

## CCSMM responses to public engagement questions

AM

Ashley Muspratt <Ashley.Muspratt@cetonline.org>

Thu 10/15/2020 12:02

To: DEEP RecyclingProgram

Cc: Lorenzo Macaluso <Lorenzo.Macaluso@cetonline.org>

CET CCSMM public engagement responses.pdf

142 KB

Hello CCSMM organizers,

Please find attached the Center for EcoTechnology's responses to the public engagement questions posted by the Coalition. We appreciate the opportunity to offer our insights and opinions, especially with regard to the questions posed by the Organics and Increasing Recycling Working Groups. We look forward to continuing to engage with you on this important work.

Please let us know if you have any questions.

Kind regards,

Ashley

**Ashley Muspratt**, Client Services Manager

781.492.6946 (mobile)

[centerforecotechnology.org](http://centerforecotechnology.org) | [wastedfood.cetonline.org](http://wastedfood.cetonline.org)

**Connecticut Coalition for Sustainable Materials Management  
Response to Public Engagement Questions**

**Submitted by:** Center for EcoTechnology  
**Contact:** Lorenzo Macaluso, Director of Client Services  
[Lorenzo.Macaluso@cetonline.org](mailto:Lorenzo.Macaluso@cetonline.org)  
413.586.7350 ext. 248

---

**A. ORGANICS AND FOOD SCRAP DIVERSION**

**Questions:**

1. Are there any model programs, best practices, or innovative concepts that the Coalition should consider...

2. For any solution identified in Question 1, what are the barriers that need to be addressed...

**Answers:**

Focus Area	Q1. Model Programs, Best Practices, Innovative Concepts	Q2. Barriers to Implementing Model Programs, Best Practices
<b><i>Organics reduction / collection / diversion mechanisms</i></b>		
Prevention	<p>CET encourages the Working Group to take a holistic approach to organics, utilizing and promoting strategies across the food recovery hierarchy in order to maximize organics diversion from the waste stream. Our philosophy is to meet generators where they are and to help them implement strategies up and down the hierarchy.</p> <p><a href="#">RecyclingWorks in Massachusetts</a> is an excellent model of a free assistance program for commercial and institutional generators across the state. The program is paid for through a mechanism of the Green Communities Act, where energy credits are created and sold as a result of electric generation from waste-to-energy facilities, a portion of which are held in a trust outside the state's annually appropriated budget and are dedicated to support a range of organics diversion and recycling activities overseen by MassDEP. RecyclingWorks comprises a robust website with written and video case studies, guidance documents, a database for locating service providers, a phone hotline, on-site and virtual assistance to businesses, training, signage, and hosts dozens of events every year. The program has developed a wealth of resources to support compliance with the organics ban that went into effect in 2014. For example, an online <a href="#">food waste calculator</a> tailored for ten sectors, guidance documents, and case studies. In FY20, the program helped nearly 2,000 businesses through phone and in-person technical assistance. CET has administered the program since its inception in 2011 and has documented an overall cumulative program impact of more than 185,000 tons of material diverted since 2013.</p> <p>Prevention has the biggest economic and environmental benefits, and households and businesses all have opportunities to reduce food waste before it starts. Oregon</p>	<p>Prevention can be hard to track and the solutions tend to be very site-specific. Achieving measurable prevention at scale can require high-touch technical assistance in order to help businesses understand where waste is generated and to develop tailored solutions.</p> <p>Prevention technologies are subscription services and the fee can be a barrier for many businesses. However, data from users shows that the service more than pays for itself in terms of food cost savings.</p>

