Innovative strategic partnerships that increase the circularity of pre-consumer and post-consumer materials and decrease material waste going to landfills.

Progress in Michigan

- Michigan has **increased its recycling rate** from what was historically the lowest in the Great Lakes region. The rate has risen 35.4%, from 14.25% prior to 2019 to 19.3%
- Michigan **now capturing over 500,000 more tons** recyclables equating to over 110 pounds per person each year.
- Michigan's **recycling industry is now processing 440,828 tons of material annually** for use in local economies.

- More Michiganders than ever have access to recycling opportunities. Roughly **75% of Michigan residents - approximately 2.9 million households - now have curbside recycling access or drop-off sites available.**
- **More than \$460 million has been invested in recycling** for new technology, robotics with artificial intelligence, fleet maintenance improvements, equipment upgrades, and hiring new employees since 2019, with nearly 80% of that investment coming from local government, nonprofits, and businesses across the state.
- **For every \$1 that EGLE provides in grants** from its Renew Michigan and NextCycle Michigan recycling initiatives, the **return on investment** in additional spending by private businesses, local governments, and nonprofits is **\$10.**

Education and Outreach

46% of Michiganders recall the statewide recycling education campaign



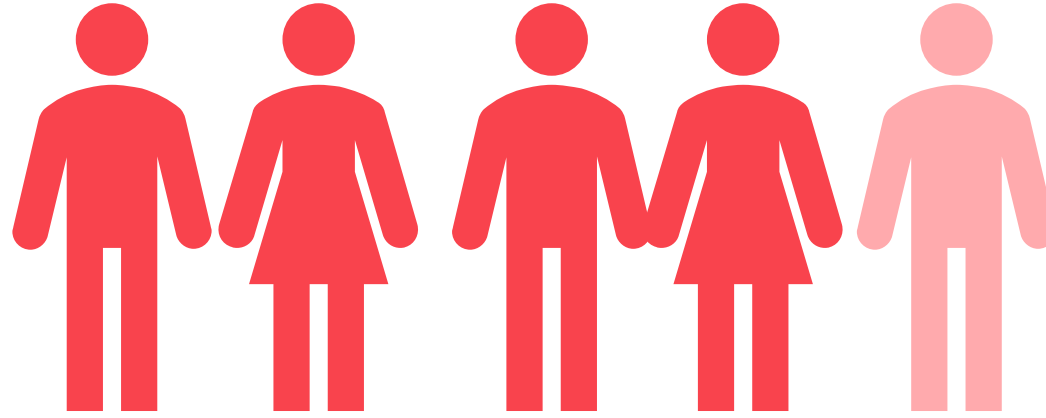
696M+ paid impressions

\$1.8M free negotiated media

10.1M+ engagements with paid media

\$10.4M earned media coverage value

1M+ website visitors



Nearly

4 in 5

people report taking action and changing their
recycling habits for the better

COMMUNICATION STRATEGY #1:

