Ohio Materials Marketplace - Year Two Report

Join the

Circular Economy

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Summary

On April 4, 2017, Ohio EPA announced the launch of a new online service where Ohio businesses, not-for-profits and government organizations could advertise and acquire potentially useful products and materials that might otherwise be destined for disposal in landfills. The Ohio Materials Marketplace (OMM) was offered as a free online platform allowing these organizations to connect and find solutions to material reuse and recycling needs.

Actively managed and marketed by Ohio EPA, with support from platform administrative partners including the United States Business Council for Sustainable Development, the Ohio By-Product Synergy Network and Ohio's Solid Waste Management Districts, the OMM has realized steady growth in participation and material transactions throughout its second year of operation. The OMM ended year two on April 4, 2019 with nearly 3.7 million pounds of material diverted from Ohio's landfills and more than $208,000 in savings to members through virgin material substitution costs and avoided landfill costs since launch.

OMM members include a wide variety of business and organization types that are actively engaged in continuous transaction conversations through the marketplace platform. Material listings, both available and wanted, are as diverse as the marketplace membership and continue to reveal trends in material management challenges across Ohio.

Following another successful year, Ohio EPA will continue to direct marketplace management and marketing toward increasing OMM membership numbers and diversity. We will work to improve member participation with the desired outcome of increasing market transactions. A planned migration to a new operating platform will provide users with a variety of additional features with a focus on mobile optimization to allow simplified post creation using mobile devices.

Please visit *Ohio.MaterialsMarketplace.org* for more information and a pathway to participate in the OMM.

Performance Metrics for Year Two (Cumulative, April 4, 2017 – April 4, 2019)

1,011	**840**	**$208**
Registered Marketplace Users	Member Companies and Organizations	Thousand Dollars Marketplace Member Savings
1,835	**197**	**69**
Tons Material Exchanged	Listed Materials Available	Materials Wanted Posts

Background

During the 1990s and early 2000s, Ohio EPA maintained a program called the Ohio Materials Exchange (OMEX). OMEX allowed companies to list available and wanted by-product and waste materials for exchange promotion through print and electronic media managed by Ohio EPA's Office of Pollution Prevention. OMEX was handed off to an external party to manage and eventually ended after a few years under new management. Familiar with the past successful operation of OMEX, and a proponent of Ohio's developing circular economy, then Ohio EPA Director Butler named reviving this program as one of his key priorities of 2016. Several months later an online exchange platform was licensed from the United States Business Council for Sustainable Development and launched as the Ohio Materials Marketplace (OMM) on April 4, 2017.

Active Design

What differentiates OMM from other online markets is that the platform is active in design and functionality rather than passive. Previous models, such as OMEX and similar services in other states, worked as a simple bulletin board with little or no engagement by the host. Ohio EPA maintains OMM and markets the site to potential users, verifies that users (and items posted) meet qualifications to participate, and actively works to facilitate connections between users. The OMM platform also allows for remote administrative engagement of materials management experts beyond Ohio EPA to help identify and foster transactions. Furthermore, the choice of a web-hosted platform provides a familiar tool that allows businesses, not-for-profits and government organizations to connect and find reuse and recycling solutions for waste and by-products. OMM includes an interactive messaging system, utilizing a simple texting feature integrated with email. Members may easily find and communicate with each other to investigate potential transactions free from advertising.

Circular Economy

In the circular economy, products and by-products recirculate productively through manufacturing, consumption/use and recycling. The launch of OMM was hailed as a significant step to shift Ohio from a take, use and dispose model to one emphasizing recycling, remanufacturing, reuse and maintenance. OMM's free online materials and waste exchange encourages a dialog between members and provides a forum where they can connect and find reuse and recycling solutions for waste and by-products.

The OMM platform is particularly useful to member organizations that have established organizational goals to participate in the circular economy, achieve zero waste, or otherwise avoid landfill disposal.

Cost Savings

OMM users include recycling processors, manufacturing plant operators, artists, sustainability managers, small businesses owners and construction managers. Successful transactions resulting in materials diverted from the landfill include plastic bottle caps, wooden pallets and wood scrap, sawdust, e-waste, plastic and steel drums, specialty vermiculite, a giant magnet, carbon black, spent lime, polypropylene cloth balls, tarps, carbon filtration units, shelving, conveyor belts, HDPE scrap and black soldier fly larva oil. For each transaction completed an economic benefit was realized by one or both parties. OMM members can save, or even make money by finding a market for their unwanted materials and avoiding landfill tipping fees. Buyers save money by having access to sellers' discounted (or free) materials, and both Ohio's citizens and the environment benefit by having more material removed from the waste stream. It literally pays to participate in the OMM.