	<p>leads the nation with their emphasis on prevention over other strategies. Oregon Department of Environmental Quality released a Strategic Plan for Preventing the Wasting of Food, whereby they aim to reduce food waste generation by 15% by 2025 and 40% by 2050. See Portland Metro's <a href="#">Food Waste Stops With Me</a> campaign that connects businesses with resources to prevent wasted food, and implement strategies further down the hierarchy. DEQ also developed the <a href="#">Wasted Food Wasted Money</a> campaign for restaurants and hotels.</p> <p>CalRecycle also has a <a href="#">Food Waste Prevention and Rescue Grant Program</a> as part of the California Climate Investments program. The grants have funded organizations to expand and modernize transport and storage equipment, to pilot innovative prevention technologies, and conduct education and outreach.</p> <p>Several technologies exist to help commercial entities reduce food waste, including <a href="#">LeanPath</a>, <a href="#">Phood</a>, and <a href="#">Winnow</a>. These all combine a scale, camera, and technology platform to help generators identify where and when food is being wasted in order to develop strategies to prevent it. Rhode Island Office of Innovation partnered with Phood Solutions to pilot their source reduction technology at six universities in the state. Part of the pilot helped the institutions implement the tracking tool, share ideas, and foster future collaboration.</p> <p>CET developed this <a href="#">guidance document</a> on food waste prevention for commercial generators. LeanPath also has excellent online content. For residential food waste prevention, NRDC's <a href="#">Save the Food</a> campaign is a great resource.</p>	
Donation	<p>Donation is a critical tier of the food recovery hierarchy, and is a solution that tends to be under-utilized due to liability concerns among would-be donors.</p> <p>NY State is working to enhance donation by making it a compulsory piece of complying with the state's impending food waste law. The language of the law requires covered generators to report the amount they donated as part of their annual reporting to the NY DEC. CT DEEP could consider adding a similar provision to their law.</p> <p>Rhode Island Department of Environmental Management partnered with Rhode Island Department of Health, other state agencies and associations to launch the "Rhode to End Hunger" initiative, which promotes food donation, assuages businesses hesitations, and highlights MEANS database as a food rescue partner.</p> <p>Education and awareness raising about liability protections, tax incentives, and various rules and regulations that apply to different sectors is also key. For example, many schools are</p>	<p>Liability concerns among managers in food service businesses</p> <p>Transportation, processing, and storage capacity among donors and food rescue organizations can be a barrier, especially for smaller donations.</p>

	wary of donating for fear of losing federal school lunch subsidies; however, share tables and external donation are fully encouraged at the federal and state level. CET worked with several state agencies to develop <a href="#">this guidance document</a> , which outlines the school donation rules and regulations in CT.	
Food scrap collection	<p>Driving demand for food scrap collection requires four key elements that send a strong and clear message to the marketplace: policy, enforcement, infrastructure, and education and outreach. CT is fortunate to have an organics disposal law in place, and the state could consider actions that would expand the impact of the law, including reducing the generation threshold from 52 tons/year and increasing or eliminating the radius criteria. Enforcement is an area where the state could probably do better: more inspectors examining loads and issuing warning letters and fines, direct outreach to generators informing them of the ban, or like New York, an annual reporting requirement, which could help shed light on large generators that are and are not participating. CET and CT DEEP collaborated to send co-branded letters acknowledging the law and highlighting CET's assistance, but consistent messaging and reinforcement is key. We address infrastructure investment in the <i>Development and siting infrastructure</i> section below and in our comments on <i>Improving the quantity of recyclable materials collected</i> we discuss the RecyclingWorks in MA program as an excellent model for education and outreach.</p> <p>Healthy Seas Healthy Soils (HSHS), an initiative of Clean Ocean Access in Rhode Island, has a model that leverages the food waste generation volumes of businesses to support residential and municipal infrastructure. The cost of collecting and composting food scraps is significant and spreading that investment across residential and commercial sectors helps make it more affordable for all stakeholders. HSHS is aggregating residential collection and feeding that material into commercial collection routes. This helps make commercial collection more affordable for businesses, and without the scale of business participation, residents would lack access to this service entirely. This approach brings together two disparate but interconnected generator types in a way that has important economic and environmental benefits that can be a model for towns in CT.</p>	<p>Cost is a barrier for many businesses considering food scrap collection. In marketplaces with a lot of haulers providing the service pricing tends to be more competitive.</p> <p>CET finds that when a business consolidates their trash, recycling, and organics service with one hauler it can also lead to cost efficiencies. Once a business starts diverting organics from the trash it's important that they reassess the size of their trash dumpsters and frequency of service; typically trash can be significantly down-sized (e.g., smaller dumpsters, fewer weekly pick-ups) and the cost savings can be directed toward the new organics service. Haulers aren't always forthcoming about this.</p>
Leaf & yard waste collection/ backyard composting	Municipal leaf and yard waste facilities are an under-utilized resource for receiving and processing food scraps. Indeed, receiving food waste will require an increase in operating hours and labor as compared to most leaf and yard waste facilities. Municipalities can use <a href="#">this decision-support tool</a> developed by BioCycle and CET to determine the feasibility of adding food waste to their facility.	
<b><i>Development and siting of infrastructure</i></b>		
AD & Composting	Having a diverse set of solutions provides market resilience and technology to match the needs of different generators.	Infrastructure investment is a classic chicken and egg conundrum, where it's hard to attract investors without