Educate Michiganders on the rules of recycling



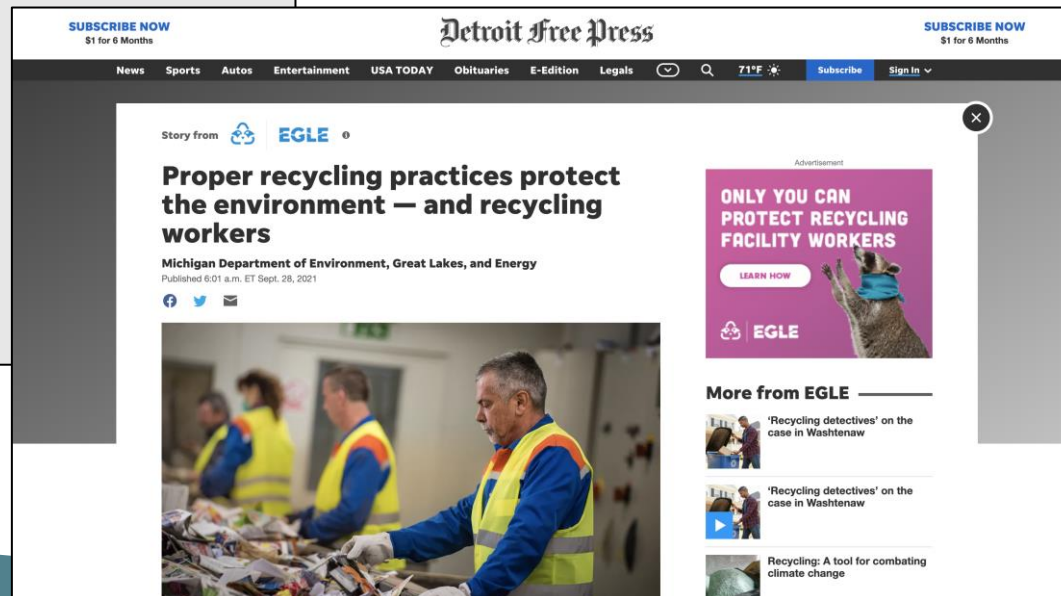
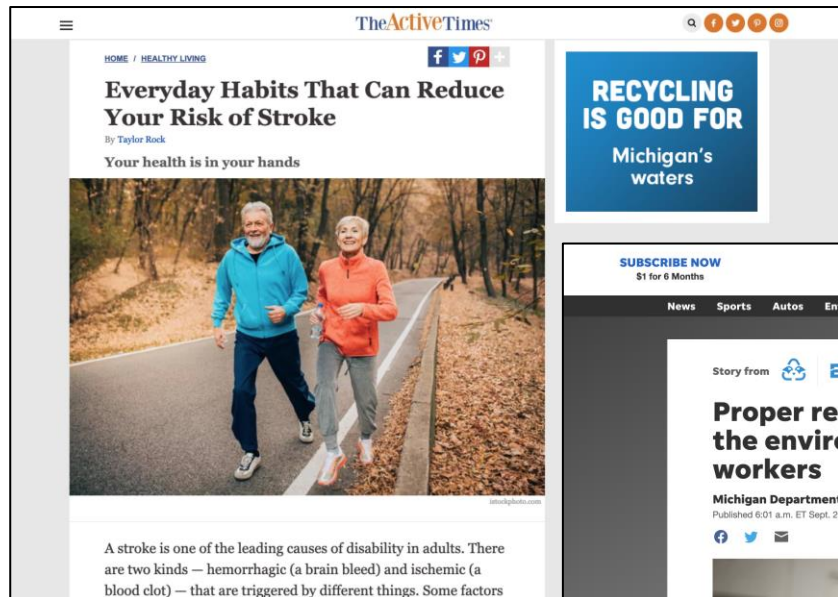
COMMUNICATION STRATEGY #2:

Partner with local recycling providers to educate consumers on rules



COMMUNICATION STRATEGY #3:

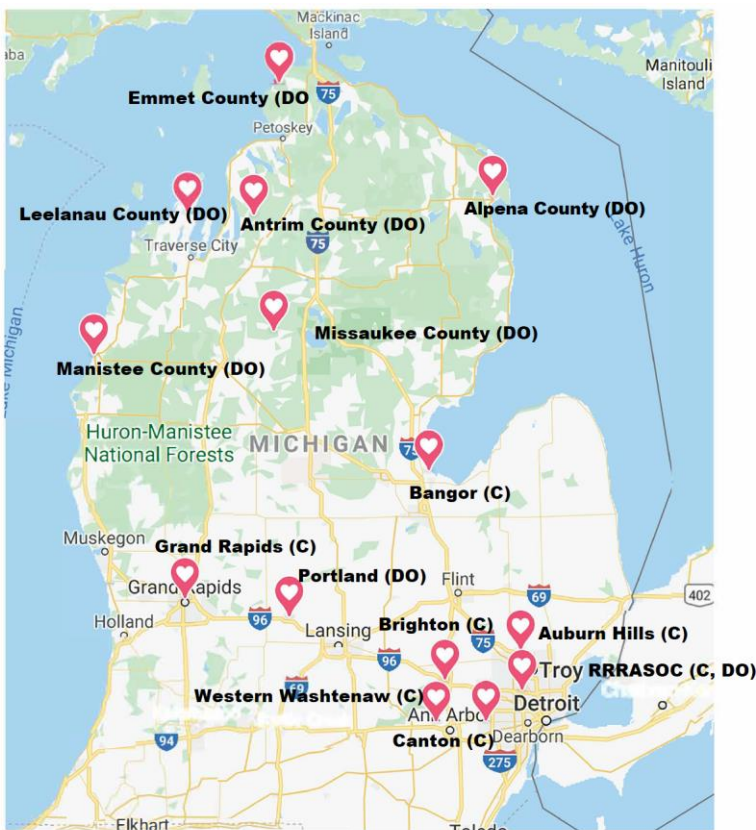
Build awareness of the environmental and economic benefits of recycling



Quality Improvement - Phase 1

Phase 1 Grantees

- 14 grantees
 - Total Award \$836,913
 - Represents over 100 MI communities
 - 721,087 population (7.21% of MI)
 - 278,871 households
- Involved 11 MRFs



Drop Off Programs	Population	Households	Results
Alpena County	28,360	16,044	Reduced Contamination 15.27%
Antrim County Conservation District	23,574	9,805	Reduced Contamination 3.48%
Emmet County	71,353	41,976	Final Results Pending
Leelanau County	21,708	9,152	Final Results Pending
Manistee County	15,000	9,591	Reduced Plastic Bags 41.25%
Missaukee County	14,998	10,031	Increased Participation 10%
Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC)	60,000	50,000	Reduced Contamination 44.83% Increased Tonnage 12.83%
Portland Township	2,460	828	Final Results Pending

Curbside Programs	Population	Households	Results
Charter Township Bangor	14,247	5,788	Reduced Contamination 34.67%
Charter Township Canton	91,791	28,421	Reduced Contamination 28.07%
Auburn Hills	23,300	4,800	Reduced Contamination 44.59%
Brighton	7,444	2,900	Reduced Contamination 35.5%
Grand Rapids	198,829	50,000	Reduced Contamination 36.67%
Washtenaw Regional Resource Management Authority (WRRMA)	148,023	39,535	Reduced Contamination 41.81%

Quality Improvement - Phase 2

- 2nd round of grantees, including “cameras on the truck” pilot
- Actions based on data to collected in Phase 1
- Contamination reduction toolkit
- **Small Community Education Grants**
- **Phase 3 – opens 2023, includes multi-family projects**

Applicant	Grant Type	Program Type	Project Area
Alger County, MI	Quality Improvement	Drop-off	9,108
Charter Township of Canton, MI	App to Action	Curbside	76,250
City of Brighton, MI	App to Action	Curbside	7,500
City of Grand Rapids, MI	App to Action	Curbside	105,000
City of Kalamazoo, MI	Quality Improvement	Curbside	76,019
City of Lansing, MI	Quality Improvement	Curbside	118,000
City of Saugatuck, MI	Quality Improvement	Curbside	5,686
City of Westland, MI	Quality Improvement	Curbside	81,029
Montcalm County, MI	Quality Improvement	Drop-off	66,614
Newaygo County, MI	Quality Improvement	Drop-off	48,980
Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC), MI	App to Action	Drop-off	284,223
Washtenaw Regional Resource Management Authority, MI	App to Action & Quality Improvement	Curbside	260,758
Western Washtenaw Recycling Authority, MI	Quality Improvement	Curbside & Drop-off	25,380
Total			1,164,547

Among jurisdictions that have at least some recycling services today, the most common challenges include

