

JOINT STANDING COMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES  
Room 216, Cross State Office Building

September 10, 2015

10:00 a.m.

AGENDA

- 10:00 a.m. Welcome, introductions, overview of meetings and discussion of process
- 10:10 a.m. Overview of First Regular Session solid waste bills  
➤ *Dan Tartakoff, legislative analyst, Office of Policy and Legal Analysis*
- 10:15 a.m. The Future of Materials Management in Maine  
➤ *Dr. Cynthia Isenhour et. al, Materials Management Research Group, Mitchell Center*
- 11:00 a.m. Topic Discussion #1: Composting/recycling/source reduction  
➤ *Kendall Hinkley, Garbage to Garden*  
➤ *Dan Bell, Exeter Agri-Energy*  
➤ *Jeff McBurnie, Casella Organics*  
➤ *Victor Horton, Maine Resource Recovery Association*  
➤ *Geoff Herman, Maine Municipal Association*
- 11:50 p.m. Topic Discussion #2: Solid waste fees  
➤ *Dan Tartakoff, OPLA; discussion of solid waste fee statutes*
- 12:00 p.m. Break for lunch (1 hour; may be less depending on if morning runs late)
- 1:00 p.m. Topic Discussion #3: Landfilling  
➤ *Michael Barden, Department of Economic and Community Development*  
➤ *Karen Flanders, Jeremy Labbe, Casella*  
➤ *Jeff McGown, Waste Management*  
➤ *Mark Draper, Tri-Community Landfill*
- 1:40 p.m. Topic Discussion #1: Composting/recycling/source reduction (continued)  
➤ *Dan Tartakoff, OPLA; CT/MA/VT food waste composting mandates*  
➤ *Greg Dugal, Maine Restaurant Association*
- 2:00 p.m. Topic Discussion #4: Waste-to-energy/alternative energies  
➤ *Joe Kazar, Mid-Maine Waste Action Corporation*  
➤ *Kevin Roche, ecomaine*  
➤ *Peter Prata, Penobscot Energy Recovery Company*  
➤ *Greg Lounder, Municipal Review Committee*  
➤ *Richard Geisser, ReEnergy*
- 3:00 p.m. Adjourn



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CATHERINE BREEN, DISTRICT 25

DANIEL TARTAKOFF, LEGISLATIVE ANALYST  
TYLER WASHBURN, COMMITTEE CLERK



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STATE OF MAINE  
ONE HUNDRED AND TWENTY-SEVENTH LEGISLATURE  
COMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES

MEMORANDUM

To: Interested parties, Environment and Natural Resources Committee  
From: Senator Tom Saviello, Representative Joan Welsh, Committee Chairs  
Date: May 28, 2015  
Re: ENR interim meetings on solid waste

As many of you know, the ENR Committee considered a number of bills this session relating to various aspects of Maine's solid waste management structure. The Committee ultimately decided to carry over a broadly-worded concept draft on solid waste – LD 313 – and to vote “ought not to pass” on the remaining solid waste bills (LDs 659, 712, 947 and 1204). It is the Committee's intent to hold at least 3 interim meetings to discuss issues raised by these bills and other proposals relating to solid waste management and to develop comprehensive legislation for incorporation as an amendment to LD 313 during the Second Regular Session next January.

The topics or issues to be addressed during these interim meetings include:

- Providing incentives for and encouraging the increased use of methods of source reduction, reuse, recycling and composting as a means of achieving the state-mandated recycling goal of 50% under Title 38, section 2132, together with a method for accurately measuring future achievements toward that goal;
- Determining the future role of waste processing, including the role and stabilization of the 3 existing waste-to-energy facilities in the State;
- Determining the future role of landfills and the need for future expansion of landfill capacity, including state-owned landfills;
- Identifying additional strategies for increasing and removing barriers to beneficial use of waste materials, particularly where potential economic benefits may be derived from these materials;

- Evaluating the waste management hierarchy developed in 2012 by the federal Environmental Protection Agency, as well as any waste hierarchies adopted by other states, to determine whether the existing solid waste management hierarchy in Title 38, section 2101 should be revised;
- Identifying methods of increasing municipal composting of organic waste as well as investigating the possibility of requiring composting for large generators of food waste;
- Encouraging the development of anaerobic digestion facilities, as well as developing partnerships between those facilities and companies or businesses that produce animal wastes (both farm and marine related wastes);
- Developing methods of increasing composting, recycling and source reduction rates statewide, with a primary focus on increasing composting;
- Examining the solid waste disposal fee structure currently in statute with consideration of the revision of the fee structure to better align with the solid waste hierarchy;
- Investigating options for expanding recycling opportunities in rural areas, including the development of recycling programs through licensed bottle redemption centers; and
- Developing any other components of an overall comprehensive materials management implementation plan necessary and appropriate to better advance the goals of the State's solid waste management hierarchy under Title 38, section 2101.

The Committee has requested approval for at least 3 interim meetings, which would likely be held in the fall. Unless otherwise specified, all meetings will be held in the ENR Committee room (Room 216, Cross Building) and will be open to the public. Advance notice of each meeting will be provided via the interested parties list.

The Committee may invite certain individuals or organizations to make brief presentations at the meetings, but the meetings will primarily be used by the Committee to collect information on the listed topics and to develop specific proposals relating to those topics for implementation as legislation next session.

Should you have any questions regarding these meetings, please contact our legislative analyst, Dan Tartakoff, at 287-1670.

Thank you.

cc: Members, Environment and Natural Resources Committee



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

AVERY T. DAY  
ACTING COMMISSIONER

MEMORANDUM

TO: Joint Standing Committee on Environment and Natural Resources  
FROM: David R. Madore, Director of Communications, Education and Outreach  
RE: ENR Interim Meeting  
DATE: September 8, 2015

Thank you for reaching out to the Department regarding the Committee's work on materials management issues. Due to personnel changes at the Department, we are not in a position to send someone to the Committee's September 10<sup>th</sup> meeting, but do not want to foreclose attending other meetings. I will also hasten to add that the time the Legislature is not in session is always a busy time for the Department. We are getting out in the field as much as possible during our short field season, and are busy implementing the programs that we discuss with the Legislature every January-May. Additionally, we have two solid waste/materials management permit applications which have been accepted for processing; one of which statutorily requires a full adjudicatory hearing.

Below are some brief answers to the questions you sent along. As you recall, the Department provided information to the Committee during the session regarding materials management issues and further information regarding this topic is found in our 5-year materials management plan, which was submitted last year. Please visit our website at <http://www.maine.gov/tools/whatsnew/attach.php?id=61576&an=1> to view the 5-year plan. I have also attached a timeline charting the implementation of our strategies and goals.

- (1) What efforts, current or future, is the Department making in supporting composting programs or initiatives across the State? What barriers does the Department see to improving these programs/initiatives as well as the overall composting rate?

The Department is working with dozens of municipalities, businesses, schools, and hospitals to help them establish composting programs or improve their existing operations. On a daily basis, Department staff provides phone or field support, evaluating siting options, discussing potential customers and waste suppliers, transportation options, and the many other aspects involved in successfully diverting organics from disposal.

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PRESQUE ISLE, MAINE 04769  
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- (2) Does the Department have an opinion on the efficacy of the current solid waste disposal fee schedule (38 MRSA s. 2203-A), in particular, whether the fee schedule properly supports the solid waste management hierarchy? Would the Department support any changes to the fee schedule that would better align the assessed fee amounts with the hierarchy?

Any increases to disposal fees would place a significant burden on municipal budgets, where waste management is already one of their largest expenses.

- (3) Is the current capacity of the State's landfills adequate to meet our future waste management needs? Do you foresee the need for expansion of landfill capacity in the near future?

The Department submits an annual report to the ENR evaluating long-term landfill capacity, and has identified that there is sufficient capacity for at least the next 30 years.

- (4) What efforts, current or future, has the Department made in supporting beneficial reuse programs or initiatives across the State? What barriers does the Department see to improving these programs/initiatives?

The Department revised our regulations for beneficial use in 2014 to allow more waste materials to be beneficially used through a streamlined permitting process. This was accomplished by aligning the screening standards for risk analyses with the residential remediation guidelines provided by the Maine CDC.

- (5) Has there been any improvement in the past few years in the recycling rate, as measured for the purposes of determining compliance with the State recycling goal in 38 MRSA s. 2132? What barriers does the Department see to meeting the 50% goal and what initiatives or proposals does the Department have that might help the State meet that goal?

The recycling rate has increased only slightly to just over 40%. This is due to the low value of recyclables in comparison to virgin materials, particularly impacted by low oil prices and low costs for goods from foreign markets.

- (6) Are there any other proposals, initiatives or legislative or regulatory changes that the Department suggests or would support that would help the State better manage its solid waste needs?

The Department plans to continue evaluating and revising our regulations for solid waste to encourage diversion from disposal and to support innovative technologies to utilize waste materials to generate products and fuels.

	1st Q '14	2nd Q '14	3rd Q '14	4th Q '14	1st Q '15	2nd Q '15	3rd Q '15	4th Q '15	1st Q '16	2nd Q '16	3rd Q '16
<b>A. Strategies and Actions to Promote Organics Management and New Technologies</b>											
Provide technical & regulatory assistance to support development of regional/co-located processing facilities	◆-----										
Develop solid waste management regulations specific to the licensing and operation of conversion technologies.	-----◆-----										
Provide technical and regulatory assistance to support development of local food scrap composting operations. Engage agricultural community to identify/address needs to increase participation in food scrap composting.	◆-----										
Assist food scrap generators to identify and work with facilities that offer alternatives to disposal.	◆-----										
Develop outreach and education strategy to assist food scrap generators with separation programs.	◆-----										
Develop case studies of successful organics separation and management operations, highlighting strategies for addressing potential issues.	-----◆-----										
<b>B. Strategies and Actions to Increase Beneficial Use and Recycling</b>											
Update recycling promotional campaign materials, develop additional materials for other diversion strategies, and maintain online.	-----◆-----										
Coordinate with other Northeast States to develop regional approaches to support the development of recycling options for discarded mattresses and carpet.	◆-----										
Identify and remove unnecessary barriers to the use of CDD wood as fuel, including review of waste characterization protocols.	-----◆-----										
Explore opportunities to provide incentives for the use of municipally-generated CDD wood as biomass fuel.	-----◆-----										
Update non-hazardous waste transporter regulations to reduce/remove requirements that no longer significantly improve environmental outcomes.	-----◆-----										
Evaluate collection strategies for single-use (primary) batteries, antifreeze, and small gas cylinders, or other difficult to dispose of products.	-----◆-----										
<b>C. Strategies and Actions to Support Municipalities and Businesses</b>											
Develop and distribute waste diversion measurement tool for municipalities.	-----◆-----										
Identify measurement tools for municipal and business entities to evaluate environmental impacts of materials mangmnt systems, including greenhouse gas emissions.	-----◆-----										
Continue program activities related to education, collection and proper disposal of unwanted pharmaceuticals and medical sharps	◆-----										
Provide assistance to municipalities and businesses to improve collection and recycling of electronic wastes, mercury containing products, and architectural paint.	◆-----										
Update and distribute building deconstruction guidance.	-----◆-----										
Provide for positive public recognition of entities that have changed their processes/systems that result in significant diversion of materials from disposal.	-----◆-----										
<b>D. Strategies and Actions to Provide Reliable Data to Support Sustainable Materials Management</b>											
Collect, utilize and disseminate reliable data to calculate statewide recycling and diversion rates for MSW and other solid wastes	-----◆-----										
Develop & implement standardized data collection & management procedures & requirements for reporting of marketed recyclables by materials processors & brokers.	-----◆-----◆-----										
Develop and publish annual waste generation, diversion and disposal rates for industrial wastes.	-----◆-----◆-----										
Continue to develop and publish annual waste generation rates for MSW, including CDD.	-----◆-----										
Assist municipalities in tracking of municipal recycling rates by developing & distributing a model methodology for calculating this determination.	◆-----◆-----										
Collect, utilize & disseminate data on annual waste diversion through beneficial use, agronomic utilization, anaerobic digestion, and waste conversion practices.	-----◆-----										
<b>Symbols</b>  Task Timeline  Ongoing task  Discreet Task											

**ENVIRONMENT AND NATURAL RESOURCES COMMITTEE**  
List of Solid Waste-Related DEP Reports to Legislature, 2010-2015

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- (1) Maine Solid Waste Generation and Disposal Capacity Report: For Calendar Year 2013. January 2015.
- (2) Maine Materials Management Plan: 2014 State Waste Management and Recycling Plan Update & Waste Generation and Disposal Capacity Report. January 2014.
- (3) Waste Generation and Disposal Capacity Report For Calendar Year 2011. March 2013.
- (4) Municipal Landfill Closure & Remediation Program: History and Future Program Requirements For Protecting our Investment in Maine's Future. January 2012.

\* It does not appear that any solid waste-related reports were issued by DEP in 2010 or 2011.

\*\* All reports above are available online at <http://www.maine.gov/dep/legislative/reports.html>. Hard copies of these reports are also available for viewing in the ENR Committee "library."

**ENVIRONMENT AND NATURAL RESOURCES COMMITTEE**  
Overview of First Regular Session Solid Waste Bills and Committee Discussions

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**LD 313, An Act To Create a Sustainable Solution to the Handling, Management and Disposal of Solid Waste in the State** (Campbell; carry-over approved)

- Broadly-worded concept draft relating to solid waste;
- Carried over by ENR with intention of using interim meetings to develop legislation for incorporation as an amendment to LD 313.

**LD 659, Resolve, To Increase Recycling in Maine through Increased Composting and Energy Recovery from Organic Wastes** (Welsh; unanimous ONTP)

- Would have directed DEP, with input from stakeholders, to develop a comprehensive strategy to increase composting of food and other organic waste and to report back strategy and recommendations to ENR;
- Included directive for DEP to study possibility of a commercial food waste ban for large generators of food waste located within 40 miles of a food waste composting or processing facility.

**LD 712, An Act To Increase Organic Waste Recycling in the State** (Harlow, unanimous ONTP)

- Would have directed DEP to implement and administer an organic waste recycling pilot program with municipal and state government participants;
- DEP would have collected information on the pilot program successes and failures and reported this information along with any recommendations to ENR.

**LD 947, An Act To Fund State Efforts to Reduce the Landfilling of Solid Waste** (Chipman, unanimous ONTP)

- Originally proposed as a concept draft, Rep. Chipman introduced a drafted amendment at the public hearing that would remove exemptions from the municipal solid waste disposal surcharge and use those additional funds to support programs to improve recycling, source reduction, beneficial reuse, recycling and composting rates.

**LD 1204, An Act To Increase Recycling and Composting by Creating the Maine Recycling Fund** (Cushing, unanimous ONTP)

- As proposed for amendment by the sponsor at the public hearing, this bill would have phased out 46 oz. and larger beverage containers from the bottle bill program and would have required manufacturers to continue to pay a fee for those exempt containers through 2022;
- Those manufacturer-paid fees would be credited to a program and corresponding fund to assist municipalities and others in increasing recycling and diversion rates statewide.

## ENR Committee discussion on above bills, May 7 and 11, 2015

- Support for reexamining solid waste fee structure, to better support hierarchy;
- Interest in finding funding mechanism for increasing municipal composting and recycling rates;
- Need to incentivize commercial and residential composting. Organic waste disposal bans may be premature at this point;
- Some municipalities have already implemented composting programs. Need to support and expand those programs (technical and financial assistance);
- Regional collaboration and focus, rather than statewide, may better serve the waste management needs of the state;
- Proposal to create a grant program available in public and private sectors to develop or expand composting programs. Issue is funding source for grants. Can expand funding opportunities by matching funding/in-kind contributions;
- Possible funding source = unclaimed funds from bottle bill (need to look further into this – unclaimed, non-commingled funds were \$1.8 million last year, deposited into General Fund) or removing certain larger containers from bottle bill program in a manner similar to that proposed in LD 1204;
- Proposals to expand recycling and composting programs to licensed bottle redemption centers, to encourage better anaerobic digestion of waste and to prioritize composting programs over recycling or source reduction programs;

ENVIRONMENT AND NATURAL RESOURCES COMMITTEE  
Solid Waste Disposal/Handling Fee Statutes

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**SOLID WASTE HANDLING FEES – 38 MRSA §2203-A**

Current statute

**§2203-A. Waste handling fees**

1. **Fees.** Fees are imposed in the following amounts to be levied for solid waste that is disposed of at commercial, municipal, state-owned and regional association landfills.

Asbestos	\$5 per cubic yard
Oil-contaminated soil, gravel, brick, concrete and other aggregate	\$25 per ton
Waste water facility sludge	\$5 per ton
Ash, coal and oil	\$5 per ton
Paper mill sludge	\$5 per ton
Industrial waste	\$5 per ton
Sandblast grit	\$5 per ton
All other special waste	\$5 per ton
Municipal solid waste ash	\$1 per ton
Front end process residue (FEPR)	\$1 per ton
Beginning January 1, 2013 and ending December 31, 2013, construction and demolition debris and residue from the processing of construction and demolition debris	\$1 per ton
Beginning January 1, 2014, construction and demolition debris and residue from the processing of construction and demolition debris	\$2 per ton

2. **Exceptions.** Notwithstanding subsection 1:

A. A municipal or regional association landfill that has accepted 12,000 tons or more of special waste, other than municipal solid waste ash, asbestos and oil-contaminated soil,

gravel, brick, concrete and other aggregate, in calendar year 1998 shall continue to pay \$2 per ton to the department for those categories of waste accepted in that calendar year;

B. A municipal or regional association landfill shall continue to pay \$2 per ton to the department on all categories of special waste other than municipal solid waste ash, asbestos and oil-contaminated soil, gravel, brick, concrete and other aggregate that was generated by the municipality or regional association and accepted for disposal in its landfill in calendar year 1998;

C. A municipal or regional association landfill that has accepted 550 tons or more of oil-contaminated soil, gravel, brick, concrete and other aggregate in calendar year 1998 shall pay \$5 per ton for that category of waste; and

D. A fee may not be imposed under this section on construction and demolition debris or residue from the processing of construction and demolition debris disposed of at a municipal or regional association landfill that is less than 6 acres in size and accepts only inert fill, construction and demolition debris, debris from land clearing and wood wastes.