Membership Profile

In the second year, OMM grew to more than 1,000 members. This steady growth (Figure 1) was the result of multiple outreach efforts and working closely with OMM administration and marketing partners. The Ohio EPA team and partners have made many presentations about OMM at conferences and other events, as well as to trade associations, communities and individual businesses. The diversity of membership reflects our work with many businesses throughout Ohio, with members located across the entire state (Figure 2). Membership also includes several material takers from other states.

Figure 1 — Continuous growth of marketplace participation (April 2017 – April 2019).
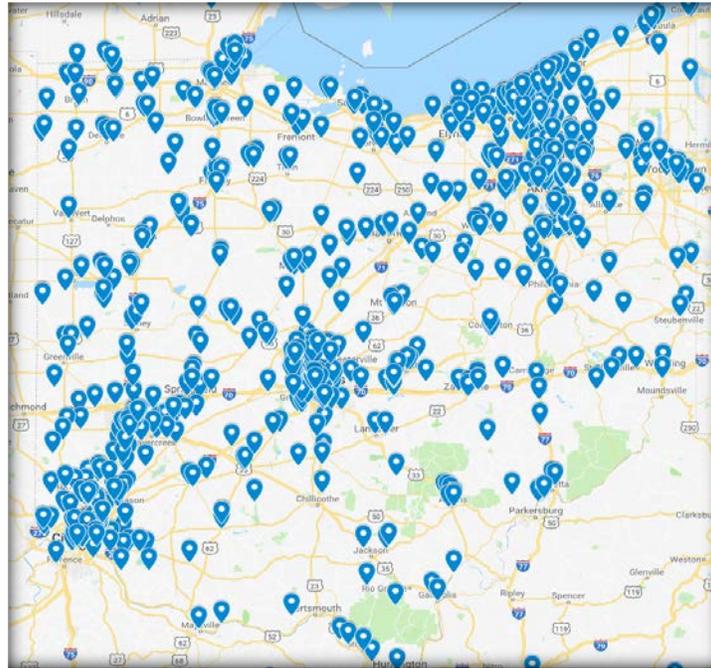
Figure 2 —April 2019 Map illustrating marketplace member locations throughout Ohio.

An analysis of OMM membership reveals a diverse mix of business and industry. More than two dozen different types of industries, organizations and businesses are represented, illustrating the many resources available and material needs within Ohio. The three largest categories are: manufacturing; public administration; and scientific/technical services (Figure 3). Other notable categories include waste/remediation services, educational services, health care/social assistance and arts/entertainment.
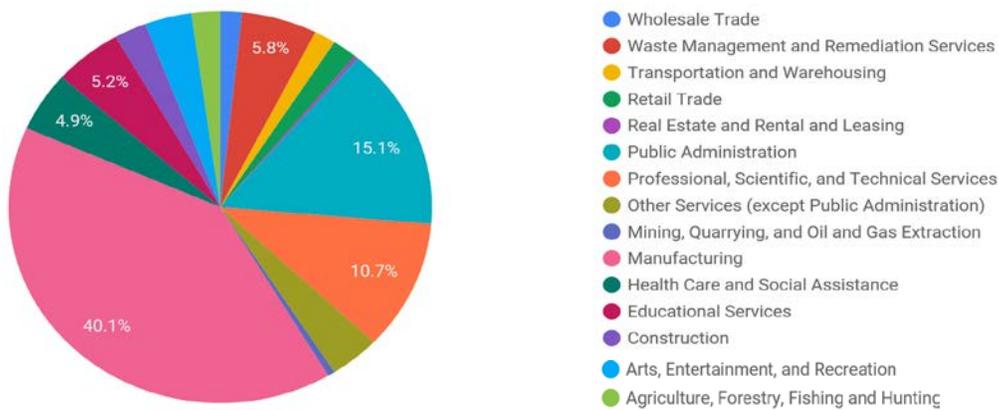
Year Two: Participant Industry Breakdown

Figure 3 — Year two marketplace member makeup based on business type.

