michiganrecyclingcoalition

The State of Organics Recovery in Michigan: Priorities & Recommendations

The State has long recognized the value of diverting organic material from landfill disposal. A 1990 amendment to the Solid Waste Management Act that banned the disposal of yard clippings sought to reduce the generation of harmful landfill gases, while at the same time converting valuable organics into resources for use by municipalities, agriculture and industry. This ban, however, has been under threat of repeal for many years.

Even as proponents work to uphold the landfill ban, it only covers yard debris. Thirty five percent of Michigan's organic material is still on its way to landfills. According to a DEQ funded study, in addition to increased curbside recycling, we'll have to collect at least one-third of all food waste to reach the Governor's 30% recycling goal and achieve the economic and environmental benfits of productive organics management.

MICHIGAN organics council

REPORT HIGHLIGHTS

- Organics comprise more than one-third of both the municipal waste and recycling stream.
- Productive organics diversion is a critical component of reaching the goal of doubling Michigan's recycling rate.
- Waste prevention is the most cost-effective solution available.
- Feeding people and animals with leftovers and food scraps is a key strategy to reduce organic waste.
- Composting and bio-digestion of organic waste produces a valuable end product for Michigan's agriculture and landscaping industries.
- Compost improves the quality of Michigan soils and has a variety of applications for key Michigan industries.
- Michigan solid waste policy has inadvertently created a market preference for disposal of organics.
- Michigan policy needs to recognize the value of productive organics management and support continued development of the industry.

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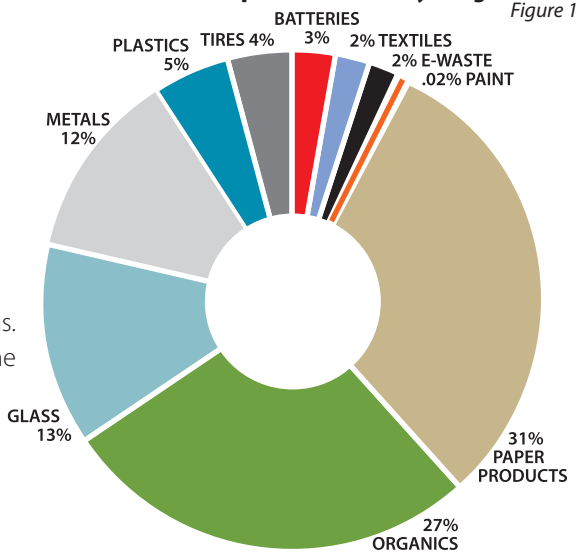
Executive Summary

With growing public and private sector support for recycling, in 2014 Michigan Governor Rick Snyder made a commitment to double Michigan's recycling rate from 15% to 30%. In a subsequent baseline 2015 Resource Recycling Systems report, *Measuring Recycling in the State of Michigan*, organics were identified as the second largest portion of the recycling stream. ***(see Figure 1)*** Another report by the West Michigan Sustainable Business Forum in 2016, *Economic Impact Potential and Characterization of Municipal Solid Waste in Michigan*, identified organics as the single largest component of municipal solid waste (MSW), at 35% by weight. ***(see Figure 2)*** Organics comprise about one-third of *both* the municipal waste and recycling streams. Therefore, increasing recovery and diversion of organics is critical to accomplishing the Governor's goal.