#### Statutory history

- **1989 enactment/amendment (PL 1989, c. 585 and 869)** – set fees on special waste as follows:
  - For commercial landfills: \$6/cubic yard for asbestos; \$25/ton for oil spill debris; \$6/ton for residuals from soil decontamination, ash, coal, oil, paper mill sludge, industrial waste, sandblast grit, miscellaneous special waste; \$2/ton for waste water facility sludge and MSW ash.
  - For municipal and regional association landfills: \$2/cubic yard for asbestos; \$25/ton for oil spill debris; \$2/ton for all other special waste.
- **1991 amendment (PL 1991, c. 517)**
  - Imposed additional \$2/ton fee on imported special wastes for disposal.
- **1999 amendment (PL 1999, c. 385)**
  - Repealed existing §2203 with most of current §2203-A.
- **2011 amendment (PL 2011, c. 544)**
  - Extended waste handling fees for special wastes disposed of at state-owned landfills.
  - Added per ton fee for CDD and residue from CDD processing (\$1/ton in 2013, increasing to \$2/ton in 2014), with exception for certain small municipal or regional association landfills.

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### **SOLID WASTE DISPOSAL SURCHARGE – 38 MRSa §2204**

#### Current statute

#### **§2204. Municipal solid waste disposal surcharge**

The department shall impose a fee of \$2 per ton on any municipal solid waste disposed of at a commercial, municipal or regional association landfill, except that there is no fee on municipal solid waste generated by a municipality that owns the landfill accepting it or that has

entered into a contract with a term longer than 9 months for disposal of municipal solid waste in that landfill facility.

Statutory history

- **1989 enactment/amendment (PL 1989, c. 585 and 869)**
  - Imposed disposal surcharge of \$4/ton on any MSW “disposed of at a commercial landfill facility.”
  - Additional \$1.50/ton surcharge assessed on any MSW from a municipality “delivered to a commercial solid waste disposal facility or solid waste disposal facility owned by the [Maine Solid Waste Management] agency or a regional association” if that municipality has failed to “make reasonable progress” towards the state recycling goal. The goal at the time was 25% of MSW generated (increasing to 50% in 1994).
  - Another provision in the same omnibus law prohibited a municipality from delivering MSW to a state-owned solid waste disposal facility if it “fails to provide recycling opportunities to its residents.”
- **1991 amendment (PL 1991, c. 517)**
  - Repealed and replaced prior statute.
  - Disposal surcharge of \$4/ton on any MSW disposed of at commercial landfill facility.
  - Imposed \$1.50/ton fee on any municipality failing to make reasonable progress toward the state recycling goal for any MSW it exports from the State or delivers for disposal to a commercial, agency or regional association solid waste disposal facility.
  - Imposed \$4/ton fee on any MSW originating outside the State that is delivered for disposal to a commercial, agency or regional association solid waste disposal facility.
- **1995 amendment (PL 1995, c. 465)**
  - Repealed provision imposing \$1.50/ton fee on MSW from municipality failing to make reasonable progress towards state recycling goal.
- **1999 amendment (PL 1999, c. 385)**
  - Essentially repealed and replaced existing statute with current §2204, which imposes a \$2/ton fee with certain exemptions.

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**PREVIOUS SESSION BILLS RELATING TO SOLID WASTE FEES (2007-2015)**

127th Legislature (2015-16)

- LD 105, An Act To Enhance the Competitiveness of Maine’s Biomass Facilities by Exempting from Waste Handling Fees Certain Construction and Demolition Debris (Libby, ONTP)
  - Would have prohibited the imposition of a \$2/ton waste handling fee for the disposal of CDD or residue from the processing of CDD used for daily cover.
- LD 947, An Act To Fund State Efforts To Reduce the Landfilling of Solid Waste (Chipman, ONTP)
  - Would have eliminated most exemptions from disposal surcharges for the disposal of solid waste at landfills.
  - Revenues would be used to support composting, recycling and source reduction programs.

126th Legislature (2013-14)

- LD 907, *An Act To Encourage Recycling* (Stanley, ONTP)
  - Would have imposed a \$15/ton fee on the disposal of solid waste at solid waste disposal and solid waste processing facilities, as well as on the movement of solid waste from one facility to another.
  - Revenues from this fee would be used to provide grants, with grant priority given to municipalities based on their recycling rates.
  
- LD 1483, *An Act To Promote and Enhance State Policy To Preserve and Support Existing Methods of Disposal of Municipal Solid Waste* (Cain, PL 2013, c. 458)
  - Would have imposed on each State-licensed landfill a solid waste stabilization assessment fee on all solid waste deposited at the landfill. Revenues from the fee would be paid to municipalities and recycling and composting programs.
  - Ultimately enacted as Public Law 2013, chapter 458 with a new title (*An Act To Implement the Solid Waste Management Hierarchy*) and new content not relating to waste fees.

125th Legislature (2011-12)

- LD 524, *An Act To Charge a Fee for Garbage Disposal To Encourage Recycling* (Bolduc, ONTP)
  - Concept draft. Would have established a fee, to be collected and retained by a municipality, to offset municipal solid waste collection and disposal costs.
  
- LD 1278, *An Act To Stabilize Solid Waste Management Funding* (Duchesne, PL 2011, c. 544)
  - As enacted, the bill establishes fees on the disposal of CDD and residue from the processing of CDD. Beginning January 1, 2013, the fee imposed is \$1/ton and beginning January 1, 2014, the fee is \$2/ton. Revenues from the fees are to be used only for the State's obligations under the closure and remediation cost-sharing program for municipal solid waste landfills.

**3. Indebtedness.** To provide an annual sum equal to not less than 2% nor more than 10% of the term indebtedness represented by the issuance of bonds created or assumed by the bureau, which sum must be turned into a sinking fund and there maintained to provide for the extinguishment of term indebtedness. The money set aside in this sinking fund must be devoted to the retirement of the term obligations of the bureau and may be invested in such securities as savings banks in the State are allowed to hold;

[ 2011, c. 655, Pt. GG, §62 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

**4. Principal payments.** To provide for annual principal payments on serial indebtedness created or assumed by the bureau;

[ 2011, c. 655, Pt. GG, §62 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

**5. Contingency reserve fund allowance.** To provide for a contingency reserve fund allowance by providing rates to reflect up to a 5% addition to yearly revenues over that required to operate the facility;

[ 1989, c. 585, Pt. A, §7 (NEW) .]

**6. Closing reserve fund.** To provide for a closing and monitoring reserve fund by providing rates which, over the expected life span of the facility including the post-closure monitoring period, will generate the amount determined to be necessary by the department in its licensing process under chapter 13; and

[ 1989, c. 585, Pt. A, §7 (NEW) .]

**7. Compliance costs.** To provide for the costs associated with licensing, compliance and enforcement efforts of the department.

[ 1989, c. 585, Pt. A, §7 (NEW) .]

#### SECTION HISTORY

1989, c. 585, §A7 (NEW). 1995, c. 656, §§A59,60 (AMD). 2011, c. 655, Pt. GG, §62 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

### §2193. HOST MUNICIPALITY FEES

The bureau may set fees under this article for the host municipality at a level lower than the fees charged to other municipalities or users, as long as the lower fees are set in a manner consistent with the rules adopted by the bureau. [2011, c. 655, Pt. GG, §63 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

#### SECTION HISTORY

1989, c. 585, §A7 (NEW). 1995, c. 656, §A61 (AMD). 2011, c. 655, Pt. GG, §63 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

Article 2: MAINE SOLID WASTE MANAGEMENT  
FUND HEADING: PL 1989, C. 585, PT. A, §7 (NEW)

### §2201. MAINE SOLID WASTE MANAGEMENT FUND ESTABLISHED

The Maine Solid Waste Management Fund, referred to in this section as the "fund," is established as a nonlapsing fund to support programs administered by the bureau and the Department of Environmental Protection. The fund must be segregated into 2 subsidiary accounts. The first subsidiary account, called operations, receives all fees established and received under article 1. The 2nd subsidiary account, called administration, receives all fees established under this article and under Title 36, chapter 719 and all funds

recovered by the department as reimbursement for departmental expenses incurred to abate imminent threats to public health, safety and welfare posed by the illegal disposal of solid waste. [2011, c. 655, Pt. GG, §64 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

Money in the fund not currently needed to meet the obligations of the department or bureau must be deposited with the Treasurer of State to the credit of the fund and may be invested as provided by law. Interest on these investments must be credited to the fund. [2011, c. 655, Pt. GG, §64 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

Funds related to administration may be expended only in accordance with allocations approved by the Legislature for administrative expenses directly related to the bureau's and the department's programs, including actions by the department necessary to abate threats to public health, safety and welfare posed by the disposal of solid waste. Funds related to fees imposed on the disposal of construction and demolition debris and residue from the processing of construction and demolition debris may be expended only for the state cost share to municipalities under the closure and remediation cost-sharing program for solid waste landfills established in section 1310-F. Funds related to operations may be expended only in accordance with allocations approved by the Legislature and solely for the development and operation of publicly owned facilities owned or approved by the bureau and for the repayment of any obligations of the bureau incurred under article 3. These allocations must be based on estimates of the actual costs necessary for the bureau and the department to administer their programs, to provide financial assistance to regional associations and to provide other financial assistance necessary to accomplish the purposes of this chapter. Beginning in the fiscal year ending on June 30, 1991 and thereafter, the fund must annually transfer to the General Fund an amount necessary to reimburse the costs of the Bureau of Revenue Services incurred in the administration of Title 36, chapter 719. Allowable expenditures include "Personal Services," "All Other" and "Capital Expenditures" associated with all bureau activities other than those included in the operations account. [2011, c. 655, Pt. GG, §64 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

#### SECTION HISTORY

1989, c. 585, §A7 (NEW). 1989, c. 596, §H (AMD). 1989, c. 927, §7 (AMD). 1991, c. 517, §B15 (AMD). 1991, c. 528, §§R12,13 (AMD). 1991, c. 528, §RRR (AFF). 1991, c. 591, §§R12,13 (AMD). 1991, c. 824, §A88 (RPR). 1993, c. 410, §C8 (AMD). 1995, c. 395, §P8 (AMD). 1995, c. 395, §P11 (AFF). 1995, c. 465, §A72 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §§A62,63 (AMD). 1997, c. 1, §E2 (AMD). 1997, c. 24, §C15 (AMD). 1997, c. 526, §14 (AMD). 2001, c. 315, §5 (AMD). 2005, c. 618, §21 (AMD). 2011, c. 429, §7 (AMD). 2011, c. 544, §1 (AMD). 2011, c. 655, Pt. GG, §64 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

### §2201-A. SUNSET; LEGISLATIVE INTENT

*(REPEALED)*

#### SECTION HISTORY

1989, c. 927, §8 (NEW). 1993, c. 410, §EE1 (RP).

### §2202. FEES

1. **Fees established.** The department shall establish procedures to charge fees specified in this article and pursuant to the requirements of this article. All fees collected by the department under this article must be deposited into the Maine Solid Waste Management Fund.

[ 1995, c. 465, Pt. A, §73 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

#### 2. Application.

[ 2011, c. 544, §2 (RP) .]

**3. Payment.** A person who delivers solid waste to a solid waste disposal facility shall pay all fees established under this article to the operator of the solid waste disposal facility.

[ 1993, c. 310, Pt. C, §2 (NEW) .]

#### SECTION HISTORY

1989, c. 585, §A7 (NEW). 1993, c. 310, §C2 (AMD). 1995, c. 465, §A73 (AMD). 1995, c. 465, §C2 (AFF). 2011, c. 544, §2 (AMD).

### §2203. FEE ON SPECIAL WASTE

*(REPEALED)*

#### SECTION HISTORY

1989, c. 585, §A7 (NEW). 1989, c. 869, §§A13,20 (RPR). 1991, c. 517, §B16 (AMD). 1995, c. 465, §A74 (AMD). 1995, c. 465, §C2 (AFF). 1999, c. 385, §6 (RP).

### §2203-A. WASTE HANDLING FEES

**1. Fees.** Fees are imposed in the following amounts to be levied for solid waste that is disposed of at commercial, municipal, state-owned and regional association landfills.

Asbestos	\$5 per cubic yard
Oil-contaminated soil, gravel, brick, concrete and other aggregate	\$25 per ton
Waste water facility sludge	\$5 per ton
Ash, coal and oil	\$5 per ton
Paper mill sludge	\$5 per ton
Industrial waste	\$5 per ton
Sandblast grit	\$5 per ton
All other special waste	\$5 per ton
Municipal solid waste ash	\$1 per ton
Front end process residue (FEPR)	\$1 per ton
Beginning January 1, 2013 and ending December 31, 2013, construction and demolition debris and residue from the processing of construction and demolition debris	\$1 per ton
Beginning January 1, 2014, construction and demolition debris and residue from the processing of construction and demolition debris	\$2 per ton

[ 2011, c. 544, §3 (AMD) .]

**2. Exceptions.** Notwithstanding subsection 1:

A. A municipal or regional association landfill that has accepted 12,000 tons or more of special waste, other than municipal solid waste ash, asbestos and oil-contaminated soil, gravel, brick, concrete and other aggregate, in calendar year 1998 shall continue to pay \$2 per ton to the department for those categories of waste accepted in that calendar year; [1999, c. 385, §7 (NEW) .]

B. A municipal or regional association landfill shall continue to pay \$2 per ton to the department on all categories of special waste other than municipal solid waste ash, asbestos and oil-contaminated soil, gravel, brick, concrete and other aggregate that was generated by the municipality or regional association and accepted for disposal in its landfill in calendar year 1998; [2011, c. 544, §3 (AMD) .]

C. A municipal or regional association landfill that has accepted 550 tons or more of oil-contaminated soil, gravel, brick, concrete and other aggregate in calendar year 1998 shall pay \$5 per ton for that category of waste; and [2011, c. 544, §3 (AMD).]

D. A fee may not be imposed under this section on construction and demolition debris or residue from the processing of construction and demolition debris disposed of at a municipal or regional association landfill that is less than 6 acres in size and accepts only inert fill, construction and demolition debris, debris from land clearing and wood wastes. [2011, c. 544, §3 (NEW).]

[ 2011, c. 544, §3 (AMD) .]

#### SECTION HISTORY

1999, c. 385, §7 (NEW). 1999, c. 564, §1 (AMD). 2011, c. 544, §3 (AMD).

### §2204. MUNICIPAL SOLID WASTE DISPOSAL SURCHARGE

The department shall impose a fee of \$2 per ton on any municipal solid waste disposed of at a commercial, municipal or regional association landfill, except that there is no fee on municipal solid waste generated by a municipality that owns the landfill accepting it or that has entered into a contract with a term longer than 9 months for disposal of municipal solid waste in that landfill facility. [1999, c. 385, §8 (AMD).]

#### 1. Landfill surcharge.

[ 1999, c. 385, §8 (RP) .]

#### 2. Recycling progress.

[ 1995, c. 465, Pt. A, §75 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

#### 3. Imported municipal solid waste.

[ 1999, c. 385, §8 (RP) .]

#### SECTION HISTORY

1989, c. 585, §A7 (NEW). 1989, c. 869, §§A14,20 (AMD). 1991, c. 517, §B17 (RPR). 1993, c. 85, §§1,2 (AMD). 1993, c. 310, §C3 (AMD). 1995, c. 465, §§A75,76 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A64 (AMD). 1999, c. 385, §8 (AMD).

### §2205. FEE PAYMENTS

Each operator of a solid waste disposal facility shall make the fee payment quarterly. The fee must be paid to the department on or before the 20th day of April, July, October and January for the 3 months ending the last day of March, June, September and December. [1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

1. **Quarterly reports.** Each fee payment must be accompanied by a form prepared and furnished by the department and completed by the operator. The form must state the total weight or volume of solid waste disposed of at the facility during the payment period and provide any other aggregate information determined necessary by the department to carry out the purposes of this chapter. The form must be signed by the operator.

[ 1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

## ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

### Overview of Connecticut, Massachusetts and Vermont Food Waste Composting Mandates

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#### CONNECTICUT

- In 2011 and 2013, Connecticut enacted legislation mandating the recycling (i.e., composting) of food scraps generated by large-scale generators.
- Starting January 1, 2014, any commercial food wholesaler or distributor, industrial food manufacturer or processor, supermarket, resort or conference center that generates an average projected volume of not less than 104 tons per year of source-separated organic materials must ensure that such materials are recycled at an authorized organic material composting facility, but only if the generator is located within 20 miles of an authorized composting facility and the facility has available capacity for and will accept the generated material.
- Starting January 1, 2020, this same mandate applies to generators of not less than 52 tons of organic materials per year (with the same geographical/availability exemption).
- A generator will be deemed in compliance with the mandate if it composts or treats the generated organic material on site.
- “Source-separated organic material” is organic material, including but not limited to, food scraps, food processing residue and soiled or unrecyclable paper that has been separated at the point or source of generation from nonorganic material.
- The Connecticut Department of Energy and Environmental Protection (CtDEEP) recommends that generators perform a waste assessment or waste audit to determine whether they generate enough organic material to be subject to the mandate.
- CtDEEP’s website contains an interactive geographic map that generators can use to determine if a permitted composting facility is located within 20 miles of the generator.
- There are 3 permitted composting facilities in CT and 3 proposed anaerobic digestion facilities (slated for 2015); however, CtDEEP is applying the mandate to generators within 20 miles of any composting facility, including those located out of state.

#### MASSACHUSETTS

- In 2012, the Massachusetts Department of Environmental Protection (MassDEP) adopted new regulations instituting a commercial food waste ban, set to begin on October 1, 2014.
- Effective October 1, 2014, a statewide ban was implemented on the disposal, transfer for disposal or contract for disposal or transport of commercial organic material and the acceptance of commercial organic material by a landfill, transfer facility or combustion facility, except to handle, recycle or otherwise compost the material.

- “Commercial organic material” is food material and vegetative material from any entity that generates more than one ton of those materials for solid waste disposal per week, but not material from a residence.
- A 2011 EPA/MassDEP study identified more than 6,000 large generators of food waste in Massachusetts. The list included food processors, wholesalers, grocery stores, institutional food service providers and large restaurants. It is unclear whether all of these noted large generators are subject to the later implemented disposal ban.
- A July 2015 MassDEP fact sheet stated there are about 30 permitted composting and anaerobic digestion operations in Massachusetts. These facilities currently have capacity to accept nearly 150,000 tons of organic material annually.
- MassDEP’s “2010-2020 Solid Waste Master Plan” set goals of reducing total solid waste disposal by 30% and diverting at least 35% of source separated organics from disposal by 2020. MassDEP estimates that to meet this goal, over 350,000 tons per year of additional diversion activity will be required, as well as additional organics processing capacity sufficient to handle up to 300,000 tons per year of source separated organic materials.