Material Listing Profile

OMM has demonstrated consistent growth in the number and variety of postings for materials available as organizations join the platform and post the material they wish to offer. While material listing numbers change over time as new materials are added, transactions occur or materials become unavailable, at the end of the second year of operation, 197 material listings were posted representing 22 general material categories. The diverse materials offered range from plastic picnic table tops and circuit boards to wooden pallets and water treatment residuals. Quantities range from single units to tons of material.

The most frequently posted items include excess packaging (plastic) and wood materials. Plastics and electronic waste are most frequently wanted materials. A common trend that continued throughout year two was an ongoing struggle for many Ohio businesses to find reuse and recycling opportunities for wooden pallets and cardboard/polymer packaging materials.

Figures 4 and 5 provide a summary of the categories of materials available and wanted at the end of the second year of operation. Ohio EPA regularly produces and distributes a member's update that highlights certain new material listings and suggests reuse opportunities. Similar updates are posted for public access on the OMM landing page.
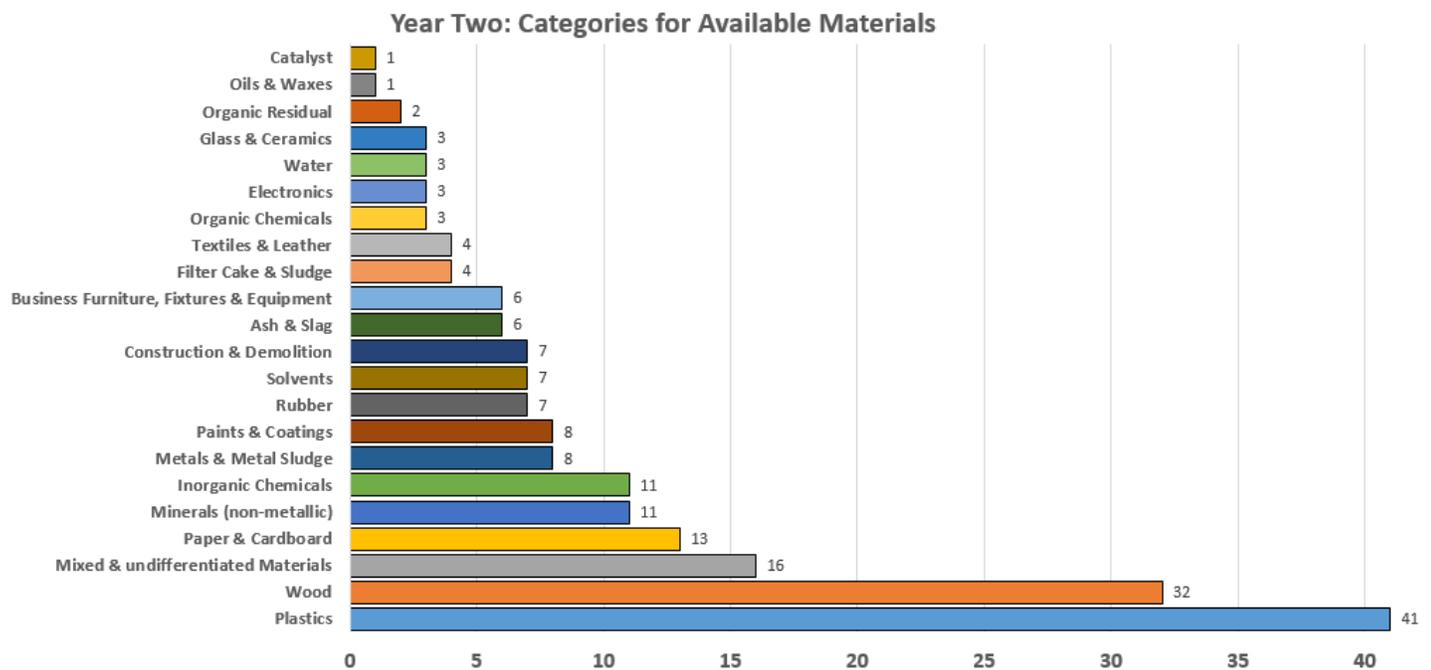

Figure 3 — Year two available materials by category.