	<p>Sufficient depackaging capacity is also important for unlocking the full potential of wasted food diversion.</p> <p>The MassDEP has been successful using <a href="#">Recycling Business Development Grants</a> to attract private investment in certain types of infrastructure. Most recently, they issued specific requests for proposals to expand the state's AD and then de-packaging capacity.</p> <p>Consolidating permitting processes can accelerate infrastructure development. Ideally the permits could be obtained through one application to once agency.</p> <p>The RecyclingWorks in MA program not only provides free assistance to generators but also to service providers who are looking to enter or expand their activity in the organics industry. For example, RecyclingWorks has helped a number of haulers with densification of organics collection routes, and has equipped them with training material for their customers. RecyclingWorks also provides <a href="#">compost site technical assistance</a>, which includes everything from permitting and siting, to technology selection, to recipe development, and sourcing of clean, reliable feedstock. These services have helped to accelerate expansion of infrastructure in Massachusetts, and the smooth and successful operation of services. CET has similarly assisted food waste haulers in CT with signage and training for generators to properly source separate materials.</p>	<p>a guaranteed feedstock and it's hard to generate feedstock without processing capacity. This is where state subsidies can help de-risk investments by early market entrants.</p> <p>Markets for finished compost and digestate (liquid and solid) from the AD process can be a challenge. State and municipal purchasing of these products, and education for the agricultural and landscaping sectors are a few examples of ways CT could help drive demand for the products developed through these processing techniques.</p>
Municipal onsite composting operation	<p>Philadelphia is expanding their urban composting capacity through a public-private partnership model, where the city held a bidding process for a private compost operator to setup on public land. This approach can help address a number of challenges, including siting if a municipal site is already approved for other waste operations. This model could be used to expand the operation of leaf &amp; yard waste facilities to accept food scraps (see this <a href="#">decision-support tool</a> by BioCycle and CET).</p> <p>Another example from Philadelphia is the city's endorsement of down-the-drain systems. Food waste that goes through the sewer network ends up at the city's wastewater treatment plant, which has a 5.6 MW biogas cogeneration plant.</p>	

## B. INCREASED RECYCLING

### Questions:

1. Are there any model programs, best practices, or innovative concepts that the Coalition should consider...
2. For any solution identified in Question 1, what are the barriers that need to be addressed...

### Answers:

Focus Area	Q1. Model Programs, Best Practices, Innovative Concepts to Implement as a Pilot or at Scale	Q2. Barriers to Implementing Model Programs, Best Practices
Measures to improve the quantity of material collected through mixed-stream or other means	<p><a href="#">RecyclingWorks in Massachusetts</a> is an excellent model of a free assistance program for commercial and institutional generators across the state. The program is paid for through a mechanism of the Green Communities Act, where energy credits are created and sold as a result of electric generation from waste-to-energy facilities, a portion of which are held in a trust outside the state's annually appropriated budget and are dedicated to support a range of recycling activities overseen by MassDEP. RecyclingWorks comprises a robust website with written and video case studies and guidance documents, a phone hotline, on-site or virtual assistance to businesses, training, signage, and hosts dozens of events every year. In FY20, the program helped nearly 2,000 businesses through phone and in-person technical assistance. CET has administered the program since its inception in 2011 and has documented an overall cumulative program impact of more than 185,000 tons of material diverted since 2013.</p> <p>Resource Management Contracting is an innovative approach to hauler contracts that aligns the financial incentive for the hauler with maximizing waste prevention and diversion. This is in contrast to conventional contracts where compensation is tied to waste volumes. <a href="#">CT DEEP already has a page about RMC on their website</a> but could do more to raise awareness about this contract type and to offer direct assistance to businesses and institutions that want to pursue it. RecyclingWorks in MA is currently developing a RMC resource and has worked with universities in MA to implement elements of the contracting approach. RMC can be implemented gradually over time. Many entities start by engaging their haulers in more regular site visits, waste audits, and reporting. As the generator and hauler gain a deeper understanding of baseline generation rates and prevention and diversion opportunities, they may move to a compensation model that decouples profitability from trash disposal and rewards the hauler for measures that result in resource efficiency.</p> <p>Across a state, and better yet, across a region, the more uniform the recycling policies the better. However, we commonly hear that recycling programs differ from business to business or town to town. To mitigate this trend, the</p>	<p>Free TA requires significant and sustained public investment to carry out at scale; limited willingness to pay among generators that aren't already very focused on waste minimization</p> <p>Haulers have varying degrees of experience with RMC and willingness to enter into such contracts. Haulers and generators can be wary of capping trash costs and revenue sharing without a strong sense of baseline generation and diversion opportunities.</p> <p>In MA, we still find that haulers may have their own lists of what is acceptable or not, or single stream,</p>