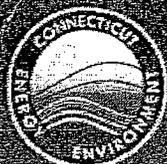
## VERMONT

- In 2012, Vermont enacted the Universal Recycling Law, which prohibits disposal of recyclable materials (metal, glass, plastics #1 and #2 and paper/cardboard) by July 1, 2015; prohibits disposal of yard debris and clean wood by July 1, 2016; and prohibits disposal of food scraps by July 1, 2020.
- These staggered disposal restrictions apply to both residences and businesses.
- The law also contains a corresponding requirement that facilities and haulers that offer trash collection and must also offer collection of recyclables by July 1, 2014; collection of lead and yard debris by July 1, 2015; and collection of food scraps by July 1, 2017.
- Under the law, trash collection facilities and haulers are allowed to include the costs of collecting recyclables in their respective trash collection fees and can charge a separate fee for the collection of leaf and yard debris and food scraps.
- The law contains a more quickly phased-in food scrap diversion mandate for large-scale generators of food scraps located within 20 miles of a certified composting facility. For generators of more than 104 tons per year, the mandate took effect July 1, 2014; for more than 52 tons per year, it took effect July 1, 2015; for more than 26 tons per year, July 1, 2016; and for more than 18 tons per year, July 1, 2017. Starting July 1, 2020, the geographical exemption disappears and all food scraps – commercial and residential – must be diverted.

- Under the law, the state and municipalities must, by July 1, 2015, provide recycling containers in all public buildings and publically owned or controlled land wherever trash cans are located (except in bathrooms).
- From the Vermont Department of Environmental Conservation's website, it appears that there are, as of May 2015, 16 composting facilities located in the state.

#### **IMPACTS OF BANS/MANDATES**

- Unfortunately, because these composting bans or mandates have been in effect for so short a period of time (CT in effect since January 1, 2014; MA in effect since October 1, 2014; VT in effect since July 1, 2014), there does not appear to be any state-collected information available yet on compliance, effect on composting rates, effect on costs, etc.



# Department of ENERGY & ENVIRONMENTAL PROTECTION

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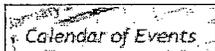
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## Reduce/Reuse/Recycle

- Recycling...It's the Law!
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- Recycling At Home
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## Commercial Organics Recycling Law Information & Guidance for Food Residual Generators



### Background

### What the Law Says

### How to Comply With the Law

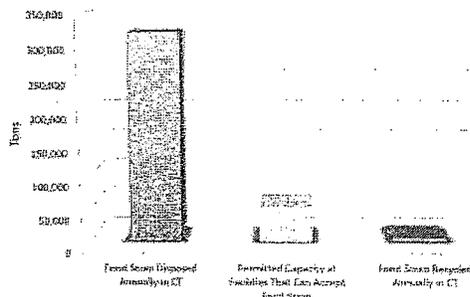
### Letter to Food Business Managers

### Frequently Asked Questions

### Background

Based on a 2010 state-wide composition and characterization study conducted on solid waste disposal in Connecticut, DEEP estimates that 13.5% of the waste stream consists of food - that's nearly 322,000 tons per year of food being thrown away. This number increases to 31.5%, or 750,000 tons per year if other compostable or digestible organics such as soiled paper and yard trimmings are included. However, if all the food residuals that are generated in Connecticut were to be collected, the state would not have adequate capacity at our currently permitted facilities to handle the volume.

In order to help fill this infrastructure gap in processing capacity for wasted food, landmark legislation was passed that guarantees some level of feedstock for potential composting or clean energy facilities. The intent of the law is to provide an incentive and encourage developers of food residual recycling facilities to build in Connecticut thereby creating more opportunity for businesses to recycle food scrap. In the process of expanding our processing capacity, it also will reduce the waste currently going to resource recovery plants that burn the waste, and will create jobs, soil amendments and clean energy. Eventually, there will be enough capacity that even the smallest food scrap generators will be able to benefit. As a result of the law, DEEP has seen an increase in permit application submittals and overall interest in food scrap recycling which will bring more options to Connecticut. Connecticut's law, which was the first in the nation to mandate commercial organics recycling, has been used as a template for legislation in other states and cities as they seek to promote the same benefits of food residual recycling.



### What The Law Says

Public Act 11-217, as amended by Section 4 of Public Act 13-285, provides a phased-in approach to commercial organics recycling. The law (CGS Sec. 22a-226e) says that if you are a commercial food wholesaler or distributor, industrial food manufacturer or processor, supermarket, resort or conference center, **AND** you generate a projected annual volume of 104 or more tons per year of source separated organic material, **AND** you are located within 20 miles of a permitted recycling facility that can accept that material, then you must ensure that those materials are recycled. In 2020, the projected annual volume triggering regulation decreases to 52 tons per year. Other compliance options under the law include on-site composting, or installation of permitted on-site organics treatment equipment.

### How to Comply with the Law

First, determine that your business is in fact subject to the commercial organics recycling law (see above). Even if it is not subject to the law, the more food scrap a business reduces or diverts from disposal, the greater their savings can be. There are a number of ways that a business can comply with the law. These can include any combination of the following:

- Reducing the generation of wasted food through more efficient food service operations. Some entities

access health

Connecticut  
Recovers

have been able to reduce their food residuals by half through these efforts;

- Donate servable food to shelters, food pantries, and food rescue operations;
- Use an on-site system to compost or anaerobically digest food scrap;
- Work with your current hauler or another hauler to send separated food scrap for animal feed;
- Work with your current hauler or another hauler to send separated food scrap to an anaerobic digestion or composting facility.

ORGANIC MATERIAL  
ONLYWHEN IN DOUBT  
KEEP IT OUT

If you have questions, please contact Chris Nelson of the CT DEEP Recycling Program at 860-424-3454. More resources about organics recycling, including a [timeline history](#), can be found on our [Composting and Organics Recycling](#) webpage.

## FAQ - Frequently Asked Questions

Questions	Answers
What is the definition of "source separated organic material"?	<a href="#">Answer</a>
How do I determine if I am 20 miles from a permitted food scrap recycling facility?	<a href="#">Answer</a>
How do I know if I am projected to generate 104 tons/year of SSOM?	<a href="#">Answer</a>
Where are the permitted food scrap recycling facilities located?	<a href="#">Answer</a>
If there is more than one permitted facility within 20 miles of my business, which one do I use?	<a href="#">Answer</a>
Will I be fined for not complying with the law?	<a href="#">Answer</a>
If I already take my food scrap to a permitted facility that is more than 20 miles away, or out of state, do I have to change facilities if one becomes available that is closer?	<a href="#">Answer</a>
Does donating edible food, or sending food residuals to animal feed manufacturers and animal farms for feed count toward compliance with the law?	<a href="#">Answer</a>
If I use on-site equipment that liquefies my food scrap and sends it down the drain to the sewer, is this in compliance with the law?	<a href="#">Answer</a>
If I use on-site equipment that dehydrates my food scraps, is this in compliance with the law?	<a href="#">Answer</a>
If I use on-site equipment that creates energy from food scraps through the use of anaerobic digestion, is this in compliance with the law?	<a href="#">Answer</a>
Are biodegradable products (e.g., compostable plates and cups) included in the definition of source separated organic material (SSOM)?	<a href="#">Answer</a>
Does the law apply to dining services on a university campus?	<a href="#">Answer</a>
Is a one-time event such as a fair subject to the law?	<a href="#">Answer</a>
Are K-12, private, and boarding schools subject to the law?	<a href="#">Answer</a>
Are big-box retail stores that have grocery stores within them (such as Target, Walmart, BJ's, etc.) compelled by the law to recycle food scraps?	<a href="#">Answer</a>
If my company is in CT, and 20 miles from a food scrap recycler in a neighboring state, am I compelled to recycle my food scrap there (or anywhere else)?	<a href="#">Answer</a>
If my company is in Massachusetts which has a ban on commercial food scrap disposal, can I bring my food scrap to a Connecticut resource recovery facility or landfill for disposal (not recycling)?	<a href="#">Answer</a>
Will my company be notified of new recycling facilities as they come on-line?	<a href="#">Answer</a>
My business is part of a chain with multiple locations. How does the 104 ton per year threshold in the law apply to me?	<a href="#">Answer</a>
My business generates source separated organics, but only seasonally. How does the 104 ton per year threshold in the law apply to my facility?	<a href="#">Answer</a>
I am a building or shopping mall owner with multiple businesses within a central facility. Some of those businesses are of the type covered by the law. How does the 104 ton per year threshold apply to my facility?	<a href="#">Answer</a>
If my company has a food donation program, is that quantity of food we donate included in the 104	<a href="#">Answer</a>



## Energy and Environmental Affairs

EEA Home > Agencies > MassDEP > Waste & Recycling > Reduce, Reuse, Recycle > Commercial Food Waste Disposal Ban

### Commercial Food Waste Disposal Ban



#### What Your Organization Needs to Know

A MassDEP ban on disposal of commercial organic wastes by businesses and institutions that dispose of one ton or more of these materials per week takes effect on October 1, 2014. By diverting food wastes from disposal to composting, conversion, recycling or reuse, your organization can not only cut its waste management costs, but potentially save money on purchasing, too. Many businesses and institutions are enjoying these benefits already. MassDEP has conducted months of extensive outreach across the state to help affected organizations prepare for compliance with the disposal ban, and has developed this web page as a one-stop source of information and assistance. [Learn more from Recycling Works in Massachusetts.](#) >

#### Compliance Assistance from RecyclingWorks

There is an [array of options](#) available to your organization for reducing food waste and diverting it from disposal. RecyclingWorks in Massachusetts can help you take the next step in starting or improving an organics diversion program. Follow these links to learn how you can:

- [Estimate How Much Food Waste You Generate](#)
- [Reduce the Volume of Your Food Waste](#)
- [Adopt Food Waste Best Management Practices](#)
- [Donate Unused Food to People Through Food Banks, Soup Kitchens & Shelters](#)
- [Find Haulers & Processing Facilities to Recycle or Compost Your Food Waste](#)

There are also a number of on-site and off-site options for processing food wastes. These include composting, dehydration, pulping, anaerobic digestion, rendering for fats and oils, and use as feed for farm animals.

#### Where Food Waste Comes From & Goes

[Food Waste Generators in Massachusetts](#) 1MB 1MB  
2011 U.S. Environmental Protection Agency (EPA) data update of a 2002 study commissioned by MassDEP that identified major generators of food waste in Massachusetts, including food processors, wholesalers, grocery stores, institutional food service providers and large restaurants.

[Massachusetts Food Waste Generator Map](#) 1MB  
Shows the geographic distribution of the large food waste generators identified in the report above.

[List of Massachusetts Sites Accepting Diverted Food Waste Material. November 2014](#)

#### Regulations & Guidance

[310 CMR 19.000: Final Commercial Organic Material Waste Ban Amendments, January 2014](#)

These regulations ban disposal of food and other organic wastes from businesses and institutions that dispose of more than one ton of these materials per week.

[Commercial Organic Materials Waste Ban Guidance for Businesses, Institutions & Haulers, June 2014](#)   
Compliance information for businesses and institutions that dispose of one ton or more of organic material per week, and their waste management providers.

[Waste Ban Guidance for Operators of Solid Waste Facilities, April 2014](#)   
Includes updated information on compliance with the commercial food waste disposal ban.

[Reducing Food Waste: A How to Guide for Businesses & Institutions, June 2013](#)   
Simple steps your organization can take to reduce food waste and save money.

[Trimming the Fat: Cutting Costs by Reducing Food Waste](#)  
Practical tips for restaurants, supermarkets, commercial food processors and other organizations.

#### Reports, Plans & Data

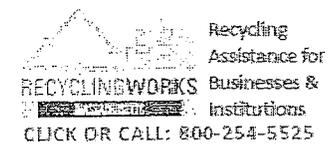
[Massachusetts Organics Action Plan, January 2014](#)   
Outlines initiatives for diverting at least 35 percent of all food waste from disposal statewide by 2020.

[Summary Analysis: Massachusetts Commercial / Institutional Food Waste Generation Data](#)   
2011 U.S. Environmental Protection Agency (EPA) update of a 2002 study commissioned by MassDEP.



[A to Z Quick Links](#)

[Waste & Recycling Index](#)



#### News & Articles

[Pilot biogas project at Massachusetts landfill site complete](#)

[Making Gold From Garbage](#)

[State implements food-waste ban](#)

[Proposed Food Waste Ban to Support Anaerobic Digestion](#)

[Banning food waste: companies in Massachusetts get ready to compost](#)

These facilities can help businesses and institutions comply with the ban on disposal of commercial organics by accepting their food wastes.

[Map Showing Massachusetts Sites Accepting Diverted Food Waste Material, September 2014](#)

Shows the geographic distribution of the sites listed above.

### Case Studies & Success Stories

[Cambridge Commercial Food Materials Composting Program](#)

The city used a MassDEP grant to launch this program in 2006. Working with a vendor, Save That Stuff, the public works department offers food waste recycling services to local business for no more than the cost of trash disposal, and sometimes less. Participants include institutional cafeterias and food service providers, restaurants, supermarkets and more.

[Food is Not Trash: Redefining Wellesley's Waste Culture by Composting](#)

Report prepared by Wellesley College Environmental Studies students in Spring 2013.

[Study: Identification, Characterization & Mapping of Food Waste & Food Waste Generators in Massachusetts, September 2002](#)

Report on the original Draper/Lennon Inc. study, performed for MassDEP.

[Report: On-Site Systems for Processing Food Waste, April 2013](#)

Extensive report submitted to MassDEP by Northeastern University students.

[Food Waste Composting Fact Sheet, July 2015](#)

Provides information on how much food waste is generated and diverted from disposal in Massachusetts, what the state is doing to promote food waste composting, what MassDEP permits and approvals are needed by composting facilities, and how to learn more.

### Related Topics

[Massachusetts Waste Disposal Bans](#)

Commercial food waste is one of a number of easy-to-recycle materials that are banned from disposal in the state's combustion facilities and landfills.

[Anaerobic Digestion & Organics Diversion](#)

In an oxygen-free environment, bacteria can convert organic materials into renewable biogas. Through the Clean Energy Results Program, MassDEP is working with the Department of Energy Resources (DOER) and Massachusetts Clean Energy Center (MassCEC) to promote the diversion of organic material from landfills and combustion facilities to anaerobic digesters.

[Supermarket Recycling in Massachusetts](#)

Recycling and composting organics and other waste materials is good for both the environment and a grocery store's bottom line.

Did you find the information you were looking for on this page? \*

- Yes
- No

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# Universal Recycling

## Summary Sheet



### Why is the law needed?

Waste diversion rates have stagnated in Vermont between 30 to 36% over the past 10 years. A significant portion of the waste stream that is disposed is composed of recyclable items, leaf and yard debris, and food scraps that could be diverted from landfills and put to better use. In addition, landfilling these materials (especially food scraps) contributes to climate change by producing greenhouse gas emission. Recyclable materials, food scraps, and leaf and yard debris are all valuable resources that should not be thrown away. Finally, landfill space in Vermont is limited and one of the two major landfills is nearing its capacity.

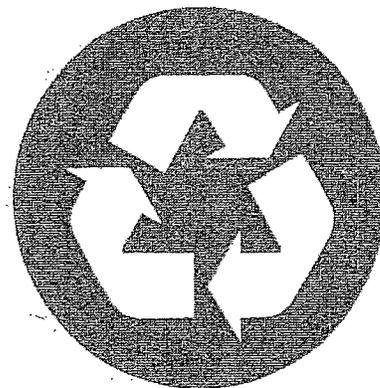
### What is the goal of Universal Recycling?

The goal of Universal Recycling is to improve the capture and diversion rates for these valuable materials to prevent them from being landfilled. When the law takes full effect more materials will be diverted from the landfill. It has been demonstrated that recycling materials conserves resources while reducing energy consumption and greenhouse gas emissions. The bans established by Act 148 send clear signals to both the private and public sector that materials will be available, which provides an incentive to invest in infrastructure needed to meet the demand.

### What does the Universal Recycling law do?

This law will provide **convenience and choices** to Vermont residents and businesses, and it will lead to more **consistent statewide solid waste services such as recycling and composting**. By requiring separation and diversion of materials it creates an incentive for investment into materials management strategies. It also **allows for time** to establish collection and facilities for managing recyclables and food, leaf, and yard materials. In summary the law:

- **Bans disposal of certain solid waste from landfills including:**
  - Recyclables by July 1, 2015 including:
    - Aluminum and steel cans
    - Aluminum foil and aluminum pie pans
    - Glass bottles and jars from food and beverages
    - PET and HDPE plastic containers, bottles and jugs
    - Corrugated cardboard
    - White and mixed paper
    - Newspaper, magazines, paper mail, and envelopes
    - Box board
    - Paper bags
  - Leaf and yard debris and clean wood waste by July 1, 2016, and
  - Food scraps by 2020, initiated in phases (see below).
  
- **Requires parallel collection at facilities:** Facility owners that offer trash collection must also offer collection of:
  - Recyclables by July 1, 2014,
  - Leaf and yard debris by July 1, 2015, and
  - Food scraps by July 1, 2017.

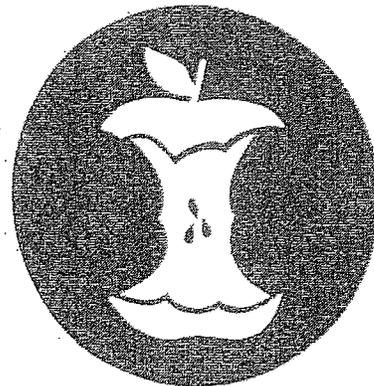


Facilities cannot charge a separate fee for the collection of residential recyclables, but can charge commercial haulers for collection of recyclables. The costs of collecting recyclables from residents can be included in trash collection fees. Facilities can charge for the collection of leaf and yard debris and food scraps.

- Requires **parallel collection at curbside**: Haulers that offer services for managing trash must also offer services for managing:
  - Recyclables by July 1, 2015,
  - Leaf and yard debris by July 1, 2016, and
  - Food scraps by July 1, 2017.

Haulers cannot charge a separate fee for the collection of residential recyclables. The costs of collecting recyclables from residents can be included in trash collection fees. Haulers can charge for the collection of leaf and yard debris, and food scraps.