% Composition of Recycling Stream
Figure 1



Resource Recycling Systems

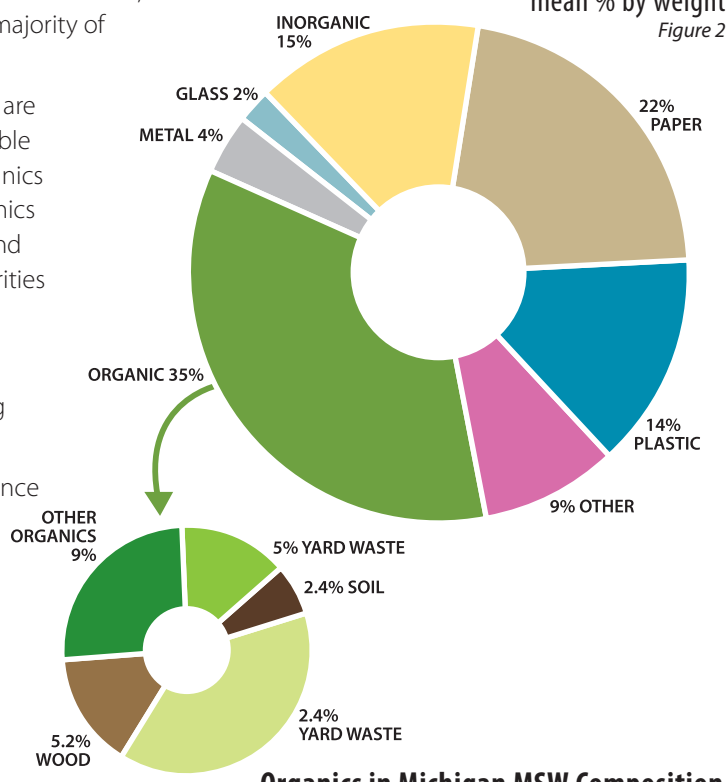
THE POLICY PUZZLE

While the Yard Waste Ban is a key piece of the policy puzzle, there are still several areas where state government can support the development and continuing growth of infrastructure and services required for handling these materials. Michigan boasts 121 registered, primarily yard waste compost sites, yet a well-developed disposal infrastructure, low cost for disposal, and inadequate policies and resources handicap the development of additional alternatives to disposal. In spite of the Yard Waste Ban, landfill disposal remains the most common method for managing the majority of organic waste in Michigan.

This report offers an overview of the opportunities for the organics that are currently headed to landfills. It explores the current context for sustainable organics management, the history, as well as considerations of key organics marketing opportunities and a framework for leading a successful organics management industry in Michigan. The Michigan Recycling Coalition and Michigan Organics Council find the following advocacy and policy priorities necessary to create a sustainable future for Michigan:

1. Uphold the Michigan yard waste ban.
2. Modify existing regulations to reduce and ultimately eliminate pricing preference for waste disposal.
3. Create and fund a regulatory structure focused on program performance that levels the playing field for composters and provides meaningful assurance for communities. Provide compliance assistance to producers and enforce regulations.
4. Create and support a facilitated Organics Management stakeholder workgroup to identify pathways to increase organics diversion and make sustainable organics management an integral part of materials management policy and planning in Michigan.
5. Increase food scrap donation by identifying and removing barriers, providing education, protection, and incentives to food processors and the food service industry.
6. Educate about and incentivize the use of compost to appropriate industries.
7. Foster the development of organics management programs through education and grant funding.