- the cost of recycling (reported by 46% of jurisdictions),
- improper recycling practices by users (40%),
- and a lack of end markets for recycled materials (39%)

Among jurisdictions with no recycling services, the most common factors cited for the lack of services are

- costs (55%),
- lack of processing infrastructure (35%), and
- lack of staffing for waste and recycling services (31%)

CLOSEUP Survey Results



EGLE Recycling Infrastructure and Market Development Grants



Focus:

- Gaps/opportunities with best practice solutions.
- Leverage added public/private investment.
- Increasing the statewide recycling rate to 45 percent by 2025, while building diversity, equity, and inclusion.
- Environmental justice community, underserved, or vulnerable populations within a community.
- Climate change priorities through measurable reductions in greenhouse gas emissions.
- Economic and environmental impacts, including greenhouse gas reduction, jobs created, water saved, energy saved, or other positive environmental and economic outcomes.



Recycling Infrastructure Grants

- Projects that increase collection and processing capacity of recyclable materials or food waste.
- Public sector and nonprofits
- Projects that increase access to recycling or food waste composting infrastructure.
- Projects that increase participation rates in recycling or food waste composting programs.



Recycling Market Development Grants

- Create new markets or expand existing markets.
- Stimulate demand for recycled materials.
- Assist businesses that manufacture, market, and use recycled-content products.
- Public and private sectors.
- Commercialize technologies, improve the quality, increase the quantity, and grow demand for recycled materials.
- Research and development of new uses for recycled materials.

2019 Infrastructure Grants

25 Grants, Total - \$6 million

- Ann Arbor Public Schools
- Branch County Conservation District
- Cedar Creek Township
- Charter Township of Orion
- City of Bay City
- City of Detroit DPW
- City of Flint
- City of Hancock
- City of Lansing
- Comprenew
- Comprenew-Goodwill of Northern WI & UP
- Dexter Community Schools
- Emmet County DPW
- Forgotten Harvest
- Grand Rapids Public Schools
- Isabella County
- Kent County DPW
- Kinross Charter Township
- Marquette County SWMA
- Michigan Technological University
- Recycle Ann Arbor
- Sands Township
- Sanilac County
- Wayne County Airport Authority
- Western Washtenaw Recycling Authority

2020 Infrastructure Grants

22 Grants, Total - \$2.5 million

- Calhoun County
- City of Alpena
- City of Detroit - Department of Public Works
- City of Holland
- City of Laingsburg
- City of Riverview
- City of Westland
- City of Ypsilanti
- Delta Solid Waste Management Authority
- Emmet County
- Great Lakes Recovery Center - Partridge Creek
- Huron-Clinton Metropolitan Authority
- Ishpeming Township
- Kent County Department of Public Works
- Keweenaw Bay Indian Community
- Marquette Charter Township
- Michigan State University
- Missaukee County
- Negaunee Township (Nee-gone-nee)
- City of Howell/Recycle Livingston Inc.
- Resource Recovery & Recycling Authority of Southwest Oakland Co.
- Southfield Christian School

2021 Infrastructure Grants

27 Grants, Total - \$6.9 million (awarded)

- Franklin Iron and Metal
- Lenawee County
- GFL Environmental USA
- City of Flint
- Wayne State University
- Resource Recovery and Recycling Authority of Southwest Oakland County
- Aquinas College
- NEMCOG/Alpena County Resource Recovery
- City of Bay City
- Ypsilanti Township
- City of Trenton
- Iris Waste Diversion Specialists
- ACI Plastics
- City of Marquette
- City of Ypsilanti
- Ely Township
- Grand Traverse Band of Ottawa and Chippewa Indians
- City of Detroit
- Michigamme Township
- City of Ann Arbor
- Manistee Catholic Central Schools
- Essential Recycling
- Community Action House
- Recycle Ann Arbor
- Southeastern Oakland County Resource Recycling Authority
- City of Grand Rapids
- City of Ferndale