- Allows ANR to oversee facility and hauler residential rate structures to ensure that rates are transparent to residential consumers.
- Includes a **food recovery hierarchy**:
  1. Reduction at the source
  2. Rescuing quality food for people
  3. Diversion for agricultural uses, including as food for animals\*
  4. Composting, nutrient management, & anaerobic digestion
  5. Energy recovery



\* See VT Agency of Agriculture Policy on Swine Feeding:

<http://www.anr.state.vt.us/dec/wastediv/solid/documents/SwineFeedingPolicy.pdf>

- **Phased in food scrap diversion**: Larger food scrap generators are targeted to divert their food scraps if a certified facility is **within 20 miles** (phased-in by amount generated over time):
  - July 1, 2014 for generators of more than 104 tons/year (2 tons/week)
  - July 1, 2015 for generators of more than 52 tons/year (1 ton/week)
  - July 1, 2016 for generators of more than 26 tons/year (1/2 ton/week)
  - July 1, 2017 for generators of more than 18 tons/year (~1/3 ton/week)

By 2020, all food scraps, including those from households, must be diverted with no exemption for distance.
- Provides incentives to reduce waste by requiring municipalities to implement **variable rate pricing (aka Pay As You Throw)** for materials collected from residential customers based on volume or weight, by July 1, 2015. Haulers are also required to utilize variable rate pricing systems in accordance with the specific ordinances and rules that are implemented by municipal entities (including solid waste districts, towns, town groups, and alliances).
- Provides more recycling options by requiring recycling containers to be located in public buildings and publically owned or controlled land (municipal and state) wherever trash cans are located (except in bathrooms) by July 1, 2015; requires the State House to implement a similar program by July 2012.

FOR MORE INFORMATION CONTACT:

Department of Environmental Conservation  
 Waste Management & Prevention Division, Solid Waste Program  
 1 National Life Drive, Davis 1, Montpelier, VT 05620-3704  
 # (802) 828-1138  
[www.recycle.vermont.gov](http://www.recycle.vermont.gov)

 VERMONT  
 AGENCY OF NATURAL RESOURCES  
 Department of Environmental Conservation



## MEMORANDUM

**From:** Sen. Tom Saviello, Rep. Joan Welsh, Chairs, ENR Committee

**Date:** August 25, 2015

**Re:** September 10, 2015 ENR meeting on solid waste

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As you know, the Environment and Natural Resources Committee is holding the first of its interim meetings on solid waste management on Thursday, September 10, 2015. Much of this meeting will involve the Committee receiving information on relevant topics from certain organizations and individuals involved in various aspects of solid waste management in Maine.

One topic area the Committee will focus on this interim concerns methods of increasing and funding composting programs and initiatives statewide in an effort to improve composting of organic materials and landfill diversion rates.

Given your organization's current involvement in composting efforts in the State, we would invite you, on behalf of the ENR Committee, to attend the September 10 meeting and to make a short presentation to Committee members addressing the following questions:

- (1) What composting programs or initiatives is your organization currently engaged in? Please briefly describe your organization's programs, including any data you are willing to share regarding the source(s) and amount of organic materials collected, the uses for and amount of composted or other materials produced and any other relevant data you wish to share regarding your composting efforts.
- (2) What barriers to or problems with composting has your organization experienced and how have you addressed or removed these barriers or problems?
- (3) What role do you see composting playing in the future of solid waste management in Maine?
- (4) What steps should be taken locally, regionally or statewide to improve composting rates? What barriers do you see to those steps being taken?
- (5) What other information or suggestions regarding composting might you have for the Committee to consider during its deliberations this fall?

Because we anticipate receiving a good deal of information from a number of different presenters on September 10, we ask that you limit prepared comments to **10 minutes total** and that you allot time within that 10 minute block to account for any questions by ENR members.

Should you have any questions or concerns about your presentation or the meeting, please contact our analyst, Dan Tartakoff ([daniel.tartakoff@legislature.maine.gov](mailto:daniel.tartakoff@legislature.maine.gov); 287-1319).

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One topic area the Committee will focus on this interim concerns determining the future role of landfills and the need for future expansion of landfill capacity.

Given your organization's current involvement in the landfilling of solid waste in the State, we would invite you, on behalf of the ENR Committee, to attend the September 10 meeting and to make a short presentation to Committee members addressing the following questions:

- (1) Please briefly describe your organization's landfill operations, including any data you are able to share regarding the source(s) and amount of solid waste landfilled; the expected capacity of your landfill as well as the need, if any, for future expansion; the recycling, composting or other waste diversion programs your landfill is engaged in; and any other relevant data you may have regarding the landfill and its operations.
- (2) Where applicable, what barriers to or problems with increasing composting, recycling and other waste diversion programs and rates has your organization experienced and how have you addressed or removed these barriers or problems?
- (3) What role do you see the landfilling of solid waste playing in the future of solid waste management in Maine?
- (4) What suggestions, if any, do you have for improving the statutory solid waste disposal fee schedule to better align waste disposal fees with the solid waste hierarchy?
- (5) What other information or suggestions regarding landfilling might you have for the Committee to consider during its deliberations this fall?

Because we anticipate receiving a good deal of information from a number of different presenters on September 10, we ask that you limit prepared comments to **10 minutes total** and that you allot time within that 10 minute block to account for any questions by ENR members.

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One topic area the Committee will discuss this interim concerns determining the future role and stabilization of waste processing/waste-to-energy facilities.

Given your organization's current involvement in the processing of solid waste in the State, we would invite you, on behalf of the ENR Committee, to attend the September 10 meeting and to make a short presentation to Committee members addressing the following questions:

- (1) Please briefly describe your organization's waste processing operations, including any data you are able to share regarding the source(s) and amount of solid waste processed; the amount(s) of residue, bypass, etc. generated by your operation and their ultimate disposition; the recycling, composting or other waste diversion programs your facility is engaged in; and any other relevant data you may have regarding the facility and its operations.
- (2) Where applicable, what barriers to or problems with increasing composting, recycling and other waste diversion programs and rates has your organization experienced and how have you addressed or removed these barriers or problems?
- (3) What role do you see the processing of solid waste playing in the future of solid waste management in Maine?
- (4) What suggestions, if any, do you have for improving the statutory solid waste disposal fee schedule to better align waste disposal fees with the solid waste hierarchy?
- (5) What other information or suggestions regarding waste processing/waste-to-energy might you have for the Committee to consider during its deliberations this fall?

Because we anticipate receiving a good deal of information from a number of different presenters on September 10, we ask that you limit prepared comments to **10 minutes total** and that you allot time within that 10 minute block to account for any questions by ENR members.

Should you have any questions or concerns about your presentation or the meeting, please contact our analyst, Dan Tartakoff ([daniel.tartakoff@legislature.maine.gov](mailto:daniel.tartakoff@legislature.maine.gov); 287-1319).



# “The Future of Materials Management in Maine”

Regional Stakeholder Engagement, May-July 2015  
Compiled Outcomes Report



Senator George J. Mitchell Center for Sustainability Solutions  
Materials and Solid Waste Management Research Group  
Cindy Isenhour & Travis Blackmer, Lead Authors

July 31, 2015





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V.	Greater Bangor Area Outcomes
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“The Future of Materials Management in Maine”  
Statewide Stakeholder Engagement, May-July 2015  
Compiled Outcomes Report

## I. EXECUTIVE SUMMARY

The Senator George J. Mitchell Center for Sustainability Solutions at the University of Maine has organized an interdisciplinary team of researchers with a wide array of expertise related to solid waste and materials management. Together we seek to engage stakeholders in the process of developing more sustainable materials and waste management solutions for our state. We began this process early in 2015, by outlining our understanding of problems and challenges we face, as well as the criteria by which Maine citizens and stakeholders might evaluate potential solutions in a report entitled “Solid Waste Management in Maine: Past, Present and Future”. Stakeholders throughout the state were invited to comment on the report and to attend a February meeting in Augusta to discuss the future of materials and solid waste management.

In response to stakeholder interests expressed at that initial meeting, the Mitchell Center subsequently organized a series of regional meetings that brought together diverse stakeholders to identify shared visions as well as regionally specific needs and potential solutions. Five regional meetings were held across the state. The regions loosely reflect areas with shared waste and materials disposal or consolidation opportunities. The meetings were hosted in Presque Isle, Bangor, Farmington, Brunswick, and Portland with the support of local organizing committees composed of key stakeholders from the region [Appendix I]. These highly productive meetings drew together waste management professionals (landfill, waste-to-energy and composting operators, haulers, recyclers, engineers, reuse organizations, consultants, and transfer station operators) with city, town, and regional representatives, tribal nations, community institutions, citizen action-groups, students and academics to discuss the future of materials management in Maine. Over 130 individuals, representing more than 90 entities participated [see Appendix I]. The meetings demonstrated the wealth of knowledge and skills available in Maine to design more sustainable waste and materials management solutions.

During each regional meeting stakeholders were asked to: 1) imagine what the future of waste management *should* look like, 2) to identify barriers and needs that must be addressed to achieve these visions, and 3) to think about emerging goals and opportunities for moving in the right direction. This document compiles these stakeholder insights. Readers can find detailed outcomes in the pages following the executive summary and in the regional outcomes documents [Appendices II – VI]. Here we provide a high level summary which highlights five primary themes that cut across all the regional meetings. While the expression of these themes varied with different stakeholder groups and geography, the themes demonstrate areas of significant statewide consensus. We suggest that the following five shared visions (in bold) and the corresponding needs and goals necessary to achieve them (bulleted points), might provide a starting point for the development of more specific and sustainable materials and solid waste management policies and programs in Maine.

**In the future, Maine will have significantly reduced waste, increased recovery in support of our waste hierarchy, and moved towards a closed loop economy:**

- Achievement of the waste hierarchy will require investment in and support for diversion programs and technologies, organics diversion represents a significant opportunity.
- We will need strong policy leadership to provide direction and incentives for removing organics and other recoverable materials from the waste stream.
- We need reliable markets for recovered materials, in Maine and beyond our borders.
- Federal or state policy will need to discourage products with unrecoverable packaging or ensure that producers are responsible for the management of these materials.
- The externalization of costs will need to be addressed to ensure that the pricing of all products and disposal options accurately reflect the true, long-term costs of disposal.

**In the future Maine's citizens will be more engaged in materials management:**

- Education is essential to help all Mainers (households, legislators, municipal leaders) understand the true costs of waste. Waste will need to be reframed as materials and resources.
- The right incentives must be in place to ensure that awareness translates into behavior and that costs are linked to behaviors - so that all Mainers become engaged partners.
- Mainers will be more engaged in waste and materials management if we can balance convenience (e.g. curbside) with an incentivized responsibility (e.g. source separation).

**Maine will have more efficient and cooperative waste management systems, able to capitalize on materials to achieve greater economic development on multiple scales.**

- Municipalities and private entities will share a vision and be incentivized to cooperate on a regional basis – reducing transportation costs, redundancies and inefficiencies.
- Maine-based, value-added, reuse businesses will make use of many of the materials recovered in Maine while simultaneously contributing to local and state-level economic development.

**In the future Maine will have a comprehensive “forward-thinking” materials management plan with coordinated goals and incentives to encourage their realization. The plan will also allow flexibility for regionally appropriate variation.**

- Achieving state level goals will require multiple solutions in various sectors.
- Long-term state planning and goals will reduce uncertainty and allow private businesses to make secure long-term investments and develop new markets.
- State level plans should be comprehensive rather than piecemeal and should “have teeth” to ensure their realization.

**Decisions about materials and waste management will be based on reliable and timely data and will build upon understandings of “best practices” proven effective in similar locales.**

- Comprehensive data on waste and materials management practices (e.g. waste characterization studies, life-cycle analyses, social impact assessments) are necessary, we need full cost accounting of current and projected solutions.
- Pilot programs are important to test potential alternatives.
- A comprehensive database of “best practices” in Maine and in other states can help to consolidate data on alternatives.

## II. EXPANDED STATE OUTCOMES: A SHARED VISION

*Can there be a “Shared Vision” for Materials Management in various regions of Maine? Can there be one for the entire state?*

At each regional meeting the first objective was to establish a vision for what materials and solid waste management *should* look like in the future. The participants were split into several groups composed of participants with varying backgrounds in solid waste and asked to discuss this topic. The small groups discussed the prompt for approximately 25 minutes and then participants were reassigned to different tables for an additional 30 minutes to ensure the cross-pollination of ideas. During a coffee break, facilitators got together to compile the results, placing emphasis on the areas of consensus. When the outcomes of this visioning process for all five meetings were combined, we observed several dominant “shared visions”:

**Better education for all; citizens, policy makers, municipalities, and businesses:** The desire for education was one of the most prevalent points of discussion and it came in many forms. Some regions focused on how to reduce knowledge gaps and to create more informed and engaged citizens, encouraging each household to take ownership of their waste stream. Another point of emphasis was to have better information for policy makers and planners to assist them in making prudent decisions. A part of that vision is to help decision makers understand which policies are available and the various tradeoffs associated with different initiatives. There was also an emphasis on youth education and strategies to engage schools through both practices and curriculum moving. Youth education would help to mold a future where policies, such as organics diversion for instance, would not be a foreign concept, but one that is second nature to students.

**Finding methods to divert organics:** Organics diversion was a common (and often dominant) topic at each the five regional meetings. At several meetings stakeholders envisioned a future in which there are no organics in the waste stream. Designing programs that capture materials, but also are sensitive to costs was an important facet of the discussion. Topics such as piloting a ban or mandate, beginning with large generators in a phased approach, or working to emphasize how organics should be viewed as a “resource” and not a “waste” were all present. A future where towns and/or regions utilize appropriate strategies to manage organics was an expectation for the future.

**Manufacturer responsibility as well as better and/or less packaging:** Participants at all five meetings observed that the level of control citizens and municipalities have over the amount and type of packaging is limited. There were many instances in which the participants expressed a desire for a different system moving forward. Among the topics discussed were: closed-loop economies; increased product stewardship; and extended producer responsibility. All of these ideas place an emphasis manufacturer responsibility for the waste their products create, incentivizing producers to reduce packaging and waste.

**Regional collaborations:** The desire to achieve economies of scale in the future was at the center of discussion at many of the regional meetings. A future where there is consolidation and

cooperation at the regional level is envisioned. Some of the ideas discussed included: reestablishing or reinvigorating cooperatives that have eroded; looking for ways to promote transportation efficiencies by working together and expanding boundaries; and creating regional professional associations or planning entities to share and evaluate ideas and mutually beneficial initiatives. These ideas were not limited to municipal coordination, but also included public-private partnerships.

**Increased convenience for recycling and reuse:** This aspiration was based on a shared understanding that consumers demand consistent and easy-to-use avenues for disposing of materials. The attendees routinely mentioned how having simple solutions for the various waste streams was important for designing systems that citizens will be willing to utilize. Reuse must be emphasized and promoted to help facilitate lower levels of demand for disposal moving forward. A key theme that emerged was a lack of accessible information for citizens, confusion surrounding different standards for sorting in different locals and how to standardize consumer practices across the state while allowing for regional variation and efficient collection.

**Less Waste:** A future with less waste also constituted a common vision. Better producer and consumer practices are envisioned to lead to higher levels of reduction and reuse. Having well-formed programs that capture materials and markets for the “leftovers” from consumption is a companion to a future with less reliance on waste disposal. Ideas, such as the “zero-waste” and closed-loop systems were points of discussion. A tangent point was a vision for the future where Maine has a diverse economy that utilizes the diverted materials. There is also a need to manage “special wastes” better in the future providing necessary wastes a proper home.

**Finding the “right” (dis)incentives:** Stakeholders envision having the “right” incentives and disincentives in place to help guide actions and behaviors. In some regions this topic was mentioned with manufacturer responsibility (EPR, product stewardship), but it was also discussed in relation to how we might encourage positive behaviors for individuals. The long-term goal would be for the price of materials management to encourage more sustainable behavior among all Mainers. That could be done through fees (e.g. household unit-based-pricing or solid waste disposal surcharges), subsidies, credits, and a variety of other strategies mentioned at the meetings.

**Multiple solutions:** Stakeholders at the all meetings envisioned a future with multiple solutions for the complex and diverse streams of materials generated. Schools, hospitals, families, municipalities, and businesses all generate waste and have diverse needs. Having multiple solutions and markets available will assist these various entities as they explore their specific needs and best options for more economically, socially, and environmentally sound materials and solid waste management.



### III. EXPANDED STATE OUTCOMES: NEEDS AND BARRIERS

*Are there existing barriers and prevailing needs that must be addressed in order to achieve the “Shared Vision?”*

After discussing participants' visions of the future and identifying those visions with the greatest levels of consensus, the participants of each regional meeting met as a large group to discuss the barriers and needs that would need to be addressed in order to achieve a more sustainable materials and waste management system in Maine. Our research team has compiled the outcomes of all the regional meetings to identify both shared needs and barriers, as well as those specific to each region. There were six primary themes discussed at a majority of the meetings:

**Data:** Participants at all five of the meetings identified poor data as a primary barrier. Questioning the accuracy or lack of current data, participants expressed a strong need for reliable and timely data in order to make better decisions about materials and waste management options.

**Education:** Following a shared vision of better informed and more engaged partners throughout the state, participants cited education as a primary barrier and pointed out the need for stronger education and curricular programs. Several participants emphasized that education must be viewed as a means, rather than an end.

**Funding:** Participants at all five meetings realized that despite significant consensus on shared visions, a lack of funding for facilities, equipment, and initiatives presented a significant barrier. Investment and support were deemed necessary to achieve the vision. A better incentive structure for the various streams would be required to help match actions to desired outcomes.

**Organics diversion:** In a related point participants at all five meetings felt that organics in the waste stream constituted a serious barrier to achieving the waste hierarchy. They identified the need for significant planning, investment in and support for cost-effective, higher-value use organics diversion as a first step toward realizing the waste hierarchy.

**Planning:** Participants observed that a piecemeal, short term solutions present a significant barrier to achieving the waste hierarchy and identified a need for planning at a higher to promote comprehensive policy and signal stability to those looking to develop strategies or invest.

In addition to these shared understandings of the needs and barriers that would need to be addressed to achieve our shared vision of a more sustainable materials and waste management system, the research team also observed some distinct needs identified and emphasized in each region [see also regional outcomes documents, Appendices II – VI for more detail].

**In Northern Maine:** There was a significant emphasis on cooperation in Northern Maine where participants report a strong history of and growing interest in cooperation (particularly around information sharing, organics collection and processing). Participants suggested that there is

significant potential for centralized collection and recovery which might reduce transportation inefficiencies in this highly rural area. Data, incentives and financial support are necessary to support planning and cooperation.

**In Western Maine:** The most prominent themes in Western Maine were linked to diversion goals, data and regional cooperation. Participants suggested that more data is needed, particularly on reduction and reuse, since these strategies are prevalent in rural areas. They also suggested that per capita waste generation goals, rather than the current 50% diversion goal, may be more appropriate. Finally, participants expressed a strong desire to reestablish cooperatives in the region, but a lack of funding to assist these endeavors remains a significant barrier.