Year Two: Categories for Wanted Materials

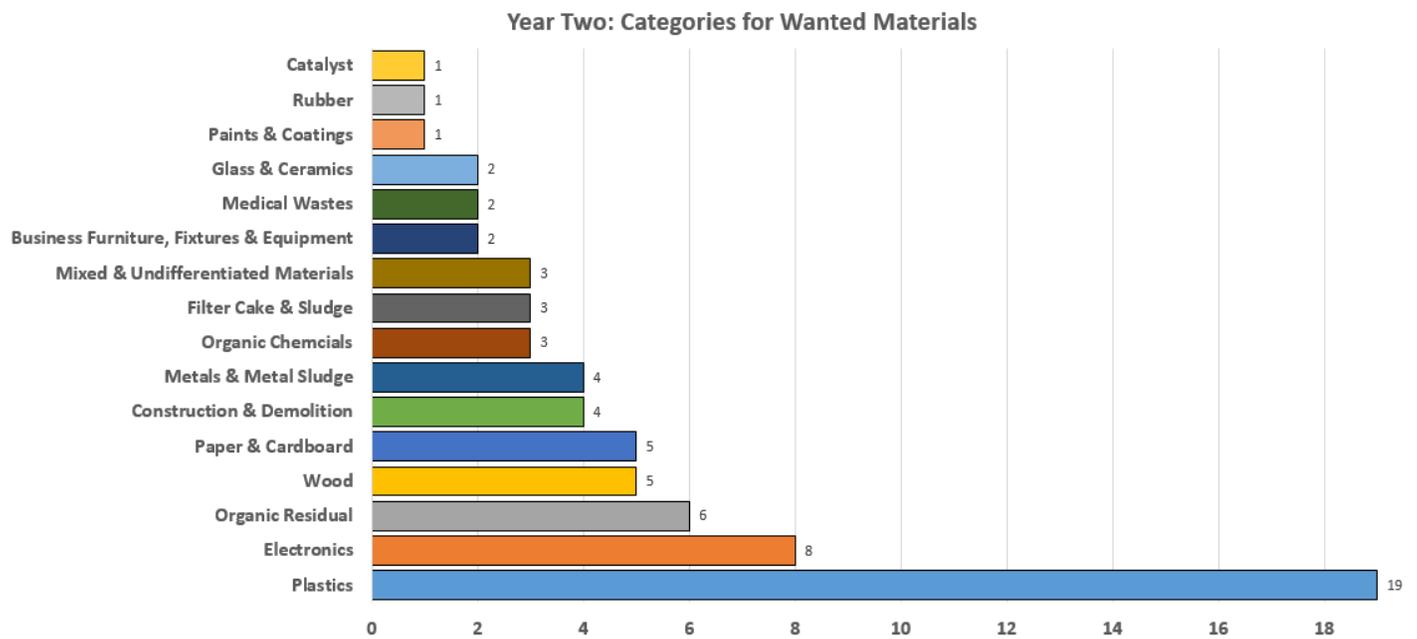| Category	Count
Catalyst	1
Rubber	1
Paints & Coatings	1
Glass & Ceramics	2
Medical Wastes	2
Business Furniture, Fixtures & Equipment	2
Mixed & Undifferentiated Materials	3
Filter Cake & Sludge	3
Organic Chemcials	3
Metals & Metal Sludge	4
Construction & Demolition	4
Paper & Cardboard	5
Wood	5
Organic Residual	6
Electronics	8
Plastics	19

Figure 4 — Year two wanted materials by category.

Marketplace Exchanges

Several weeks after the program launch, two members recorded the first successful marketplace transaction. Nearly five tons of waste plastic bottle caps were transferred from one Ohio business to an intermediate processor that transformed the plastic bottle caps into pellets to be sold as raw material for manufacturing into new hard plastic items. Since then, many more transactions have occurred each quarter of marketplace operation, including the following notable transactions in year two.

- A specialized research company found a recycler capable of processing tons of cloth balls made from polypropylene mixed with polyester.
- A forestry and logging company provided tons of excess sawdust to a business for use as animal bedding.
- A huge tarp found a direct reuse at an Ohio farm.
- Two industrial size carbon filtration units were taken for their carbon content with the remaining materials disassembled and sent to recycling.
- Several hundred commercial backroom shelving units were provided for free to nearby business takers for immediate reuse.
- Used conveyor belts were provided regularly over several months to an Ohio day camp where they were used to line the floors of their horse stalls.
- Two large failing polyethylene cisterns avoided the landfill when an Ohio church found a local recycler through the marketplace that could process oversized plastic materials.
- Tons of black soldier fly larva oil left over from a business process found a use as a commercial composting additive.

Platform Partnerships

Year two would not have been as successful without the support, outreach and assistance from our OMM platform partners. Below is a brief spotlight of three of our platform partners and their contributions to year two of OMM.