2019 Market Development Grants

6 grants totaling \$2M

- American Waste
- PM Power Group
- Envrion Manufacturing
- MSU Center for Community and Economic Dev
- Kalamazoo Nature Center / Bells Brewery
- Morgan Composting

2020 Market Development Grants

23 grants totaling \$2.6M

- Great Lakes Tissue America
- MRC Plastic Circular Economy
- Emterra Environmental USA
- West Michigan Sustainable Business Forum
- MRC Landscape for the Lakes
- Foodservice Packing Institute
- Carton Council of North America
- Public Thread
- Goodwill
- GFL Environmental USA
- Seeds
- Next Energy
- Close the Loop
- Kent County DPW
- Innovakote
- Vartaga
- Northeast Michigan Council of Governments
- Renewable Infrastructure Solutions
- MidMEAC
- The Materials Group
- Schupan Recycling
- Clare County Road Commission
- Battery Solutions

2021 Market Development Grants

39 grants totaling \$1.5M

- Goodwill Greenworks
- Michigan Worm Works
- Pink Elephant Events
- Green Living Science
- Wayne State University
- Two Blue LLC
- City of Ferndale
- Georgia Street Community Garden
- Unlimited Recycling
- Greater Laingsburg Recyclers
- Crawford County Recycling Task Force
- Organicycle
- Ottawa County
- Cascade Engineering EcoCart
- Michigan State University
- Michigan Technological University
- City of Lansing Organics
- Michigan Technological University
- Wormies, LLC Market Development
- Envirologic Technologies, Inc.
- West Michigan Sustainable Business Forum
- Food Rescue - Detroit
- Blakes Orchard
- Pingree Detroit
- Goodwill West Michigan
- NextTiles
- West Michigan Environmental Action Council Education Foundation
- Goodwill West Michigan
- Wormies, LLC - Micros
- Urban Roots
- What's Next

Access

Infrastructure Grants to support the expansion of convenient recycling access for all Michigan residents and businesses in 2021:

Access Related Projects	Total Grant Funding	Total Match Leveraged	Total Investment
17	\$3.5M	\$5.5M	\$9M

- 17 Projects focused on increasing access to recycling
 - Curbside carts: 54,125 carts
 - Collection vehicles: 8
 - Drop-off sites established or improved: 4
 - Multi-family focused projects: 2
 - Public space containers: Access at parks and municipal buildings
 - Colleges and university projects: 368 containers
- Awards ranging from \$13,000 to \$1M

Processing

- FY21 Infrastructure Grants

Processing Related Projects	Total Grant Funding	Total Match Leveraged	Total Investment
12	\$3M	\$10M	\$17.5M

- Paper shredding
- MRF glass upgrade
- Dual stream MRF build-out
- Polypropylene sorting
- LDPE film recycling
- Plastic pelletizing processing

- Fish waste composting
- Food scrap diversion and worm composting
- Anaerobic digestion expansion and improvement
- Baler purchase
- Industrial recycling implementation