**In Central Maine:** The participants in Central Maine emphasized the need for regional information exchange, planning and cooperation. Given the high population and geographical density the stakeholders in attendance emphasized the favorability of greater exchange for planning and the sharing of best practices. Central Maine also seemed to express a greater level of support for strong state-level policy relative to other regions.

**In the Greater Bangor Area:** Perhaps due to upcoming decisions surrounding the future of waste management, the Bangor Area meeting was focused on the need for strong regional and state level planning. Understanding the full costs of disposal was an important need discussed. There was also a strong emphasis on organics management as an important strategy to avoid the need for additional landfill capacity.

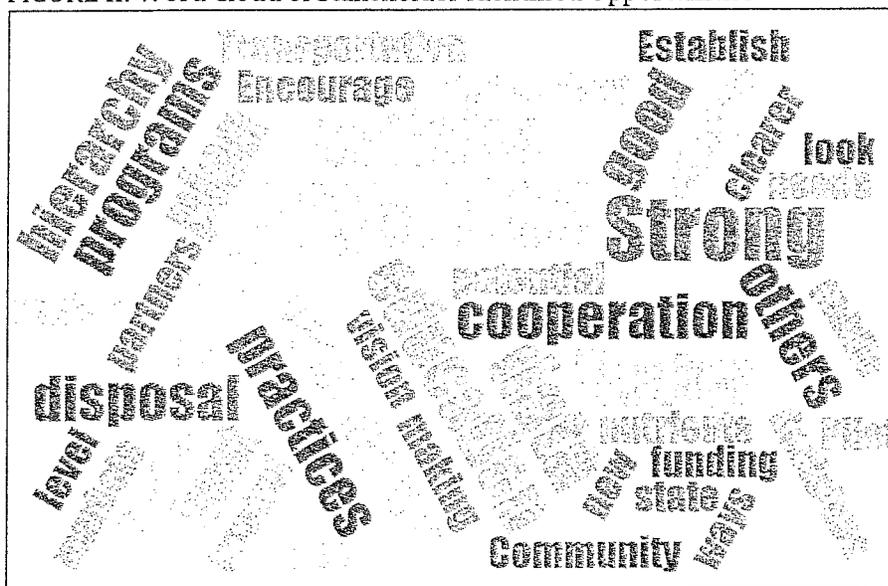
**In Southern Maine:** The southern Maine meeting, relative to the others, had a strong emphasis on consumer education and incentive structures to ensure more sustainable behaviors. While the discussion frequently focused on education, there was strong recognition that education must be supplemented with the right incentives. Southern Maine participants also re-emphasized the need for a "best practices" information exchange and the need to communicate successes in order to improve the acceleration of innovation in other regions.

#### IV. EXPANDED STATE OUTCOMES: OPPORTUNITIES AND EMERGING GOALS

*Are there opportunities and emerging goals that might help us to address the identified barriers and achieve our desired vision?*

After a discussion of the needs and barriers as a large group, the participants were again split into smaller groups to discuss the opportunities that exist in their communities which might facilitate more sustainable solutions. Finally, as a large group once again, participants were asked to identify promising goals that might emerge from the discussions and their engagement in the regional meeting. As with the visions, needs and barriers, we have identified areas of significant consensus across all five regions as well as distinct opportunities and goals linked to geographically specific characteristics. The opportunities of greatest consensus are listed below and can be visualized in the following word diagram [FIGURE II].

FIGURE II: Word Cloud of Stakeholder Identified Opportunities



**Regional Collaborations:** Participants identified a significant opportunity to establish cooperatives to: share information and best practices; consolidate activities to achieve economies of scale; foster networking amongst professionals; alleviate transportation and infrastructure barriers; and encourage public-private partnerships.

**Better Data:** Across the regions stakeholders felt there was an untapped opportunity to collect better data in order to: work toward real-time information; more accurate metrics; a better understanding of reduction and reuse activity and its value; to identify transport and processing inefficiencies; and ensure data driven decisions for municipalities, regions, and policy makers.

**Diversion of Organic Material:** Participants in all the meetings felt that organics diversion presented a significant opportunity to support the waste hierarchy and collective visions of a more

sustainable system. They foresee: capturing and using nutrients locally; gathering data on pilot projects and outcomes (avoided tip fees, operational costs, marketability of outputs); the creation of scalable programs spurred by both funding opportunities and mandates

**Education:** Education was also seen as a significant opportunity and emerging goal. Participants in all the meetings cited opportunities to utilize: online and traditional platforms; committed professional networks; a more unified message centered on materials and resources rather than waste; curricular programs for K-12 and university students; information on waste policy to improve compliance; regional collaborations.

**Best Practices Models:** Related to opportunities linked to education, there was a significant theme across the regions on opportunities and goals related to compiling and sharing best practices models (on policy, technology, models, education, etc). This directory could be disseminated in Maine to build upon past successes and inspire accelerated innovation.

In addition to these areas of consensus, we've also observed the following areas of regional differentiation in terms of localized opportunities and emergent goals:

The opportunities and goals in **Northern Maine** include increased regional collaboration, utilizing organic materials, partnering with large institutional generators and industry leaders, following best practice models, and having better data available for initiatives such as for consolidated collection of recycling. Participants expressed a strong desire to secure funds for a county-wide environmental planner and for a multi-institutional composting collaboration.

The opportunities and goals in **Western Maine** include the development of innovative ways to: educate citizens about how to best manage their waste; follow best practice models; utilize public-private partnerships; obtain funding for diversion projects; and collect data for reduction and reuse.

The opportunities and goals identified in **Central Maine** are focused on: educational programs to educate towns and citizens, the utilization of organic materials, regional collaboration among the large network of solid waste professionals and regional planning units, following best practice models, and the expansion of reuse businesses.

The opportunities and goals expressed by participants in the **Greater Bangor Area** included: the management of organics; better data reporting; building upon strong regional organization to improve planning and design of incremental steps; education for a unified vision; enforcement of solid waste policies; and the compilation of best practices models.

The opportunities and goals expressed in **Southern Maine** include: data collection to help state and municipalities plan, education to improve citizen engagement in solid waste issues through education and support for policy, to create a clear plan for how to best divert organics, and to utilize partnerships among municipalities and public-private endeavors

## V. MOVING FORWARD: PARTNERING FOR SOLUTIONS

*How can the Mitchell Center's Materials Management Team partner with stakeholders throughout the state to contribute to the development of more sustainable materials and waste management systems in Maine?*

Stakeholders at the statewide meeting and each of the five regional meetings provided feedback during discussions and in exit surveys [Appendix VII] which indicate how the Mitchell Center Materials Management Research Group might best partner with stakeholders throughout the state. This feedback, along with conversations with legislators, the Department for Environmental Protection, and other key stakeholders suggest that the Mitchell Center might best contribute to the development of more sustainable materials and waste management solutions in our state by undertaking the following activities:

- Formulating reviews of “best practice” policies and programs for waste reduction. These reviews would help to educate municipalities, policy makers, planners, and citizens about the policies and practices that have worked well in Maine and in other comparable states and nations.
- Continuing to engage stakeholders throughout the state in order to facilitate cooperation, foster information sharing, increase trust, accelerate innovation, and ensure that purposeful outcomes emerge from stakeholder participation.
- Working with stakeholders to gather data and evaluate the economic, environmental and social costs and benefits of alternatives identified to hold the most promise in Maine.
- Participating in the design of pilot programs throughout the state and gathering data to evaluate their full costs and benefits, in order to inform decisions about the potential for scaling up.

Drawing upon of the stakeholder input summarized here and the collaborative spirit of the regional meetings, The Mitchell Center's Materials Management Research Group is committed to pursuing these activities and partnering with stakeholders to help imagine, evaluate and design more sustainable materials and waste management solutions for our state. While we firmly believe that these processes must be stakeholder driven if they are to be sustainable, we are committed to partnering with stakeholders to provide objective, knowledge based decision support. We are currently in the process of reviewing “best practice” policies for waste reduction enacted in other, comparable states, provinces and nations. We plan to make that report available to stakeholders and to the State Legislature's Joint Standing Committee on the Environment and Natural Resources (ENR) this fall for consideration and comment.

We hope that this document, a compilation of stakeholders' shared visions, needs and goals, along with the forthcoming review of “best practice” policies and programs for waste reduction, might help to guide future planning and policy priorities.

# Appendix I

## List of Participants and Organizing Committee Members

Organizing committee members are indicated by an asterisk (\*)

### Northern Maine

Aroostook Farm  
Aroostook Medical Center  
Aroostook Valley Solid Waste District  
Casella  
CES, Inc.  
City of Caribou  
\*City of Presque Isle  
Department of Environmental Protection  
Deschaine Sanitation  
Frenchville  
Gils Sanitation  
Maine Resource Recovery Association  
MSAD1  
\*Northern Maine Development  
Commission  
Town of Mars Hill  
\*Tri-Community Recycling and Sanitary  
Landfill  
UMaine Fort Kent  
\*UMaine Presque Isle

### Western Maine

Androscoggin Valley Council of  
Government  
Casella  
Franklin Memorial Hospital  
Kennebec Valley Council of Governments  
Maine Resource Recovery Association  
Mt. Blue Regional School Unit  
Redington-Fairview Hospital  
Skowhegan

Town of Fairfield  
\*Town of Farmingotn  
Town of Jay  
\*Town of Mexico  
Town of Norridgewock  
Town of Wilton  
UMaine Farmington  
\*Waste Management

### **Central Maine**

Androscoggin Valley Council of  
Governments  
Bowdoin College  
Casella  
\*City of Augusta  
\*City of Bath  
City of Gardiner  
City of Lewiston  
Doyle Nelson  
eWaste Recycling Solutions  
Kennebec Valley Council of Governments  
Lewiston-Auburn  
Lincoln County  
Maine Resource Recovery Association  
MB Bark  
\*Mid Maine Waste Action Corp  
Midcoast Council of Governments  
Mid-Coast Solid Waste Corp  
Oxford Transfer Station  
Pine Tree  
Regional Rubbish  
\*Town of Brunswick  
Town of Mechanic Falls  
Town of Topsham  
Town of Whitefield  
Toxics Action Center  
USA Energy Group

We Compost It  
Whitefield Recycling Committee  
Wiscasset Transfer Station

**Greater Bangor**

\*Casella  
CES, Inc.  
City of Bangor  
College of the Atlantic  
Eastern Maine Healthcare System  
Electronics End  
Hampden Citizens Coalition  
Hancock County Planning Commission  
Kennebec Valley Council of Governments  
Maine Beer and Wine Distributors  
\*Maine Resource Recovery Association  
Mark Wright Construction  
Mid-Coast Solid Waste Corp  
\*Municipal Review Committee  
Natural Resources Council of Maine  
Oak Point Energy  
Penobscot County  
Penobscot Energy Recovery Company  
Penobscot Nation  
Spencer Tree  
Town of Baileyville  
Town of Bar Harbor  
Town of Glenburn  
Town of Hampden  
University of Maine  
Waste Management

**Southern Maine**

Casella  
City of Biddeford  
City of Portland  
City of Saco

City of Westbrook  
CPRC Group  
\*ecomaine  
Environment and Natural Resources  
Committee  
Environment Maine  
Goodwill  
Greater Portland Council of Governments  
Mercy Hospital  
National Waste and Recycling Association  
Pine Tree  
Portland School System  
TOMRA  
Town of Arundal  
Town of Gray  
Town of Scarborough  
Town of Yarmouth  
Troiana Waste Services  
\*University of Southern Maine  
WasteZero  
We Compost It  
York Hospital

Regional Materials and Solid Waste Management Meetings

May-July, 2015

1. How would you best characterize your interests in Solid Waste? (Please check all that apply)

- |  |   |
|--|---|
| <u>26</u> Municipal                        | <u>2</u> Waste-To-Energy Operator                 |
| <u>21</u> Regional                         | <u>10</u> Landfill Operator                       |
| <u>13</u> State                            | <u>12</u> Transfer Station Operator               |
| <u>4</u> National/Federal                  | <u>10</u> Hauler                                  |
| <u>1</u> Sovereign, domestic tribal nation | <u>8</u> Environmental Group or Interest          |
| <u>2</u> Elected Official                  | <u>15</u> Recycling Operator/Facilitator/Director |
| <u>11</u> Public                           | <u>7</u> Organics Diverter                        |
| <u>12</u> Private                          | <u>3</u> CDD Recycler/Collector/Other             |
| <u>6</u> Quasi-Public                      | <u>3</u> Large Institution                        |
| <u>6</u> Nonprofit/NGO/Community Group     |   |

2. Participating in today's meeting was a good use of my time:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
<input type="checkbox"/> (14)	<input type="checkbox"/> (36)	<input type="checkbox"/> (6)	<input type="checkbox"/> (1)	<input type="checkbox"/> (0)	<input type="checkbox"/> (0)

3. Participation helped others to understand my (company's) roles/needs regarding solid waste:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
<input type="checkbox"/> (9)	<input type="checkbox"/> (24)	<input type="checkbox"/> (13)	<input type="checkbox"/> (1)	<input type="checkbox"/> (0)	<input type="checkbox"/> (0)

4. I feel that I better understand the other stakeholders' roles/needs regarding solid waste:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
<input type="checkbox"/> (10)	<input type="checkbox"/> (26)	<input type="checkbox"/> (10)	<input type="checkbox"/> (1)	<input type="checkbox"/> (0)	<input type="checkbox"/> (0)

5. To what extent do you plan to continue participating in the discussions, working groups, and future meetings initiated at today's convening:

As Much as Possible	A Lot	Some	A Little	Not At All	Not Applicable
<input type="checkbox"/> (27)	<input type="checkbox"/> (11)	<input type="checkbox"/> (8)	<input type="checkbox"/> (1)	<input type="checkbox"/> (0)	<input type="checkbox"/> (0)

6. I believe the Senator George J. Mitchell Center can play a role in Solid Waste (Materials Management) going forward:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
<input type="checkbox"/> (22)	<input type="checkbox"/> (21)	<input type="checkbox"/> (4)	<input type="checkbox"/> (0)	<input type="checkbox"/> (0)	<input type="checkbox"/> (0)

7. To what extent do you believe the initiatives discussed at this meeting have realistic expectations for progress moving forward?

Highly	Somewhat	Unsure	Little	None	Not Applicable
<input type="checkbox"/> (10)	<input type="checkbox"/> (26)	<input type="checkbox"/> (10)	<input type="checkbox"/> (1)	<input type="checkbox"/> (0)	<input type="checkbox"/> (0)





# GARBAGE TO GARDEN

57 Industrial Way, Portland ME 04103 | (207) 332-0277 | [www.garbagetogarden.org](http://www.garbagetogarden.org) | [info@garbagetogarden.org](mailto:info@garbagetogarden.org)

**Follow Up to Testimony in Support of  
Resolve, To Increase Recycling in Maine through Increased Composting and Energy  
Recovery from Organic Wastes (LD 659); and  
An Act To Increase Organic Waste Recycling in the State (712)**

Senator Saviello, Representative Welsh, and members of the Joint Standing Committee on Environmental and Natural Resources, I am Kendall Hinkley, Vice President of Marketing, Education & Events at Garbage to Garden, the State's first curbside recycling program for source separated organics. I appreciate this opportunity to share information about our program's success with you today.

## **Background**

Garbage to Garden is a local organization founded to fulfill a mission to make composting so accessible, easy, and rewarding that everyone will separate organics from their waste. We service homes, businesses, schools, and events. Since inception in 2012, our focus has been on implementing collection programs for organics in Maine with a goal of surpassing the 50% recycling rate target set by the Legislature.

Garbage to Garden collects source separated organics from households through a voluntary, subscription-based curbside collection that coincides with garbage day, and collects from businesses and schools on a customized schedule similar to waste haulers. The material is brought to nearby organics processors, and the primary recipient at this time has been Benson Farm in Gorham, ME. To date, Garbage to Garden estimates that it has hauled over 10 million pounds of food waste and is hauling at a rate of 50 tons/week.

The success of our program, with thousands of participating households in eight towns and cities in the Greater Portland area (including 1 in 6 curbside households in Portland), makes Garbage to Garden the largest-per-household organics collection program that we know of in New England. We have achieved this through an entirely market-based approach, which constitutes proof that the public demand is real -- people do not prefer to waste organic material once offered an easy way to recycle it.

## **Value of a Market-Based Program**

For the individual household, barriers to composting in the state include the "ick factor," associated costs, lack of awareness or motivation, and inconveniences related to change. These barriers are vital to overcome. These barriers were a central focus for creating our business model, and we have found a solution that has been easily and quickly adopted by the residents in the towns we service. First, we offer households greater return than just garbage removal: we provide clean buckets every week, free compost, compost donations to schools, volunteer support for nonprofits, yard waste recycling, compost for

weddings and special occasions, zero waste services for large events, and used cooking oil collection to make biofuel for our trucks and soap to wash our buckets. Our participants feel they are a part of a compost community and they go out of their way to encourage others to join. Second, unlike backyard composting, we compost bones, citrus, seashells, meats, breads, and other biodegradables like corn cups and compostable serviceware. This maximizes diversion from landfills, and there is no labor requirement for the household to maintain a pile.

The cost of the program is a low monthly fee, or free through a volunteer program. Households save money on garbage bags and soil, and the trade is truly a win-win. In partnership with the DEP, we are eager to expand programs into other areas of the state.

As for municipalities, we hear a lot about “cost barriers” in implementing residential curbside organics collection. The cost to implement a municipal wide compost program can increase the waste budget as much as 35-40%, while a subscription model actually saves the municipality money through lowered trash tip fees. On average, every household that participates with Garbage to Garden removes 1 ton of food waste from the waste stream every three years.

We believe a market-based system of residential organics collection can offer greater benefit not only from a cost-savings standpoint, but it has greater flexibility and resources to maximize diversion by motivating (and educating) users to compost as effectively as possible. Our program spreads through a desire to participate and support something worthwhile, and consequently the quality of our source-separation is high. Additionally, our program can start immediately without government mandate or funding, through government support will go a long way.

### **Support**

Until we approve an organics ban, we believe the state can help in three ways: (1) First, we ask you to consider some form of funding or loan program that is partial to organics haulers and processors’ capital needs. According to a recent article in Biocycle, “on a per-dollar-capital investment basis, for every \$10 million invested, composting facilities in Maryland support twice as many jobs as landfills and 17 more jobs than incinerators.”<sup>1</sup> The capital-intensive nature of organics operations such as ours can inhibit or slow growth; now is the time to be fostering that growth.