	<p>RecycleSmart initiative by MassDEP brought the MRF's together to agree on what is acceptable and what is not.</p> <p>Similar to above, making waste bans or mandatory recycling policies more uniform across the region could improve diversion everywhere since haulers routinely serve customers and use transfer stations and processing facilities across state lines. Some MA haulers are driving MA waste over the border to CT to avoid disposal ban inspection/enforcement.</p>	<p>modified single stream, which don't align with RecycleSmart guidance.</p>
<p>Specific source-separated programs including</p> <ul style="list-style-type: none"> <li>-Textile collection</li> <li>-Glass</li> </ul>	<p><a href="#">Baystate Textiles</a> works with communities across MA and CT to divert textiles from disposal. <a href="#">This case study on Weymouth Public Schools</a> is a great model that could be implemented by school districts/communities across CT.</p>	<p>Low volumes can be a challenge. Some entities don't generate enough material or enough space to stockpile material for a hauler to collect.</p> <p>For glass, lack of a market for recycled material is a major barrier. We're excited about the Urban Mining plant under construction in CT and look forward to tracking its impact on the market.</p>
<p>Measures to improve the quality of recycled materials</p> <ul style="list-style-type: none"> <li>-Review collection methods</li> <li>-Should some items be banned?</li> <li>-Disruption fees?</li> <li>-Other</li> </ul>	<p>Food is a top contaminant in recycling streams. We have observed that separating organics can result in higher quality recycling streams.</p> <p>Free technical assistance to generators has been very effective in MA in terms of helping businesses comply with waste bans and reducing the solid waste stream. TA is particularly helpful for identifying weaknesses and sharing best practices, providing signage templates, staff training, and giving recommendations for bin placement and grouping.</p> <p>Haulers should be encouraged to give feedback to customers on contaminated loads, i.e., through photos. Ideally, haulers should contact generators through phone or email and give them an opportunity to clean out contamination before outright rejecting a load.</p> <p>Hauler refusal to collect contaminated loads can facilitate compliance and sustained behavior change among generators.</p>	<p>We are aware of haulers providing inaccurate information on what is/is not recyclable or what is/is not required by law to recycle.</p> <p>Low disposal costs are a barrier to high diversion rates. When there is a neutral or no cost benefit for recycling over disposal, and no waste bans (or enforcement of waste bans), there is a reduced chance of implementation.</p>
<p>Education and Outreach programs</p>	<p>RecycleSmart in Massachusetts and RecycleCT are comprehensive education and outreach programs geared toward residential recycling. RecycleSmart and RecycleCT use consistent messaging, a multichannel approach (i.e., social media, printed ads, website), engaging and timely content, Recyclopedia ("Can I recycle this?") search tools, etc. They have also created materials for cities and towns to use in their own education campaigns, including "<a href="#">Oops tags</a>", which inspectors can leave on recycling bins that are contaminated.</p>	<p>Oops tags could/should also identify when recyclables are in the trash. (Bumper stickers are stuck permanently, wire twist tags or post-it stickers are easily removed).</p> <p>Need a consistent message (like RecycleSmart) to reduce confusion.</p>



	<p>For the commercial sector, tailored education for specific business types is needed. See RecyclingWorks in MA example above, which provides this type of specific education.</p> <p>Focus on key problem materials to reduce contamination. Plastic bags, tangles (e.g. hoses, wires), and textiles have been long time culprits. Increasingly, bioplastics are becoming a challenge because they often look like traditional plastic but are compostable. We are confronting a lot of confusion about compostable-ware among consumers and commercial entities that use it.</p>	As with any outreach there are hard to reach segments with language barriers, no internet, etc.
Measures to support new end-market development to attract manufacturers that use recycled content in their product manufacturing, including recycled content standards for glass, plastic film, fiber, polypropylene (including minimum recycled content requirements)	MassDEP has been successful using <a href="#">Recycling Business Development Grants</a> to attract private investment in certain types of infrastructure. Other development incentives would include expedited permitting, decreased fees, and tax credits.	As noted above, infrastructure investment can be challenging due to the chicken and egg conundrum.
Encourage/Incentivize the development and siting of processing plants/end markets	Evaluate the future opportunity for would-be investors and sell them on the opportunity. For example, when the MassDEP was trying to incentivize gypsum wallboard processors to move to MA, processors wanted to know exactly how much gypsum scrap would be available to them.	Education & outreach is important or end-sites end up with dirty low value materials

**3. For any solution identified in Question 1, please describe the types of implications or benefits that the solution provides with respect to:**

**a. Sustainability - environmental benefits:**

Implementing wasted food management strategies across the food recovery hierarchy yields measurable carbon emissions reductions as compared to disposal. The table below shows emissions reduction factors associated with each strategy according to the U.S. EPA's Waste Reduction Model. The third column presents a hypothetical spread over



these strategies assuming that Connecticut achieves a 50% organics diversion rate. As shown, total CO<sub>2</sub> emissions reductions would be between 100,000 and 174,000 tons based on whether organics are diverted from incineration or landfilling.