Michigan Municipal Solid Waste Composition
mean % by weight
Figure 2



Organics in Michigan MSW Composition
mean % by weight

West Michigan
Sustainable Business Forum

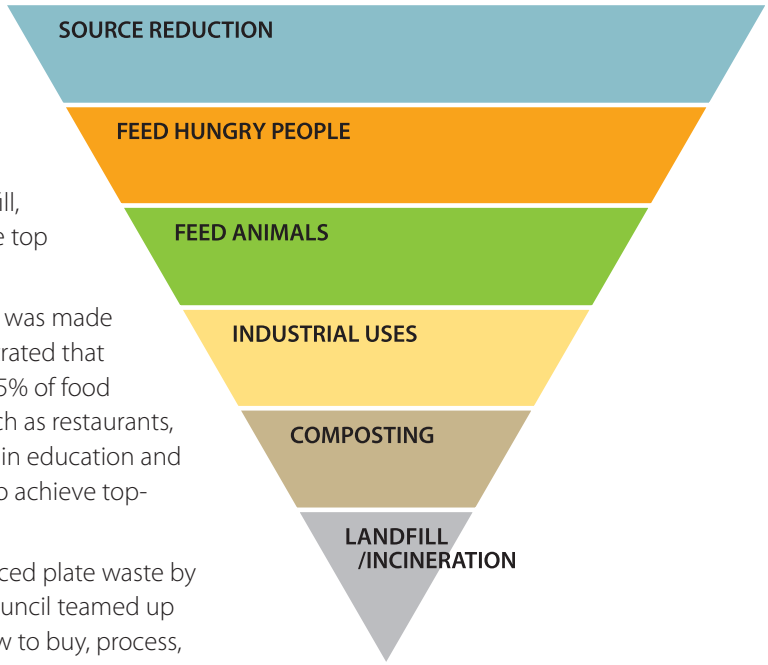
The Opportunity for Michigan

THE BENEFITS

Organics recycling aligns with the State's vision of sustainable materials management. Michigan Solid Waste Policy (2007) uses the three principles of sustainability – economic vitality, ecological integrity and improved quality of life – to guide solid waste management decision-making. According to the Policy, Michigan's preference is to first avoid waste generation, then to utilize generated waste for beneficial purposes, and finally, to properly dispose of what remains. This preference is shared by the Michigan Recycling Coalition and Michigan Organics Council and is also demonstrated through the U.S. Environmental Protection Agency's food recovery hierarchy.

Generally identified as yard clippings, untreated wood waste, pre and post-consumer food scraps, and non-recyclable paper – according to the U.S. EPA, organics represent generally greater than 50% of the national MSW steam by weight. Opportunities for waste prevention, diversion of edible food to people and animals, and transforming organics into new products such as compost, fertilizers and biofuels that hold benefit for key Michigan industries will continue to be overlooked if Michigan policy, practice, and market dynamics prefer disposal to diversion and recovery as they do now.

Food Recovery Hierarchy



www.epa.gov

Food Waste Management

PRIORITIZE PREVENTION

Food waste makes up at least 13.6% of all the municipal solid waste currently being disposed in Michigan landfills. While food waste prevention is the first step in reducing organics headed for the landfill, prevention measures are difficult to quantify. Waste prevention is the top priority from environmental, social and economic points of view.

In ReFED's *2015 Roadmap to Reduce US Food Waste*, the financial case was made for dramatically reducing food going to landfills, and it was demonstrated that prevention solutions are most economically advantageous. Nearly 85% of food waste occurs in the household or in consumer-facing businesses such as restaurants, grocery stores, and institutional food service operations. Investment in education and consumer and employee awareness is a relatively inexpensive way to achieve top-priority reductions.

Many universities have found that by removing trays they have reduced plate waste by 30%. Recently the Ad Council and the Natural Resources Defense Council teamed up to develop the "Save the Food "campaign which provides tips on how to buy, process, store, and cook food in a manner that reduces wasted food. They also discuss what "sell by" and "use by" labels on packaging really mean.

Diversion of surplus food continues to expand across Michigan to feed hungry people and then to feed animals. The Food Bank Council of Michigan partners with farmers, non-profits, foundations, corporations, government, and individuals to support the work of seven regional food banks and improve access to healthy food for those in need in all 83 Michigan counties. For over 26 years serving metro Detroit (and also a FBCM member), Forgotten Harvest rescues surplus food across SE Michigan's food supply chain and reported rescuing over 43 million pounds of safe, healthy surplus food in 2016 to feed food insecure people.

COMPOSTING AND ANAEROBIC DIGESTION

Of the 121 registered composters in Michigan, nine of them composted approximately 16,000 wet tons of food in 2015. Michigan has six on-farm anaerobic digesters and four operating commercial anaerobic digesters that processed almost 14,000 wet tons of food and food processing residuals in 2015.

While organics present their own collection and diversion challenges, they are unique in that various organics that can't be fed to people or animals can be collected and managed together and do not need to be separated into component parts, as is the case with inorganic recyclables such as glass, metal and plastic. Instead, organics are best managed by creating an optimal environment for and controlling the biological decomposition process.

Proper organics management creates a nutrient dense, safe, organic product. Composting is defined as the controlled degradation of organic material in the presence of oxygen while anaerobic digestion is controlled degradation of organic material in the absence of oxygen. The by-products of composting are humus, water, carbon dioxide, and heat. The by-products of anaerobic digestion are biogas (e.g. methane, carbon dioxide, hydrogen, etc.), water, and digestate. These controlled processes sanitize the resulting compost through the generation of heat, and sometimes energy, stabilizing the end product to the point that it is beneficial to plant growth. A properly managed decomposition process can destroy weed seeds and plant and human pathogens. Compost products can sequester carbon, rebuild depleted soil nutrients, conserve and retain water, control erosion, reduce the use of negatively impactful synthetic chemical fertilizers, and reduce greenhouse gas emissions.