(2) Second, we ask that you consider a grant program to support school waste reduction initiatives, and related community organization initiatives. We have successfully implemented composting programs in nine Greater Portland school districts, and almost all of them required outside funding prior to implementation, some of which was a challenge to secure. Costs include weekly service, new bins and signage, and additional funds could be used to enhance training and education programs. The most dramatic waste reduction has occurred in elementary schools where waste, through adding composting & recycling, was reduced by as much as 90%. When we train children at a young age to take responsibility for their waste and become a part of the solution, we all have a more secure future.

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<sup>1</sup> <http://www.biocycle.net/2014/07/16/state-of-composting-in-the-u-s/>

(3) Third, as it is encouraged for municipalities to promote recycling due to the state's 50% goal, so too should it be encouraged for municipalities to promote the available resources for composting, including curbside compost programs. Verbal or written support from the Legislature that promotes the practice of composting whether through personal effort or subscription to curbside collection programs would help us to illustrate that we are accomplishing a worthy mission.

Finally, we would like to propose an alternative term to "Organic Waste" in future documents similar to LD 712. When people compost at home, they are opting to not "waste" the organic material from their household. We should be using the terms "Organic Material" or "Organic Material Entering the Waste Stream" or "Source-Separated Organics (SSO)" for the purposes of removing the term "waste" in association with organics. The purpose of this distinction is that it correctly classifies organic material not as waste, but as a resource.

For further questions or commentary, please do not hesitate to contact myself, [kendall@garbagetogarden.org](mailto:kendall@garbagetogarden.org), or Founder/CEO, Tyler Frank, [tyler@garbagetogarden.org](mailto:tyler@garbagetogarden.org).





Responses to the Environment and Natural Resources Joint Standing Committee's Composting Questionnaire

Prepared for September 10, 2015 Interim Committee Meeting on Solid Waste Management

- (1) What composting programs or initiatives is your organization currently engaged in? Please briefly describe your organization's programs, including any data you are willing to share regarding the source(s) and amounts of organic materials collected, the uses of and amount of composted or other materials produced and any other relevant data you wish to share regarding your composting efforts.

Casella currently owns and operates two biosolids processing facilities in Maine (composting) and New York (lime stabilization) and operates two manure/food residual digesters in Massachusetts. In Maine, the Hawk Ridge compost facility (HRCF) processes approximately 40,000 tons of biosolids and smaller volumes of food waste and animal bedding. The facility is currently operating at capacity and benefits from being owned by Casella in that it has multiple options to manage material to its highest, best use. Residuals processed at the Hawk Ridge Compost Facility become either agricultural or landscaping compost, or through value-added handling processes, mulch/compost blends and potting/starter blends. Other residuals, organic and mineral, managed at HRCF (short paper fiber, mill lime, flume grit) may become dairy bedding (nearly 38,000 tons are manufactured annually), manufactured topsoil, or erosion stabilization products. Organics also oversees several direct-to-land Class B biosolids management programs, primarily growing feed crops for animal agriculture.

- (2) What barriers or problems with composting has your organization experienced and how have you addressed or removed these barriers or problems?

Because biosolids has been our primary feedstock, our most significant barrier or issue has been public acceptance of the end-product(s) use. That has improved in recent years largely due to the success of our products that our customers have experienced. We continue to be impacted by local municipal regulations that limit or prohibit biosolids recycling.

Additionally, procurement of composting amendments has been problematic. Sawdust and woodchips have become commodities and have been so for at least a couple of decades, if not longer. We have modified and refined our process over the years by looking at alternative materials (short paper fiber and wood ash) and by recovering some of the amendments by screening out coarser particles (chips) from our compost and reusing them as an 'inoculant'.

Finally, we have experienced issues with increasing phosphorus (P) in our finished products. This has resulted from higher phosphorus removal standards at our WWTPs. What no longer goes out in the effluent is now captured in the biosolids. We have managed this situation through creating value-added products, using amendments that will lower total P in the final product. Phosphorus in biosolids compost is significantly less of an environmental risk than commercial fertilizer P as it is less available, being tied up (is less reactive) by being bound to iron and aluminum. Phosphorus is also a major component of food (it is fundamental element in energy transfer) and could be an issue with food compost as well.

(3) What role do you see composting playing in the future of solid waste management in Maine?

All recycling options should have roles in Maine's Solid Waste Management 'tool kit'. The solid waste hierarchy should continue to be the 'go-to' when making management decisions, as it is important to minimize the creation of waste in the first place, and then look for ways to capture higher value through diversion to human and animal food programs or energy extraction processes, like anaerobic digestion or perhaps gasification, which may also produce useful byproducts such as fertilizer from digestate. We believe all outlets have a role in today's complex waste management industry and having a diverse outlet portfolio, including landfills, will only enhance the State's ability to manage these materials to their highest, best use.

Some options, composting specifically, may be best suited for small, localized solutions or situations wherein there is a high level of material quality and/or consistency; whereas other technologies make more sense for large-scale or merchant operations.

(4) What steps should be taken locally, regionally or statewide to improve composting rates? What barriers do you see to those steps being taken?

A significant commitment to education must be made. Recycling in Maine presents an excellent demonstration that simply making something convenient (Zero Sort) will not necessarily make it widely practiced or embraced. It has become strongly engrained that we just toss it and forget it, so that it becomes someone else's problem. From our parents' Depression Era upbringing to the Boomer years, our culture was transformed from a Waste Nothing society to a Planned Obsolescence and Living with Excess society. A focus on resource preservation and protection education needs to be introduced at the earliest level to start reverse the current attitudes and expectations of waste management.

It is equally important that there are options. The current situation is not one where a one-size-fits-all solution exists. Solutions which are forced upon a municipality or a region are destined to fail, either due to resistance or because the 'solution' doesn't fit.

Thoughtful consideration should be given to finding ways to incentivize participation in or cooperation with food waste diversion or recycling programs or to discourage non-participation. Neighboring states have implemented 'Field of Dreams' approaches to diverting food wastes from landfills by banning them from disposal. The hope is that some entity or entities will invest in and develop infrastructure to properly manage those materials. "Ban it and they shall build". Unfortunately there is an inherent risk that those materials won't come to those new or improved

facility, instead choosing to seek out less expensive outlet, for examples, crossing the border into States where no such ban exists.

We see the following barriers to success:

- Residual quality or, conversely, residual contamination – inert materials such as plastic in food waste prevent Casella from managing additional volumes of food waste at HRCF
- Access to processing, both geographic and financial
- Aging infrastructure and/or infrastructure capacity
- Lack of equipment - homogenizing, pre-processing, collection
- Lack of funding to create new infrastructure
- Lack of incentives or disincentives – what will motivate the general public to participate in organics recycling and, equally important, go to the extra effort to provide quality feedstocks?
- Cost of Collection – creating new and separate organics collection routes
- Financial impacts to composters if the market is overwhelmed by new supplies of compost

(5) What other information or suggestions regarding composting might you have for the Committee to consider during its deliberations this fall?

**Focus on methods for enhancing financing for all organics recovery/recycling opportunities**

- Leverage federal grants and funding – For example, the University of Southern Maine has been chosen as an Environmental Finance Center for managing a portion of \$2 million (FY2016) in grants from the USEPA to support efforts to find funding for environmental management/protection projects including infrastructure projects. These funds, split among 9 Centers nationwide, are intended as seed funds to enhance the awardees' ability to find comprehensive financing for their environmental (broadly defined) projects.
- Rather than focus on picking winners and losers in disposal practices, i.e. pitting WTE against landfill disposal, focus efforts to encourage municipalities and businesses to improve the three R's (reduce, reuse and recycle)
- Continue to learn more about current regional solid waste practices in Maine – For instance, continue to engage and support the Mitchell Center's Material Management Group meetings that represent a broad array of Maine businesses and public engaged in Maine Solid Waste Issues.
- Improve markets for recycled materials – Give preference to recycled products in State projects such as transportation and other infrastructure projects that traditionally utilize large volumes of mined or virgin materials.

**Contact Information:**

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**From:** U.S. Environmental Protection Agency <noreply-subscriptions@epa.gov>  
**Sent:** Tuesday, August 25, 2015 11:02 AM  
**To:** Jeff McBurnie  
**Subject:** EPA Announces Grant Funding to University of Maryland to Support Regional Environmental Finance Ctr

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III - OFFICE OF COMMUNICATIONS & GOVERNMENT RELATIONS  
1650 Arch Street Philadelphia, Pennsylvania 19103-2029  
Phone - 215/814-5100 Fax - 215/814-5102**

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## **EPA Environmental News**

Contact: Bonnie Smith, [smith.bonnie@epa.gov](mailto:smith.bonnie@epa.gov) 215-814-5543

### **EPA Announces Grant Funding to the University of Maryland to Support Regional Environmental Finance Center**

**PHILADELPHIA (August 25, 2015)** -- The U.S. Environmental Protection Agency has selected the University of Maryland as one of the nine winners of a six-year grant to support a regional Environmental Finance Center. Through the Environmental Finance Center, local communities will be able to access technical expertise to identify solutions for financing environmental activities.

“EPA is committed to working closely with communities to meet environmental goals that benefit public health and support local economies,” said EPA Mid-Atlantic Regional Administrator Shawn M. Garvin. “The Environmental Finance Center at the University of Maryland serves as an important regional hub to support states and tribes in finding creative solutions for financing environmental activities, such as upgrading water infrastructure, establishing public-private partnerships and increasing energy efficiency and sustainability.”

Environmental Finance Centers are institutions that work directly with state and local governments, tribes, utilities, and communities and offer a variety of assistance including creating or improving:

- infrastructure financing plans;
- capacity building for public-purpose water and other environmental infrastructure systems;
- green jobs and green business products and services;
- resilient, secure, and sustainable environmental infrastructure;
- computer-based and other financial and outreach tools for watershed and water system management;
- public-private partnership models for environmental services, infrastructure, and projects;
- training on environmental equity and justice;
- drinking water and wastewater utility water conservation, energy efficiency, management, and capital planning;

- and innovative financing for interstate, state, regional, and local air pollution reduction efforts.

Today's announcement means winners will operate grants during the years 2016 to 2021. The first EFC grants covered the years 2009 to 2015.

These grantees will provide environmental finance technical assistance in 44 states and 6 U.S. territories. Work is underway to identify an additional grantee to support communities in the remaining states of Montana, Wyoming, North Dakota, South Dakota, Utah, and Colorado.

While the exact amount of the awards depends on final congressional budget action, the President's budget for FY 2016 requests a total of \$2 million for this award.

The awardees EPA selected through a competitive grant process are:

University of Southern Maine – Portland, Maine

Syracuse University – Syracuse, N.Y.

University of Maryland – College Park, Md.

University of North Carolina – Chapel Hill, N.C.

Michigan Technical University – Houghton, Mich.

University of New Mexico – Albuquerque, N.M.

Wichita State University – Wichita, Kan.

Rural Community Assistance Corporation – Spokane, Wash.

California State University, Sacramento – Sacramento, Calif.

More information is available at <http://www2.epa.gov/envirofinance>.

If you would rather not receive future communications from Environmental Protection Agency, let us know by clicking [here](#).  
Environmental Protection Agency, 1650 Arch Street, Philadelphia, PA 19103-2029 United States

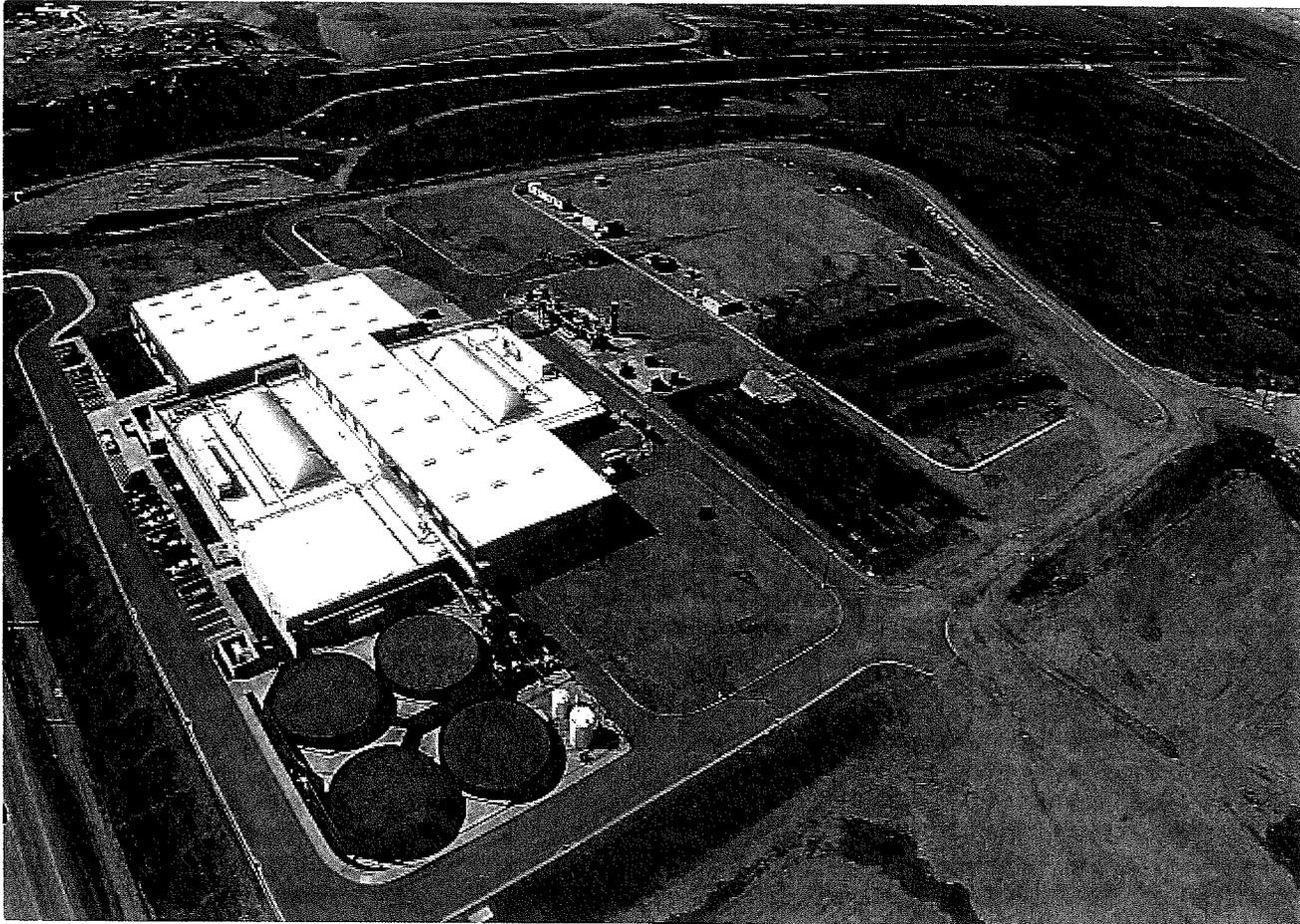
# High Solids Anaerobic Digestion + Composting In San Jose

Like 8 Tweet 2 G+1 0

*Housed inside a 100,000 sq. ft. building at the southern edge of the San Francisco Bay, a dry fermentation AD system with composting bays is processing commercial organics from the City of San Jose.*

**Nora Goldstein**

**BioCycle March/April 2014, Vol. 55, No. 3, p. 42**



Aerial photo highlights the processing building, biogas storage bladders (on left and right on roofs in center of photo) and the four circular biofilters (bottom of photo) treating building air. The outdoor windrow composting curing pad is on far right.

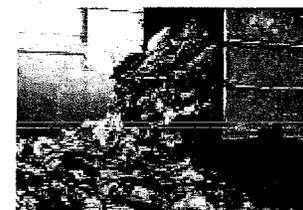
A facility that marries dry anaerobic digestion and composting under the same roof to process the organic fraction of municipal solid waste opened for business late last year at the south end of the San Francisco Bay in San Jose, California. Zero Waste Energy Development Company (ZWEDC) — developer and owner of the 90,000 tons/year facility — recognized the benefits of colocation to enable extraction of

the energy value of the food waste, followed by composting of the digestate. The plant, comprised of 16 high-solids dry fermentation digesters and four in-vessel composting tunnels, began receiving organics from the commercial sector in San Jose in mid-December.

ZWEDC was formed in 2011 by Green Waste Recovery, Inc. (GreenWaste) and Zanker Road Resource Management (Zanker) to bolster organics recovery infrastructure in San Jose. "We already operate the second largest composting facility in California that processes a large portion of the city's organic waste stream," explains Rich Cristina, president of GreenWaste and Zanker, referencing its Z-Best Composting Facility in Gilroy, about 30 miles away from San Jose. "Extracting and utilizing the energy value of the organic materials to power our other resource recovery operations here in San Jose was the next evolution for our family of companies."

Biogas from the anaerobic digesters powers a combined heat and power (CHP) plant that wheels electricity to Zanker Road Resource Recovery Operation and Landfill (ZRRROL), which recycles and processes wood waste, asphalt shingles, sheet rock and other segregated materials. Zanker underwent an electrification project at

ZRRROL, as well as its nearby Zanker Materials Processing Facility. Older diesel-powered stationary processing plants were replaced with electric powered equipment. ZRRROL is utilizing electricity from the CHP for its electric-powered equipment. "We are able to wheel power to ourselves without acting like a utility," notes Emily Hanson, GreenWaste's Director of Business Development and Communications. "The plan is for Zanker's materials processing facilities to use 100 percent of ZWEDC's peak power after the AD/composting plant covers its parasitic load. When the Zanker plants are not operating, the excess power will be sold to the grid."



A portion of electricity generated by the CHP units is wheeled to the Zanker Road Resource Recovery Operations and Landfill — which processes segregated materials such as wood waste and asphalt shingles — to power stationary equipment such as the Peterson horizontal grinder on left of photo.

## Project History

Origins of the ZWEDC anaerobic digester (AD)/composting plant date back to the City of San Jose adopting a Green Vision goal in 2007 that included diversion of 100 percent of the city's waste from landfill by 2022 and conversion of waste into renewable energy. At the time, one-third of the City's landfilled waste stream came from businesses, and city officials recognized that significant changes in this sector were necessary to improve the commercial recycling rate of 22 percent at the time. San Jose had an open franchise commercial waste collection system; over 20 different haulers serviced the more than 8,000 commercial, industrial and institutional waste generators in the city. To help meet its Green Vision goal, the City Council voted to institute an exclusive franchise agreement and select processors for the materials collected. A waste characterization study conducted in 2008 indicated that nearly 79 percent of the commercial solid waste could be diverted through recycling and composting.