NEXTCYCLE
MICHIGAN



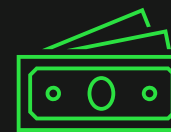
6 Innovation
Challenges



Data & Mentoring
Resources



Public-private
Partnerships



Public & Private
Funding



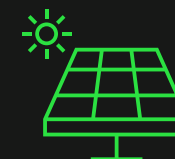
Economic
Advantages



Equitable
Impact



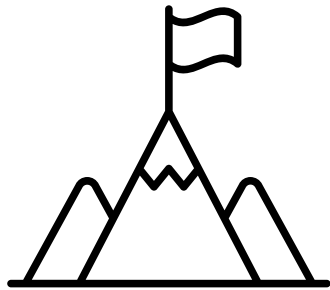
Circular Economy
Creation



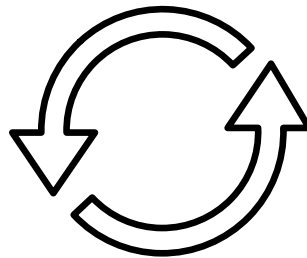
Climate Change
Reduction



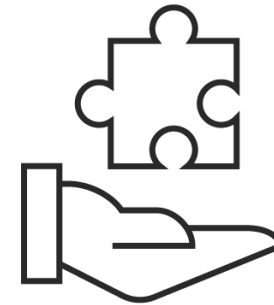
Provides technical support, subject-matter expert mentoring and access to funding pathways to move recycling and recovery projects toward implementation.



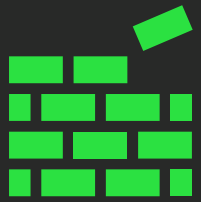
INNOVATION
CHALLENGES



GRANTS AND
FUNDING



PARTNERSHIP
PORTAL



INCUBATING AND ACCELERATING RECYCLING PROJECTS

Facilitating opportunities for Match funding

Identifying various funding pathways (grants, federal funding, partners)

Strategic Technical Support and Resources

Collaboration with partners, community members, and stakeholders

Join the Circular Economy in Michigan

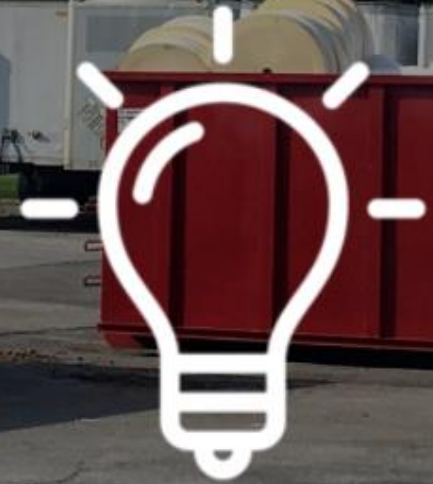
The Michigan Materials Marketplace connects businesses to develop and scale new reuse and recycling market opportunities.



manufacturers: find new solutions for challenging waste and by-product materials



recyclers: amplify the good work you're already doing, find new customers and new buyers



entrepreneurs: find suitable materials and innovate to build new reuse and recycling businesses

Federal Funding Highlights of Opportunities

Bipartisan Infrastructure Law (BIL)	Battery Material and Recycling Grants <i>(multiple sub-sets)</i>	\$6.125 Billion
	Solar Recycling Research And Development	\$0.02 Billion
	Solid Waste Infrastructure For Recycling Infrastructure	\$0.275 Billion
	Reduce, Reuse, Recycling Education And Outreach Grants	\$0.075 Billion
Inflation Reduction Act (IRA)	Greenhouse Gas Reduction Fund	\$27 Billion
	Climate Pollution Reduction Grants	\$5 Billion
	Environmental and Climate Justice Block Grants	\$3 Billion

Federal Funding Highlights of Opportunities Continued

NSF Opportunities <small>(Engines and Environmental Engineering Grants)</small>	Funding for innovation-driven economic growth within a well-defined “region of service.” <i>(multiple sub-sets)</i>	\$1 - \$160 Million per project
	Building a future without pollution or waste	\$10,000,000
NOAA Marine Debris Removal <small>Infrastructure Investment and Jobs Act (IIJA)</small>	The implementation of projects that use proven interception technologies that capture marine debris at or close to known marine debris sources or pathways	\$28,000,000
USDA: Solid Waste Management Grants	Provide technical assistance and/or training to help communities reduce the solid waste stream	\$40,000,000
USDA Rural Development: Direct Loan & Grant Program	Community Facilities: Funds can be used for purchasing, constructing, or improving essential community facilities, to purchase equipment for facilities, and to pay related project expenses.	Funding amount varies
	Water & Waste Disposal: Solid waste collection, disposal, and closure. Purchase of facilities to improve service or prevent loss of service.	Funding amount varies