CENTRALIZED OPERATIONS

Large-scale, centralized operations and community-based programs create beneficial organics management opportunities that demonstrate sizeable potential to create jobs and foster new local businesses. In an effort to quantify the economic impact of recycling on communities, an Institute for Local Self-Reliance report, *Recycling Means Business,* estimates that on a per-ton basis, managing organics for the production of a valuable end product creates four jobs to the one job created if that material is disposed. The environmental, resource, and economic potential should make the development of sustainable organics management a priority for an economy based on agriculture, fresh water resources, and "Pure Michigan".

Investment in centralized composting and anaerobic digestion (AD) systems provides important opportunities for better management of large volume and difficult to handle materials. AD is a proven technology that maximizes material utilization for both biogas and compost production with minimal environmental impact. In the agriculture industry, AD technology is being used to turn manure into a valuable soil additive to its own benefit. Municipalities across the country are beginning to explore and add AD systems to better manage waste water treatment solids and to make food waste diversion easier for residents and more productive for the facility.

Co-digestion is one example of a process whereby energy-rich organic waste materials, such as fats, oils, grease and/or food scraps are added to dairy or wastewater digesters with excess capacity. In addition to diverting food waste and fats from landfills, and potentially the public sewer lines, these high-energy materials have at least three times the methane production potential of biosolids and manure. The excess capacity can be used to serve commercial generators which may offset the costs associated with facility operations, while also reducing greenhouse gas emission reductions, and creating economic benefits and diversion opportunities.

Recycling waste products, whether organic or inorganic, into valuable commodities takes investment but the overall benefits outweigh that financial burden. For example, a For Solutions LLC. case study of one large Mid-Atlantic University that processed more than 350,000 lbs. of food scraps, saved the university approximately $25,000 in trash hauling fees. They were not only able to provide a high-quality, nutrient-dense compost used campus-wide but they produced a quality compost with a market value of $7,300. However, the State and municipalities must also see these investments in terms of triple-bottom line benefits to overcome the initial aversion to capital costs.

THE BENEFITS OF COMPOST

A plethora of research exists on the physical and chemical benefits of the application of compost.

COMPOST:

- Improves the soil structure, porosity, and density, thus creating a better plant root environment.
- Increases infiltration and permeability of heavy soils, thus reducing erosion and runoff.
- Improves water holding capacity, thus reducing water loss and leaching in sandy soils.
- Supplies a variety of macro and micronutrients.
- May control or suppress certain soil-borne plant pathogens.
- Supplies significant quantities of organic matter.
- Improves cation exchange capacity of soils and growing media, thus improving their ability to hold nutrients for plant use.
- Supplies beneficial microorganisms to soils and growing media.
- Improves and stabilizes soil pH.
- Can bind and degrade specific pollutants, such as lead in contaminated soils.
- Keeps organic materials in the nutrient cycle.

U.S. Composting Council, 2015

ENHANCING MICHIGAN SOILS

Effective organics management can be accomplished in an open-air environment with relatively low capital investment or in a high-tech, fully-enclosed engineered system that can create both energy and compost. Regardless, creating compost from waste organics allows nutrients and organic matter to be returned to the soil, a proven practice for soil quality enhancement. Large generators of organic waste are likely to benefit from reduced disposal costs and liability, and in the case of anaerobic digestion, the energy created as the organics decompose has additional, measurable market value.

Landscapers are likely to be the most significant users of compost. They will buy pure compost and compost-topsoil mixes and often serve as subcontractors for most construction projects whether they be commercial, residential, public works, or highway. Landscapers can have significant influence on the uptake of compost and ultimately the enhancement of Michigan soils.

Additionally, the agriculture industry benefits on the front end of composting and biodigestion of waste from crops and livestock which reduces the volume of the material, converting it from a management problem into a valuable resource. Crop farmers also value compost as an amendment to field soil or as an ingredient in potting mix. Livestock operations can turn manure into a value-added product such as bedding or a soil amendment.