Platform Administrator Spotlight

United States Business Council for Sustainable Development (U.S. BCSD)

The U.S. BCSD licenses, hosts and supports the OMM software platform. Their staff are materials reuse and sustainablility experts who, along with the Ohio EPA team, monitor OMM and actively engage members to successfully further material transactions. They also work to expand OMM membership through marketing to their own association members which include many major industries with a presence in Ohio. The U.S. BCSD actively promotes the circular economy and materials marketplace concepts both nationally and internationally through hosted conferences, association meetings, other public engagements and electronic media.

Partnership Spotlight

Ohio By-Product Synergy Network

The Ohio By-Product Synergy Network (Ohio BPS Network) supported and provided important feedback during the early development stages of OMM. Ohio BPS Network has continued their support by featuring and marketing OMM in their bi-monthly meetings, actively encouraging their members to join OMM, and allowing current OMM members to attend their meetings and participate in synergy building.

Partnership Spotlight

Cuyahoga County Solid Waste District

The Cuyahoga County Solid Waste District has been actively educating county businesses and organizations about OMM. Activities include helping businesses sign up for the OMM, providing multiple hands-on presentations with regional trade groups and associations as well as OMM inclusion in the Waste and Recycling Sense for Your Business workshop. They have also encouraged their county recycling partners to join.

Year Three Objectives and Goals

Growth in membership continues to meet expectations. However, frequency of transactions remained limited, most likely due to the network effect illustrated below (Figure 7). A strategic plan for marketing OMM has been created to address this effect.
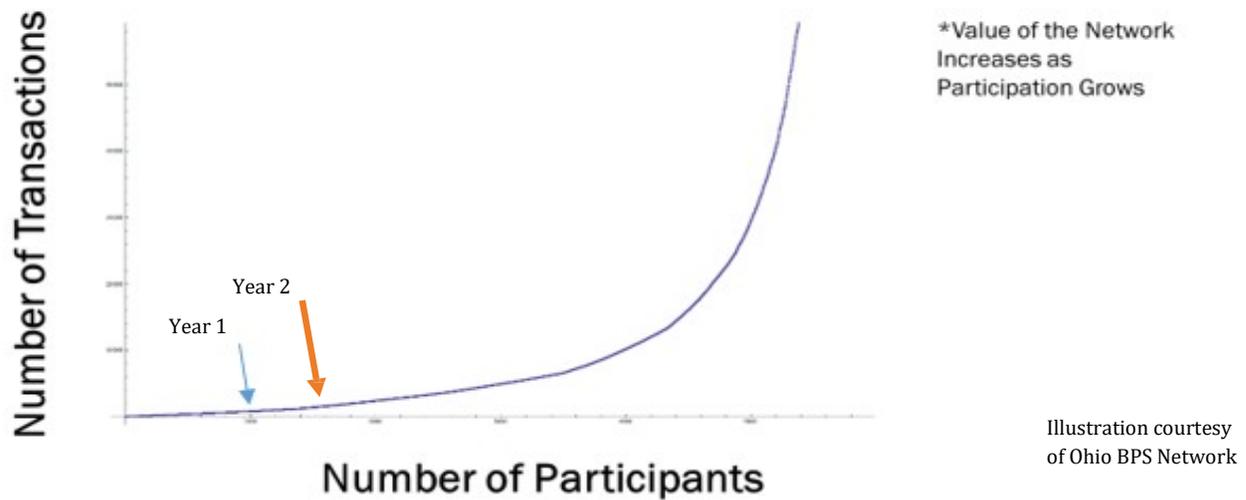
The Network Effect

Figure 5 —Potential Network Effect as OMM participation grows.

In accordance with the year three marketing plan, marketplace management and marketing will continue to be directed toward increasing OMM membership numbers and diversity while improving member participation.

To accomplish the above, Ohio EPA's OMM management team will work to build upon existing external administrator partnerships (solid waste management districts, Ohio BPS Network, etc.) to further awareness and promotion of OMM. Ohio EPA will also explore existing lists of organizations for new direct marketing or to encourage the pass through of OMM information. The OMM management team will work with U.S. BCSD to improve the marketplace platform to increase ease of use and make the platform mobile friendly. Finally, the team will continue to contact members with active postings to help improve the quality of information presented and will contact a selection of members without current postings to better understand and address barriers to listing available or needed materials.

For more information and a pathway to participate in the OMM, please visit *Ohio.MaterialsMarketplace.org*.

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