	<b>Offset compared to combustion w/energy capture (t CO<sub>2</sub>/t food)</b>	<b>Offset compared to landfilling (t CO<sub>2</sub>/t food)</b>	<b>Assumed diversion rate (%)</b>
Prevention	3.6	4.3	5
Donation	1.8	2.3	10
Compost	0.09	0.7	15
Anaerobic digestion	0.06	0.6	20
<b>Total CO<sub>2</sub> emissions reductions assuming 50% diversion from disposal (260,000 t)</b>	<b>100,230</b>	<b>174,200</b>	

#### **b. Reducing costs:**

In 2016, the MassDEP commissioned a study of the economic impacts of the state's organics ban. The study found that the ban had led to an increase of 900 jobs in related industries, \$77 million in increased Gross State Product, and \$5 million in state and local tax revenue. Find the full report [here](#). Based on these results and experiences in other states, enhanced organics diversion and recycling would lead to the following economic benefits for Connecticut:

1. Job growth and retention in small and emerging businesses by jumpstarting the fledgling food waste hauling and processing industries.
2. Job growth and retention for food waste processors and haulers through increased demand for processing and hauling capacity as a result of increasing the number of generators seeking outlets for their food and organic waste.
3. Job retention and increased economic sustainability of food waste generating businesses by implementing source reduction and identifying the most cost-effective diversion strategies.
4. Increased environmental sustainability of food waste generating businesses by helping them implement the Food Recovery Hierarchy.
5. Increased donations of potentially wasted food to food rescue organizations, helping feed more food insecure people in Connecticut.

#### **4. Would you be interested or willing to present to the Coalition or a Coalition working group on solutions you've highlighted...**

CET presented to the Organics Working Group on October 9 and would be happy to return as well as to present to the Increasing Recycling group at any time.

**5. DEEP can play an important role in advancing sustainable materials management solutions, including: issuing RFPs for long-term energy contracts to support anaerobic digestion facilities; providing grants for collection trucks powered by compressed natural gas (CNG) or electricity through the Volkswagen settlement; employing different approaches to permitting innovative technologies; and streamlining permitting processes. Are there things that DEEP should do differently in its approach to any of the aboveroles/functions, that would better support sustainable materials management in Connecticut?**

As mentioned in our comments above, CT DEEP could do more to enforce existing organics and mandatory recycling laws. This will help signal to all marketplace actors that the laws are taken seriously, which can help foster compliance and buy-in among businesses and the hauling industry, and help attract investment in infrastructure. To make more

enforcement and education/technical assistance possible, CT DEEP should look to develop a mechanism for long-term funding of a program like RecyclingWorks through WTE credits, tip fee assessments, bonds, or appropriations in order to jumpstart, grow, and support a robust marketplace.

**6. Are there any solutions that you would like the Coalition to know about that do not fit within the Focus Areas above?**

Based on Connecticut's most recent C&D waste characterization study, C&D waste appears to be another important lever for reducing the solid waste stream. RecyclingWorks in Massachusetts developed these [Construction & Demolition Materials Best Management Practices](#) to help bolster the marketplace. RecyclingWorks in MA also offers a C&D Pilot Program. Participating projects receive free technical assistance from a consultant to write a waste management plan, identify target materials for reuse/recycling, connect to recycling/reuse outlets, and advisement on successfully executing the waste management plan.

Deconstruction and building materials reuse reduces C&D waste while creating jobs and yielding significant environmental benefits. In addition, there are the societal benefits of making home improvement more attainable and affordable for low- and moderate-income households who incorporate used building materials in home improvement projects. CET is interested in exploring local policies and incentives that would increase deconstruction and capture of reusable building materials.

A few market observations: Gypsum (clean scrap) seems like the material with the best opportunity for source separation, however the local market is currently limited. Projects that recycle gypsum currently ship to USA Gypsum in Pennsylvania. This recycling market would be more affordable/viable if there were a market in New England (a processing facility that could separate the paper from the gypsum, as well as a gypsum manufacturer that accepted the recycled materials as feedstock). Recycled asphalt shingles can be used as a feedstock for asphalt pavement, when allowed. In MA, a barrier has been that the MassDOT does not permit this as a feedstock.

**7. Are there any aspects of the Focus Areas, listed above, that the Coalition should not consider...**

Not in our opinion.