There is no legal definition of the word topsoil. Technically it is the top layer of soil. It is certainly a buyer beware market. Soil scientists generally agree that it takes at least 100 years and usually more to form just one inch of topsoil and it is likely that Michigan's topsoil is 6 to 12 inches deep, depending on the region. Playing an important role in agriculture, landscaping, and other Michigan industries, any topsoil can be enhanced or "engineered' to serve a very specific purpose by the addition of composted organic matter.

ReFED's recently published Roadmap to Reduce U.S. Food Waste by 20% identified 53 million tons of food waste nationally going to landfills every year, with an additional 10 million tons lost on farms. Michigan's population of nearly 10 million suggests that as much as 2 million tons of food waste are likely being disposed within the state, and composting that fraction of food waste would eliminate over 1 million tons of greenhouse gases (GHGs). As the nation's second most diverse agriculture industry with greater than 52,194 farms, according to the Michigan Farm Bureau, farm organics losses are likely a prime target for recovery of organics as well.

Beyond the avoided costs of disposal and GHG benefits, composting of 2 million tons of source separated organics could supply 700,000 tons of compost to enhance topsoil used in a variety of applications. Amended topsoil can be used for erosion control, nutrient management, and moisture retention in agricultural and urban settings, while at the same time offering the potential to create a projected 3,600 jobs in Michigan, according to data from Pay Dirt, an Institute for Local Self-Reliance report. The opportunity for organics is significant, but basic policies are needed to stabilize markets and provide guidance on what successful organics management looks like.

A vibrant and sustainable economy is inextricably dependent upon a healthy, productive environment. The resources and services provided by our ecosystem are indispensable to economic activity. Consequently, economic activity that serves to extend the productive life of natural resources and minimizes the waste byproducts of the economy's productive activity must be a cardinal element of any lasting economic system. Compost is one of those elements.

Mike Csapo,
2011 State of Recycling in Michigan

What's holding Composting back?

Landfills are engineered to exacting and expensive specifications to control toxic releases resulting from the disposal of municipal solid and hazardous waste. Such controls are overkill for organics and squander useful resources and valuable, highly engineered landfill capacity. Of Michigan's 50 landfills, 37 currently have active landfill gas collection capabilities. Landfill gas is a waste product of organic material disposal, yet even landfills designed to capture methane are inefficient in doing so and still emit significant amounts of methane which is 23 times more harmful to the atmosphere than carbon dioxide. While it is important to capture the gas generated from MSW, better utilization options exists for organic debris.

Although landfills can capture the gas from organic material, once mixed with non-organic waste recovering nutrients from the disposed of material becomes very expensive and often impossible. The Michigan Recycling Coalition's *The Argument Against Senate Bill 864* provides evidence that landfill gas could only fulfill 0.57% of U.S. energy needs . Despite these many disadvantages, landfill disposal is currently the most common method for managing waste organics in Michigan and many factors conspire to maintain this practice.

The well-developed disposal infrastructure and categorically low disposal rates found in Michigan demonstrate the efficacy of the State's policy to ensure that Michigan municipalities and businesses have the capacity to dispose of waste. In fact, that policy has inadvertently created a market preference for disposal. Michigan's waste industry, although providing a necessary service, limits the ability of Michigan businesses and municipalities to bring proactive, additive solutions that contribute to the triple bottom line solutions that the Department of Environmental Quality, Legislature and Governor expect. The estimated capacity of Michigan landfills tops out at 100 years. The market dominance of landfill disposal makes its cost the only measure most decision makers see. If we rely on market conditions alone, the establishment of solid waste disposal alternatives will continue to be a Sisyphean task.

Based on today's cost considerations alone, Michigan municipalities, businesses and residents are hard pressed to make pro-active choices. For years, waste just went away. But as our products become more sophisticated, the impacts of disposal become better understood, the costs of toxins and litter increase the financial burden on local government, and our need to more efficiently use natural resources grows, so does the need to evolve our material management methodologies. Connecting systems, filling gaps in infrastructure, and changing behavior require attention, time, commitment, and most importantly, resources. The demonstrably low cost of disposal for Michigan communities and businesses makes alternatives to disposal a low priority for state and local decision-makers. Funds for sustainable resource management solutions must compete for resources that Michigan communities need for a variety of other important public services. Precious few local decision-makers are willing to make the necessary investment in time and resources to foster transformation of community waste into community resources.