Commercial organics that have been processed by Republic Services at its MRF on Newby Island arrive in walking floor trailers and are directly loaded into the digesters.

Two Requests for Proposals were issued in 2010, one for commercial organics processing and the other for commercial solid waste and recyclable material collection and processing. ZWEDC was awarded the organics processing contract, while Allied (now Republic Services) was awarded the collection and recycling contract. (See "New Frontier For Commercial Waste In San Jose," May 2011 and "Creating Infrastructure For Commercial Waste Diversion," August 2011 for details on the RFP process and final contracts negotiated with ZWEDC and Republic). It was anticipated that the new contracts would increase the commercial diversion rate up to 80 percent by 2014, which is 5 percent higher than the city's goal of 75 percent diversion by 2013.

The official start date for the new collection and materials processing services was July 1, 2012. Republic opted for a wet/dry collection service, providing customers with several options, e.g., one container for wet material (organics) and one container for dry materials (recyclables and everything else). Smaller businesses can use one container — they can either put organic waste in loose in the container and bag the dry trash and recyclables or they can put dry trash and recyclables loose in the container and bag the organic waste. "One of the most significant benefits of the wet/dry system is that all businesses in San Jose are in compliance with AB 341, a California mandate requiring businesses that generate at least four cubic yards of waste per week to recycle," explains Gil Cheso, General Manager of Republic Services of Santa Clara County. "The only thing businesses need to do is determine if material is wet (organics) or dry (recyclables and everything else) and place it in the correct container." Processing capacity at Republic's Newby Island Resource Recovery Facility was expanded to accommodate an organics sorting line for the incoming wet fraction.

The contract negotiated by both Republic and ZWEDC with the City of San Jose established four levels of contamination in the "Organic Material Delivered by the Commercial Collection Franchisee (CCF)." The tipping fee rises according to the level of contamination in the "organics stream" (OS) loads delivered. Contamination levels (by weight) in the OS are divided as follows: OS 1:  $\geq$ 5 percent; OS 2:  $\geq$ .5 percent and  $\geq$ 10 percent; OS 3:  $\geq$ .10 percent and  $\geq$ 20 percent; and OS 4:  $\geq$ .20 percent and  $\geq$ 30 percent (similar to unprocessed MSW). The tipping fees range from about \$70/ton for OS 1 to the mid-\$90s/ton for OS 4. These rates are very competitive in this region of California.

Because Republic launched its wet/dry collection service in July 2012, ZWEDC had to begin processing the organics stream at the same time. The company transferred the wet material to its Z-Best Composting facility in Gilroy, which already is composting a mixed waste stream from GreenWaste's materials recycling facility. Under its contract with the City, starting on January 1, 2013, ZWEDC was required to achieve a diversion standard for each Organic Stream processed. "The allowable residue per Organic Stream category is based on the maximum allowable contamination in the OS level, plus five percent," explains Hanson. "For example, OS1 allows 5 percent contamination by weight, so the allowable residue is 10 percent by weight. This is calculated at the end of the year."

ZWEDC has the right to reject any incoming load determined to contain more than 30 percent contamination, any load containing more than 30 percent paper and/or fiber materials, and any load containing more than 0.25 percent glass.

## Digester/Composting Facility Development

Once the contract was signed with the City of San Jose, ZWEDC researched existing technologies and selected Zero Waste Energy, LLC (ZWE), a California-based project development company with the exclusive North American license to the SMARTFERM high solids, dry fermentation anaerobic digestion and in-vessel composting (IVC) technologies developed by Eggersmann, a German company. ZWE installed the Kompoferm technologies in the San Jose facility, which is one of the technology options in its SMARTFERM portfolio. "We were seeking a processing system that was not only a net energy producer, but also required minimal processing, and little water and energy to perform optimally," notes Hanson. "ZWE's Kompoferm Plus IVC technology fit that bill."

The ZWEDC team successfully waded through the local and state environmental review and land use permitting and entitlement processes (air, water and solid waste), which covers the current Phase One (90,000 tons/year), as well as planned expansions over the next few years (Phase 2 increases capacity to 180,000 tons/year and Phase 3 — a full build-out of the site — expands to 270,000 tons/year). The project was financed through the California Pollution Control Financing Authority, which issued bonds that were supported by a bank letter of credit, which in turn was supported by the guaranteed 15-year exclusive feedstock contract with the city, and a power purchase agreement with the local utility. "We needed to have these contracts in place to secure the financing and provide assurances that we could service our debt," says Hanson.

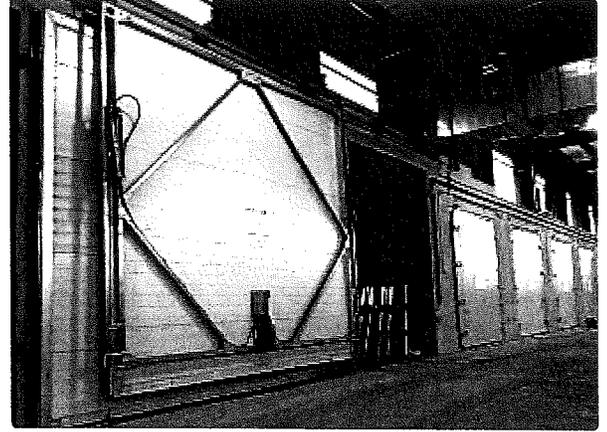
ZWEDC's organics processing facility is sited on approximately 40 acres of a city-owned former landfill site (known as Nine Par), adjacent to the San Jose/Santa Clara Water Pollution Control Plant and directly between the two existing Zanker processing operations. ZWEDC is leasing the site from the city. "This landfill was a privately owned 166-acre site that operated as an active landfill from 1938-1969," explains Jo Zientek, Deputy Director of the City of San Jose Environmental Services Department. "The City purchased the property in 1982 to serve as buffer lands for the Regional Wastewater Facility. Changes to the requirements for the City's wastewater facility negated the need to keep the site for future expansion, and thus enabled development of the Nine Par site. Developing on the site of an older landfill posed many challenges, and the City recognized that it was not in the position to bring the site into a condition where it could be leased for any purpose. The City gave ZWEDC credit towards its rent for the approximately \$11 million that the company had to spend to bring the site into a condition from which it could be useable by the City, even if the ZWEDC project did not progress to completion. This way the City would benefit from the site improvements."

Zientek adds that infrastructure improvements and preparations included topographical and landfill status investigation, design and grading planning, geotechnical reports, wetland delineations, aerial surveys, drainage and irrigation planning, bringing utilities to the site (potable and reclaimed water, power, sanitary sewer, etc.) importing fill and grading the site, installing storm water and forebay protection systems, onsite water treatments, and creating roads and driveways.

Once the credit for site infrastructure improvements is paid back to San Jose, the City will receive about \$4/ton of waste into the facility. "Therefore the more material ZWEDC is able to bring into the facility for Phases 2 and 3, the more revenue is generated for the City of San Jose and the other jurisdictions that use the wastewater facility," explains Zientek.

The receiving area, digester bays, composting tunnels and related operations are housed in an approximately 100,000 sq. ft. fully enclosed building. There are two banks of digesters — eight on each side of the building. Each bank has its own 425,000 gallon percolate tank in the basement and 670 cubic meter (m<sup>3</sup>) gas storage system on the roof. The building is constructed on a floating base, essentially "rafts" that disperse the weight and prevent the structure itself from getting damaged due to differentiated settlement of the closed landfill. Each digester bank has its own raft, as does the receiving and operations area. (The four composting tunnels are next to one of the banks of digesters.) To allow for percolate tanks under each bank of digesters, the site had to be built up. "Essentially we had to raise everything so that we could dig down," says Hanson.

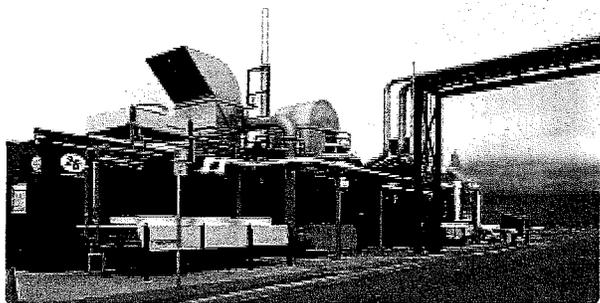
The process of meeting the City of San Jose Fire Code was complicated by the fact that dry anaerobic digestion is a new technology in North America with no code precedent. "An occupancy classification of a building determines the construction type and allowable square footages, however since a large portion of our square footage was processing area that would be minimally occupied, we had to come up with some creative solutions to meet fire and building codes without adding exorbitant costs," explains Hanson. "Working hand-in-hand with the regulatory agencies, we created our own regulatory path by making a distinction between processing areas and occupied areas. The ultimate resolution is that when the digester hatches are closed, the area is classified as 'processing.' When the hatches are open, it is classified as 'occupied.' To achieve this, the City's code enforcement officials required additional sprinkler protection in areas that are occupied at all times of operation. Basically, through our negotiations, we have created a model regulatory path for any facility like this in the United States!"



The four in-vessel composting tunnels (one shown on left in photo) are next to one of the banks of digesters (to the right). Content of two digesters fills one composting tunnel.

Construction of the facility was accelerated because much of the manufacturing was done in the U.S. "We work with Environmental Solutions Group's Marathon Division to do our fabrication," says Dirk Dudgeon, ZWE's Senior Vice President of Business Development. "In addition, all process controls were assembled in modules and shipped, so it was 'plug and play' during installation at the facility. Overall, these steps shaved months off the construction process."

## Design And Operations



ZWEDC installed two 2G Cenergy 800 kW combined heat and power units. Thermal energy from the engines is used to maintain percolate at thermophilic temperatures.

ZWEDC receives and processes commercial organics six days a week. Each digester tunnel — 18-feet wide by 16-feet high by 97-feet long — holds 350 tons of organic material. Organic Stream 1 loads (85% contamination) that are hauled directly from collection routes to ZWEDC are visually inspected for contaminants; some hand sorting is done. Loads that have been processed by Republic at its Newby Island MRF arrive in walking floor trailers. Materials are directly loaded into the digesters with front-end loaders.

Not long after Republic started up the processing line for the wet stream at its MRF, it decided to add a fines screen and a reducer. "The reducer helps size the material and liberates the organics from the plastic bags," says Chesof Republic. "All material from that line goes over the fines screen before it is sent to ZWEDC." The primary contaminants removed are plastic film, food service containers and other plastic items.

For the first six months of operations, Republic has employees on the tip floor working with ZWEDC staff to monitor loads for contamination, and to help gauge the quality of material arriving and properly assign OS classification. In addition, representatives from the City of San Jose visit on a monthly basis to observe operations and monitor material quality. (The city does similar visits to the Republic MRF.)

Because ZWEDC has been processing the commercial organics since July 2012 at the Z-Best Composting Facility, it had a good idea of what to expect in the wet fraction of the commercial waste once the AD/composting plant opened. What was less certain was the how the tonnages to be received would translate into actual volume that would go into each digester. "The digestion tunnels are designed for a volume throughput and a maximum material depth that allow for adequate airspace for both percolate distribution and methane production," explains Hanson. "This is a projected volume throughput, however, the exclusive feedstock agreement relies on tonnage. The density of the material is going to determine whether the volume throughput is higher or lower than anticipated. The higher the contamination, the lower the density of the material and thus, the weight per unit of volume decreases and the projected tonnage throughput will be reduced. If the material were too dense or wet, however, then a structural/bulking material would need to be added. Currently, the material being delivered by Republic is averaging 800 lbs/cubic yard and the contamination is providing the structure needed, so there is no need to add structural material or bulking agent to the organics going into the digesters."

The Kompoferm digesters operate at thermophilic temperatures (125°F-131°F) with continuous recirculation of the percolate (liquid rich in anaerobic bacteria that acts as an inoculant to kick start biogas production). After the digester door is sealed, the tunnel operates aerobically to reach the thermophilic range (the initial aerobic process takes roughly 1.5 days). Once at that temperature, the oxygen is purged and the 24/7 irrigation with percolate begins. The percolate tanks are heated with thermal energy from the CHP unit. During commissioning of the plant, liquid manure was brought in as a percolate "starter." The digester floors have a 1.5 percent slope that helps drain the percolate.

Retention time in the digesters is about 21 days — essentially the amount of time for peak biogas production. Biogas from each tunnel is pushed into the airspace of the percolate tank, combining biogas from each operating digester to yield a homogenous "rich" gas (higher methane content). In turn, the biogas goes to storage bladders on the roof, which then feed two 2G Cenergy 800 kW CHPs. "It is important to maintain an optimal flow of 'rich' gas to the CHPs, as that minimizes emissions from the engine, which is critical for our air permit," notes Hanson.

## Composting And Curing

As biogas production decreases, oxygen is introduced into the tunnel; the air is pushed up through the mass to purge all the methane from the material. Volume reduction after anaerobic digestion is about 30 percent. A front-end loader removes the material from the tunnel and takes it to a BHS decompactor designed to both loosen up the digestate and mix in a bulking agent if necessary. ZWEDC also installed a BHS disc screener to remove large contaminants before moving the digestate into the in-vessel composters.

Roughly two tunnels' worth of digestate fit into one in-vessel composting tunnel. Material is composted in the vessels for four to five days, primarily to remove ammonia and reduce odor compounds prior to curing outside in windrows. The air pulled through the building for air exchanges (3/hour) is forced through the material in the composting vessels to provide aeration before

passing through two acid scrubbers designed to treat 35,000 cubic feet per minute (CFM) of exhaust air. The scrubbers use sulfuric acid to chemically react with ammonia from the compost tunnels to produce ammonia sulfate, a liquid fertilizer. Over 90 percent of the ammonia is removed, along with particulate matter and odor compounds. In the last step, air is distributed to one of four biofilters (each 52-feet in diameter) containing a mix of wood chips and finished compost.



After in-vessel composting, material is moved to an outdoor curing pad that is built from crushed recycled rock from the adjacent Zanker resource recovery facility. Compost cures for four to five weeks after which it is screened to three-eighth-inch

Material from the in-vessel composters is moved to an outdoor curing pad. All water draining from the site flows to a biotreatment containment area (foreground).

minus with a Vermeer trommel. All water draining from the site flows to a biotreatment containment area.

## Initial Results

As of mid-February, all eight digester tunnels in the initial phase were filled and operating. (The second bank of eight digester tunnels was in the final stages of construction and testing at the time of publication.) Republic Services continues to tweak its collection routes to maximize the number of loads that can be hauled directly to the AD/composting plant versus having to be processed at its MRF. "Our recycling coordinators audit the wet and dry containers, and work with customers — especially those with compactors — to improve separation," notes Cheso.

Of the incoming tonnages, 95 percent is comprised of about 70 percent organic material and 30 percent nonorganic residuals/contamination. The remaining 5 percent of incoming tonnage is 80 to 95 percent organics and 5 to 20 percent nonorganic residuals/contamination. Currently, no yard trimmings are added to the initial mix (e.g., for structural material) beyond what is contained in the organics received from Republic.

The facility is producing about 375 to 425 m<sup>3</sup>/hour of biogas with a methane content at or above 60 percent. Approximately 20 percent of the electricity generated is used to operate all aspects of the AD/composting plant, except for the rolling stock. Residue is disposed at Republic's landfill on Newby Island. "ZWEDC does not pay for disposal," says Hanson. "We are provided vouchers based on the allowable residue as determined by inbound tonnage per Organic Stream."

Over time, ZWEDC may be able to receive organic wastes from other sources. Under its contract with the City of San Jose, the company must guarantee capacity for and anaerobically digest the first 5,000 tons/month of "Suitable Material" (i.e., suitable for digestion) during the first year of facility operation, for a total of 60,000 tons/year per year. Depending on how that varies from year to year, ZWEDC could take additional organic wastes to reach its 90,000 tons of annual capacity (Phase One). "This was calculated based on the total amount of organic material delivered from San Jose's commercial sector, less material delivered that was not suitable for digestion (residue and contamination)," explains Hanson.

**You might also like:**





# Maine Municipal Association

60 COMMUNITY DRIVE  
AUGUSTA, MAINE 04330-9486  
(207) 623-8428  
www.memun.org

To: Members of the Environment and Natural Resources Committee  
Fr: Geoff Herman  
Re: Municipal composting and recycling programs: Survey results  
Date: September 10, 2015

Two survey results are attached.

The first is a survey of municipal officials MMA recently conducted at the Committee's request in an attempt to ascertain:

- The current level of municipal programs, operations or partnerships with respect to the composting of organics that would otherwise be included in the municipal solid waste stream;
- Barriers to the implementation of composting programs from the municipal perspective, and
- Possible actions or programs implemented at the level of state government that might assist in the creation or expansion of municipal or regional composting programs.

The second document includes the results of a survey of municipal officials MMA conducted in 2014 that focused primarily on municipal recycling programs, the barriers to enhanced or more aggressive recycling efforts and what actions state government could take that, from the municipal perspective, would be most effective to assist in those municipal efforts.

For MMA's brief presentation this morning, the focus will be on the first (composting) survey. The results from the broader survey on recycling more generally are provided for the Committee's background information.

Also for the Committee's background information, I am attaching an article on municipal/county composting operations from the November 2014 edition of the *Maine Townsman*. The article reviews the composting programs in Skowhegan, the Lincoln County food scrap composting program, and other composting initiatives developed in coordination with the DEP.

Municipal Composting Programs  
Current Practice, Perceived Barriers, Recommended State Assistance  
September 2015

Survey results prepared and assembled by the Maine Municipal Association

A survey of Maine's key municipal officials was conducted in late August of 2015 in an attempt to ascertain:

- the current level of municipal programs, operations or partnerships with respect to the composting of wet organics<sup>1</sup> that would otherwise be included in the "Municipal Solid Waste"<sup>2</sup> stream that is generally subject in Maine to either landfilling or incineration;
- barriers from the municipal perspective to the implementation of composting programs, and
- possible actions or programs implemented at the level of state government that might assist in the creation or expansion of municipal or regional composting programs.

A copy of the survey instrument, including total responses, is found at **Appendix A**.

Municipal officials were given two weeks to respond to this survey. More responses may be forthcoming after the Labor Day period. MMA received 62 responses to the survey, yielding a response rate of 13%. Municipalities from all 16 counties are represented in the returns. The aggregate resident population represented by the responses is 204,000. The respondent municipalities ranged in population from 69 to 25,002.