Michigan's 21 year-old Yard Waste Ban is an informative example of reasonable integrated solid waste management policy. However, establishing policy but doing little else to foster the development of the practice set the stage for problems. Years of complaints about nuisances associated with out-of-compliance composting operations in SE Michigan has left the entire industry in Michigan on the defensive and provided a ready example of regulatory neglect. If Michigan is to fully realize the value of its organic resources, policies and financial resources must be applied to elicit desired outcomes.

The demonstrably low cost of disposal for Michigan communities and businesses makes alternatives to disposal a low priority for state and local decision-makers.

Funds for sustainable resource management solutions must compete for resources that Michigan communities need for a variety of other important public services.

How did we get here?

THE HISTORY OF ORGANICS MANAGEMENT IN MICHIGAN

The Michigan Legislature enacted Public Act 264 of 1990 which amended the Solid Waste Management Act to address the problem of yard clippings in landfills. Under the act, "yard clippings" are defined to mean leaves, grass clippings, vegetable or other garden debris, shrubbery, or brush or tree trimmings less than four feet in length and two inches in diameter that could be converted to compost humus. This amendment to the Natural Resources and Environmental Protection Act (NREPA) prohibited the owners or operators of landfills or municipal solid waste incinerators from accepting solid waste if they know or should know that the solid waste to be disposed of includes yard clippings generated or collected on land owned by a county, municipality, or a state facility. As of March 28, 1995, owners and operators of landfills or municipal solid

waste incinerators have been unable to accept solid waste that they knew or should know included yard clippings from any source.

In the early 1990's, the Department of Natural Resources estimated that yard clippings made up eight to 12 percent of the state's landfill contents and recognized that it would make more sense for the state to recover these materials than to continue to bury and burn them. At the time, successful composting programs had been established in a few areas of the state. The Quality of Life Bond Proposal passed by Michigan voters in 1988, allocated $150 million for the Solid Waste Alternative Program (SWAP) and some communities received grants and loans to establish composting programs under that proposal.

By the time the Yard Waste Ban went into effect, however, funding through the SWAP program had dried up, and institutional support of the compost industry through the Department of Environmental Quality declined without the funding imperative. The developing compost industry has suffered from this neglect. While there is an estimated 4% of this banned material still headed to the landfill, the lack of regulatory oversight and an active Solid Waste Planning effort that requires utilization goals are the real barrier to progress beyond the Yard Waste Ban.

In the meantime, technological developments and business and environmental interests have continued to evolve beyond historical integrated solid waste management. Organics management firms are focused on capturing the nutrients in food and bio-solids to create high quality compost products and industrial and municipal managers are exploring the promise of alternative organic management technologies to reduce environmental liability and recover material value. Private investments in sustainable organics management are being made where opportunities, incentives and initiative exist, but this is still very limited in Michigan.

Why do we need state action?

Viable business opportunities in transforming organics into new products, compost, fertilizers and biofuels will continue to be overlooked if Michigan policy, practice, and market dynamics continue in their present state. Governor Snyder's intent to double the state's recycling rate requires assertive leadership to foster the development of supportive policies and funding that will assure the sustainable development of Michigan's organics management industry. Proactive recycling policies and supplementary funding will help Michigan businesses overcome identified barriers and succeed at productive organics management.

Organics management techniques that generate compost can provide potentially significant environmental and economic benefits for communities and businesses across Michigan. Technological developments and business and environmental interests around these alternatives have continued to evolve and provide meaningful, innovative ways to extract economic and environmental value from material that was once a cost-center, managed as waste.

In its 2011 State of Recycling in Michigan Report, the Michigan Recycling Coalition (MRC) advocated for specific types and levels of funding to support recycling and composting initiatives. That document was key in laying out the state's role in achieving diverting resources from the landfill. The funding recommendations identified in that report still apply today. The MRC remains committed to the notion that funding is the key to successful adoption of integrated solid waste management practices that successfully move recycling and proper organics management beyond the realm of integrated waste management and into the realm of economic productivity.

Given the demonstrable potential of productive organics management to create jobs, contribute to infrastructure development and new local businesses, the development of sustainable organics management needs to be a priority for an economy based on

COMPOST MARKETS

The development of markets for compost will require an active technical training and outreach program to help potential users understand the unique value of compost. Composting has been used by farmers for millennia but it does not yet have a secure segment of the agribusiness marketplace today. With market outreach, compost can be an essential tool in a wide variety of industries:

- Landscape Suppliers
- Garden Centers
- Landscapers
- Topsoil Suppliers
- Retail – packaged for homeowners
- Department of Transportation & Public Works Departments
- Greenhouses and Nurseries
- Golf Courses and Athletic Fields
- Organic Farmers
- Land Reclamation

The compost products that result from the organic degradation process are varied:

- Blended Topsoil Component
- Soil Amendment for Turf Establishment
- Soil Amendment for Planting Beds
- Planting Backfill Mix Component
- Soil Mulch for Erosion Control
- Soil Amendment for Field Nursery Production
- Horticultural Substrate (growing media) Component
- Soil Amendment for Marginal Soils/ Reclamation
- Soil Amendment for Silviculture (reforestation)
- Soil Amendment for Vegetable Crop Production
- Growing Media for Sod Production

U.S. Composting Council, 2015

agriculture, fresh water resources, and "Pure Michigan". If Michigan is to fully realize the value of its organics resources, policies and financial resources must be applied to elicit desired outcomes.

The Michigan Recycling Coalition supports current efforts by the state to update Part 115 to reflect the State's resource management preferences as identified in the State Solid Waste Policy. However, this is not where the State's role ends. The State of Michigan has an important role to play if it is to benefit from the value of diverting organics to produce compost and generate energy. With the infrastructure in place to manage yard trimmings, Michigan's capacity to step up to managing food waste and other organics is primed. With the proper regulations, oversight, incentives, outreach and education, and support, compost producers and users will benefit from the addition of high nutrient value food scraps to existing yard trimmings programs.

What needs to happen?

SUPPORT BEST MANAGEMENT PRACTICES

While Michigan organics managers have more than 20 years of experience managing yard waste at the commercial scale, diversion and composting rules and regulations provide limited guidance and support to the industry. If Michigan is to achieve its recycling goals the State must assume its role in leading the industry to success. The State can do that by:

BASELINE MEASUREMENT & DATA COLLECTION

- Conduct an economic analysis and forecast the opportunity for building out an organics management industry designed to meet State goals.
- Conduct an economic analysis of the value of the resulting compost in economic and environmental benefits to local industries and Michigan as a whole.

EDUCATION & TECHNICAL ASSISTANCE

- Conduct broader educational outreach about the environmental benefits of organics waste prevention, organics diversion, proper organics management, and beneficial uses of compost.
- Educate consumers on the strategies to reduce food waste in homes.
- Provide incentives and encourage backyard composting.
- Encourage employee training for organics diversion within the business sector.
- Educate food service operators and grocery supply chain about federal and state regulations and liability protection around food donation for people and animals.
- Provide grants for and incentivize research, education and training for food donors and scrap generators (restaurants, food markets, universities, institutions, etc.) to facilitate successful program participation and success.
- Educate potential end use markets of the uses for and value of compost.
- Require and/or provide training opportunities to compost sites operators and decision-makers to establish expectations based on a clear set of best practices to avoid issues with odor, vectors, etc.
- Work with current composters to effectively increase the types and amount of organics managed.

COMMUNITY SERVICES & INFRASTRUCTURE

- Map the existing organics management infrastructure and develop a geographical strategy for attracting facilities that compost to meet the growing local and regional demand residentially, commercially and industrially.
- Provide grants for and incentivize research, education, and training for curbside organics collection pilots at the municipal level.

MARKET & ECONOMIC DEVELOPMENT

- Support food waste reduction and composting through grants and technical assistance.
- The State of Michigan can lead by example and model behavior by specifying the procurement of Michigan-produced compost in state and public sector projects Work with MDOT and MDARD to encourage the specification and use of compost in projects and operations
- Develop Environmentally Preferable Products (EPP) requirements for compost purchases at the state and/or city levels. These requirements promote registration and compliance with the state will provide an incentive for composters to meet state quality specs and regulations.
- Research and provide information and resources about the benefits of using compost in specific applications to potential compost markets and users.
- Enact state policies or incentives that result in increased demand for organics services and compost.
- Incentivize investments that allow food scraps and/or bio-solids to be managed at waste water treatment facilities with anaerobic digestion and stand-alone anaerobic digester operations.
- Develop investment vehicles to incentivize biogas projects. Such as Renewable Energy Funds, Commercial-Scale Renewable-Energy Grants, Renewable Energy Growth Program, and Energy Revolving Loan Fund
- Support composting operations with grants for equipment such as food waste depackagers.

COUNTY PLANNING

- Establish organics management goals and support and incentivize the development and maintenance of organics management facilities and access.
- Limit landfill expansion by requiring justification for expansion and progress toward solid waste alternative goals.
- Guide zoning and land use codes to reflect and support the state diversion priorities including urban organics management. Codes can specifically address urban farms, community composting, and anaerobic digesters within industrial or designated commercial districts.
- Map jurisdictional local and state health regulations to identify overly strict regulations related to food donation liability regulations.

LEGISLATION

- Advocate for current Yard Waste Ban.
- Without a national standard and state consistency in food labeling laws, a large volume of food is thrown into the trash when it could be safely consumed by the purchaser or donated to feed people or animals.
- Clarify and expand state protection for food donations beyond what is offered in the federal Emerson Act. Provide liability protection when food recovery organizations sell or otherwise charge for food, when donors donate directly to end-users, when the donated food does not satisfy all quality and labeling standards, and when donors donate past-date foods.
- Clarify and remove barriers to food donation in state and local food safety regulation.
- Increase food donations by educating potential food donors on the liability protections that exist.

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- Encourage food donations by providing state tax incentives; credits or deductions for donations and the development of diversion infrastructure.
- Review state animals feed laws to encourage feeding food scraps to animals while still providing protections to human and animal health.
- A number of states are reaping the benefits of banning food waste disposal in landfills. A side benefit to the landfill bans is a large increase in the donation of edible to local food banks and non-profits.
- Streamlined guidelines set by the state for siting a compost site will allow centralized composting and community composting sites to be approved and built that are within urban centers to supply community gardens, residents and public and private landscaping with local compost.
- Enforceable composting regulations to level the playing field for composters and make locals more comfortable in siting/expanding compost facilities.
- Raising the price of disposal through increasing the solid waste surcharge may allow the hauling, composting, anaerobic digestion infrastructure to develop faster.

Conclusion

Imagine a future where Michigan businesses are profiting from materials that would otherwise end up wasted, buried and forever requiring monitoring, in a landfill. Putting Michigan waste to work for Michigan industry and agriculture holds great potential and the state will benefit from this change.

Education is needed about the value of the resources that we are currently landfilling. We need to better understand and share the financial, social and environmental benefits and costs of producing and using compost. For example:

- The greater potential for job creation that composting has in relation to landfilling (4:1);
- The opportunity to create a local industry using material that is currently being thrown away;
- Greenhouse gas emission reductions related to reduced methane from landfills (created by the mixing of organic and non-organic material);
- The carbon sequestration benefits of compost which support reduced greenhouse gas emissions reduction goals;
- The benefits of healthy, nutrient-rich soil related for water conservation, landscaping and agricultural production;
- The ongoing need to replenish Michigan soils with nutrients and reduce the use of synthetic chemical fertilizers that contaminate our waterways; and
- The need to harness the renewable energy and other useful byproducts of using anaerobic digestion technology to manage food scraps.

Part 115 has created a market preference for a disposal industry that limits the ability of Michigan businesses and municipalities to bring proactive, additive solutions that contribute to the triple bottom line that the DEQ, Legislature and Governor espouse. A policy update that supports the industry is essential, public and private investment is imperative, and DEQ must be directed and funded to lead Michigan forward to a more sustainable future through enhanced organics recovery initiatives.

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