### **Primary Findings**

#### **Question #1. Incidence of municipal composting programs.**

- 6 of the municipal respondents (9.7%) finance and actively manage a wet organics composting operation.
- An additional 4 municipal respondents (6.5%) are engaged in some sort of partnership system with a non-profit entity or private-sector operation to provide access to composting operations for their residents.
- 36% of the surveyed municipalities (22 respondents) operate leaf and yard waste drop-off areas. In some cases the collected materials are periodically chipped and made available for landscaping purposes. In others, they are managed as relatively passive composting sites.

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<sup>1</sup> This report uses the term "wet organics" to refer to the composting of food waste, manures and other types of biodegradable materials that are typically nutrient-rich and have a high moisture content, in contrast to the very common but relatively passive municipal practice of "composting" leaves and chipped yard waste.

<sup>2</sup> The term "municipal solid waste", which suggests that municipal governments generate solid waste and should, therefore, be responsible for disposing of it, has emerged out of the state's Solid Waste Management Act, first enacted in 1973 (PL 1973, chap. 387). Although the original enactment did not formally define "municipal solid waste", it succeeded in establishing the nature and tone of the unfunded solid waste mandate. In the Act's opening declaration of policy, it is noted that "*Municipalities are generating increasing amounts of solid waste with no systematic or consistent methods being used to reduce the volume of waste or to soundly dispose of it.*" To reinforce the position that municipalities should be made responsible for the solid waste "they" generate, the term "municipal solid waste" (as distinguished from hazardous waste, septage and special waste, etc.) was quickly codified into the state's Department of Environmental Protection's solid waste regulations (Chapter 400, et seq.).

- **Bottom line:** 84% of the municipal respondents do not directly operate a wet composting operation or engage in a partnership with the private or nonprofit sector in such an operation.

Attached to this overview are the comments submitted by the respondents to the various questions, organized by county of origin.

**Question #2. Participation rates.** Because few municipalities directly operate or manage composting programs, information regarding participation rates is hard to come by. Of the 11 municipalities responding to this question, 6 noted very limited participation, 3 indicated that participation was limited but growing and 2 responded that participation was approximately the same as the recycling program for other materials. Supplementary information related to this question was provided by the respondents under Question #3 (see immediately below).

**Question #3. Data on composting rates.** This question required a narrative response regarding composting data keyed to the type of direct or partnership composting program available in the community. The 11 responses are provided in the comments attached to this overview, organized by county of origin.

**Question #4. Perceived barriers.** This question required respondents to rank seven options by the degree each option presented a barrier, and allowed for other barriers to be identified. After summing the ranked-choice voting, the primary barriers to the creation or expansion of municipal composting programs from the respondents' perspective is the lack of infrastructure to accommodate composting programs (space, buildings, tractors, machinery, etc.) and the related lack of municipal financial resources to invest in the necessary infrastructure. Potential barriers that the municipal respondents identified least frequently included: (1) the ready availability of composting programs in the area; (2) the so-called "ick factor"; and (3) a perceived lack of return on municipal investment. These results suggest that from the perspective of the municipal respondents, if the major barriers were removed, the remaining barriers would be relatively minor in nature.

The comments provided in response to Question #4, including the identification of barriers that were not included in the survey question, are illuminating.

**Question #5. Support for backyard composting.** 17 municipal respondents (27%) indicated their municipalities actively supported backyard composting by either providing access to education and how-to information and/or no-cost or low-cost composting barrels.

**Question #6. State assistance.** Similar to Question #4, Question #6 required the respondents to rank seven potential actions or programs state government could take to encourage or expand local composting programs, and suggest other potential actions as well. After summing the responses, three specific types of assistance from state government were strongly supported by the municipal respondents.

- Establish full-scale composting programs/facilities at all state institutions ("lead by example");

- State take lead in developing an informational/educational media campaign regarding the value of composting and recycling.
- Provide from state general fund resources grants to municipalities or multi-municipal regions to assist in the creation of local/regional composting programs.

Judging by the aggregate response, four other potential types of state assistance were not considered very effective by the respondents. It is apparent that municipal officials do not generally believe there are significant regulatory barriers to the development of composting programs and there is very little municipal support, as might be expected, for mandating the creation of municipal composting programs.

The commentary provided in response to this question does not provide many suggestions for state assistance other than the potential actions listed in the survey instrument.

**Question 7. Additional information for the Committee's consideration.** The final question required a narrative response. The responses are illuminating and organized according to county of origin.



**Supplemental Comments Provided in Compost Survey**  
**Organized by Question # and Region of Response**

**Question #1. Does your municipality either directly provide or otherwise make available to your residents and businesses a solid waste composting program of any kind?**

Southern (York, Cumberland, Sagadahoc)

- Curbside. Garden to Garden. (Cumb.)
- Our public works director is working to initiate a drop off organics composting program at our town-owned transfer station. The program is not yet up and running, but we are happy to provide more information if needed when it is. Residents can choose to place their yard waste (bags provided at no cost) on the curb for collection, or they can bring them to the transfer station. (Cumb.)
- We compost our organics from our breakroom in a backyard composter at the Town Hall. Our food pantry, attached to the building, composts with Garbage to Garden once a week. (Cumb.)
- Curbside pick-up (for leaves and yard waste)/composting bins for sale at municipality. (Cumb.)

Central (Androscoggin, Kennebec, Knox, Lincoln)

(No narrative responses provided to Question 1 from this region.)

Eastern (Waldo, Hancock, Washington)

- Re leaf and yard waste, leaves are added to brush pile, chipped and hauled away. (Waldo)

Western (Franklin, Somerset, Oxford)

- Food waste/compostable organics is brought to the municipal site by UMF students/professors. Municipality supplements food waste with manure it transports from local fairgrounds. Compost pile is managed by both UMF and municipal personnel. The partners coordinate sale of compost to the public. (Fran.)
- Drop off of food waste from nonprofit summer camp. (Ox.)

Northern (Aroostook, Penobscot, Piscataquis)

- Also have program for wood/old lumber/brush (Pisc.)

**Question #2. If your municipality either directly administers or partners with a private sector/nonprofit composting program, how would you describe the participation rate?**

(No narrative responses provided to Question 2 from any region.)

**Question #3. Are there any data you could share regarding your community's composting rate (e.g., weight of organics annually removed from the solid waste stream, number of households participating, etc.)?**

Southern (York, Cumberland, Sagadahoc)

- Garbage to Garden has 314 accounts in Falmouth. They have estimated a household average of 11 lbs. per week of organics being collected; monthly that is 14,967 lbs., or about 7.5 tons. Annually that is 179,608 lbs or 90 tons. (Cumb.)
- We make available to the public for purchase on an annual basis 20 compost bins at \$48 each. (Cumb.)
- Approximately 750 yards of compost produced and distributed in 2014. (York County, Town of 8,000, food waste drop-off at municipal composting site.)
- Arrowsic just did a town wide survey that included detailed questions about composting. With a 61% response rate to the survey, 75% of the respondents said they compost an average of 9 lbs./week. If this is extended to the entire town of 216 households (US Census), that would mean that 162 households compost a total of 1,458 lbs./week or 75,816 lbs./year, or 37.9 tons/year. Based on current tipping fees (\$70/ton), this saves the Town \$\$2,653 a year in disposal fees. (Sag.)
- Sales of finished compost. 42.13 tons. (Cumberland County, Town of 5,000, food waste drop-off at municipal composting site.)

Central (Androscoggin, Kennebec, Knox, Lincoln)

(No narrative responses provided to Question 3 from this region.)

Eastern (Waldo, Hancock, Washington)

- Don't know how many compost at home. (I do!) (Hanc.)

Western (Franklin, Somerset, Oxford)

- 1,000 cubic yards produced annually. (Franklin County, Town of 7,500, partnership program with University (food waste) and municipality (agricultural fair waste).
- 3.2 tons per year used as finish fill for town projects...20-25% participation rate (Oxford County, Town of 1,100, leaf and yard waste composting, only.)

- Produce between 800-900 yards of compost per hear (include leaf and yard waste and food scraps). We have approximately 25 households participating in the food scraps program at this time. (Somerset County, Town of 8,500, food waste drop-off to municipal composting site.)
- Unsure as it all goes to Mid-Maine Solid Waste in Corinna. (Som.)
- We take in about 300 yards leaves, 100 yards grass, 150 yards horse manure, 700 lbs. food waste. (Ox.)

Northern (Aroostook, Penobscot, Piscataquis)

- 150 – 200 yards/year. (Penobscot County, Town of 5,000, leaf and yard waste composting, only.)

**Question #4. From your perspective, what issues or barriers stand in the way of either creating or expanding a food waste/organics composting program in your community?**

Southern (York, Cumberland, Sagadahoc)

- DEP regulations and permitting. (Cumb.)
- Ecomaine studied composting in 2013/2014. We live under ecomaine’s waste agreement. (Cumb.)
- Many already compost yard waste at home even though we offer a small test site. (Sag.)
- It seems that most of this question does not apply to our town. Arrowsic is a rural community with just over 200 households. Trash and recycling are picked up at curbside. There is a small recycling shed for miscellaneous items, but no transfer station. Composting fits into the backyard category, and it’s hard to see how our town could participate in a public or a private program. However, understanding how some communities seem to be benefitting from a more organized program, we look forward to receiving more guidance in this area. If there were a reasonable program to consider, with clear benefits to the town, residents would most likely support it. Thanks. (Sag.)
- Limits under “Permit by Rule”. (Cumb.)
- We don’t have money for a grinder or screen, so produce a poor quality compost. (York)

Central (Androscoggin, Kennebec, Knox, Lincoln)

(No narrative responses provided to Question 4 from this region.)

Eastern (Waldo, Hancock, Washington)

- People are afraid of attracting bear, raccoons, etc. to their property, which is not usually a problem. (Hanc.)

Western (Franklin, Somerset, Oxford)

- People do not want to use the (compost) soil due to invasive plants such as bamboo (etc.). (Ox.)

Northern (Aroostook, Penobscot, Piscataquis)

(No narrative responses provided to Question 4 from this region.)

**Question #5. Whether or not your municipality participates in a public or private composting program, does your community promote or support composting at home by making how-to information easily accessible, providing composting containers for home use, etc.?**

Southern (York, Cumberland, Sagadahoc)

- Note: Our Conservation Commission is working on an educational program. (Sag.)
- Containers for home composting. Low cost not no cost. (Cumb.)
- We provide Backyard Composters through our public works department at a reasonable price. Information is provided on home composting at the Town Office as well. Composting information has also been included in the monthly Energy/Recycling newsletter. (Cumb.)
- Working on an expanded program. (Cumb.)
- Note: We've had periodic education and information related to composting in past years, but are working on a new composting brochure and planning to hold workshops this year. Re: composting containers, low-cost composting bins are regularly provided by MRRA. (Sag.)

(No narrative responses provided to Question 5 from the other regions.)

**Question #6. What role, if any, should state government play in creating, expanding or enhancing composting programs in your region?**

Southern (York, Cumberland, Sagadahoc)

- Support the free market economics of composting. If it is economically viable, it will occur. Work on developing the economic justification for composting and share that with municipalities. (York)
- Establish regional composting centers. (Cumb.)
- Re relaxing regulations. Not sure exactly what this means, but environmental and regulatory barriers are likely there for a good reasons and should not need to be relaxed to accomplish this goal. (Sag.)

Central (Androscoggin, Kennebec, Knox, Lincoln)

(No narrative responses provided to Question 6 from this region.)

Eastern (Waldo, Hancock, Washington)

(No narrative responses provided to Question 6 from this region.)

Western (Franklin, Somerset, Oxford)

- Provide homeowner containers to compost at home. (Ox.)

Northern (Aroostook, Penobscot, Piscataquis)

- We are in the country. If people wish to compost, they will do so. (Aroo.)

**Question #7. Please provide any additional information about your positive or negative experiences with composting programs, the perceived importance or value of composting programs in your region, how those programs can be designed to succeed, and any other ideas on the subject of composting you think would be valuable to the Natural Resources Committee.**

Southern (York, Cumberland, Sagadahoc)

- I have learned in many Canadian provinces that the two-bay trash collection truck can be utilized in a fashion to collect waste, recycling and organics. The way it works is to designate one bay for a weekly compost collection, and alternate the other two bays for trash/recycling. This weekly collection of organics is necessary because of the “ick factor”, and designating one bay for just organics allows cleaning to be carried out easily. I think there is a potential to adopt curbside collection of organics in Maine utilizing this design. (Cumb.)

- I feel Harpswell could benefit from collaborating with a private/public compost facility. Our current facility's size and available footprint limit our ability to add infrastructure to the current site. Other factors such as educating the public, and having enough manpower to effectively manage an in-house program are limiting factors as well. (Cumb.)
- If the statistic is true that 43% of the municipal solid waste that currently ends up in landfills or incinerators is compostable, we have what amounts to a an emergency situation in solid waste disposal. The state should immediately fund a massive and comprehensive public awareness campaign to educate the public in the value of composting. Composting, not just for personal use for gardens, etc., but for its own sake, to reduce not only costs to municipalities (approximately \$5,000 in 2015, just for a small town like Arrowsic), but for environmental reasons, in reducing the need for landfills and incinerators and dispose of this waste and all the associated negative impacts, when it's clearly unnecessary. (Sag.)
- At first we were selling to public at \$.01 per pound. The price was raised to \$.04 per pound. This has slowed down sales making the finished pile larger than the stage #1 pile. (Cumb.)

#### Central (Androscoggin, Kennebec, Knox, Lincoln)

- We believe that a composting program could be valuable; however the start-up costs for a small, rural town (500 population) would be prohibitive unless it is a cooperative effort with either larger or many communities. Since our residents already travel at least 20 miles one way to the transfer station, we believe they would be reluctant to add another trip to take their wet garbage to another site. Many of our residents compost for their own needs. (Linc.)
- DEP provides valuable assistance to both farm and commercial composters but does not have the staff and resources to help smaller, municipal programs. Need recycling/composting grants and free training for those interested. (Kenn.)
- We have had good support for our programs. The biggest point is that it takes compost out of the waste stream. (Knox)

#### Eastern (Waldo, Hancock, Washington)

- Large lobster and seafood wholesalers should be required to contract with private commercial composters to deliver their waste to them or contract with private haulers. They should not be allowed to use private haulers to take the waste to PERC or the dump. (Hanc.)
- Eastport would be interested in composting with funding and education. Our options for disposal of MSW is limited due to our location. A viable market for rural Maine would be a plus as well. (Wash.)
- The program has to demonstrate economic sense. "Feel good" will not do it. (Hanc.)

### Western (Franklin, Somerset, Oxford)

- For several years the Town of Madison has tried to establish a public/private entity to help compost the vegetable waste from Backyard Farms. Each year, BYF produces up to 12,000 tons of plant waste which they would love to compost but we have been unable to find a third party with the resources to handle that volume. Our municipality has a struggling recycling program with a participation rate of approximately 10%. That leads me to believe there is not a lot of household demand for composting. If the town could provide some sort of composting program that helped BYF and provided for household composting too, we would be interested. (Som.)
- DEP could help. (Fran.)
- The Town of Skowhegan has had an existing composting program for many years. By creating better processing areas (concrete and gravel pads) and having knowledgeable employees to maintain is crucial to the program. Last but not least, by adding food scraps to the existing leaf and yard waste should be done in small steps so you can better handle the processing. (Som.)
- State should not mandate any town to do anything. Puling organics from the solid waste stream would be labor intensive both in the home or business as well as at the transfer stations. Organics are good for landfills and there is no outlet for mass quantities of compost. (Fran.)
- I'm sorry I was not able to complete this survey in full. (Som.)
- Again, the quality of yard waste compost seems to carry invasives and seems be a problem that local contractors do not want to use. (Ox.)
- We have good luck with leaves, grass and some manure. People have a real problem keeping the pine needles sorted out of the leaves. Just don't get it. Just starting with some food waste and so far, positive results. Education big problem, as with all recycling. (Ox.)

### Northern (Aroostook, Penobscot, Piscataquis)

- Ad hoc committee should be formed to explore composting possibilities. (Aroostook)
- I personally compost at home on a small scale and would love to compost leaves as I see so much waste that could be put to good use. (Aroo.)
- I have been using an "Earth Grow" composter at my house for over 20 years. I use the lazy composter's approach, but at the end of each season. I generate about 2 wheelbarrows worth of compost from a family of four. (Aroo.)

To: Maine's Key Municipal Officials  
Fr: Geoff Herman  
Re: Composting Programs at the Municipal Level  
Date: Tuesday, August 25, 2015

At the request of the Legislature's Environment and Natural Resources (ENR) Committee, we have developed a 7-question survey for municipal officials that is focused on publicly supported and/or municipal-private partnership composting programs that are available at the municipal level. The survey also seeks information about what type of assistance to local governments, if any, would be most helpful from state government to enhance or expand composting capacity in your community or region.

We are not expecting you to undertake any special research in order to respond and we think the survey should only take a couple of minutes to fill out. The information obtained will be assembled as aggregated rather than individualized data, organized according to geographic areas of the state, and provided to the ENR Committee when it meets on September 10<sup>th</sup>. I apologize for the somewhat tight timeframe, but it would be greatly appreciated if you could get a response back to us by the end of business day on Wednesday, September 9<sup>th</sup>. The completed survey should be returned to Laura Ellis either by fax (624-0129), by email ([lellis@memun.org](mailto:lellis@memun.org)) or by mail (60 Community Drive, Augusta, ME 04330).

Many thanks, as always.

### Composting Survey

Name: \_\_\_\_\_ Municipality: \_\_\_\_\_

1. **Does your municipality either directly provide or otherwise make available to your residents and businesses a solid waste composting program of any kind? (Please check all that apply)**

Municipally financed and operated programs

35 No municipally operated composting program

24 Leaf and yard waste only, drop-off at transfer station or other municipal site

5 Food waste/compostable organics (as well as leaf/yard waste), drop-off at municipal

composting site

- 1 Food waste/compostable organics, curbside pick-up by municipality
  - 3 Other municipally-operated composting program (please describe)
- 

Partnering with private sector/nonprofit programs

- 5 No composting program with private sector/non-profit operators
  - 1 Food waste/compostable organics, drop-off at municipal site for regional pick-up
  - 0 Food waste/compostable organics, curbside pick-up for subscribers
  - 3 Other type of private sector composting program, please describe
- 

2. If your municipality either directly administers or partners with a private sector/nonprofit composting program, how would you describe the participation rate?

- 6 Limited, much weaker than regular recycling (i.e., for glass, plastic, paper, cardboard)
  - 3 Limited, but growing in popularity
  - 2 Approximately same participation rate as other recycling
  - 0 Strong
  - 1 Other, please describe
- 

3. Are there any data you could share regarding your community's composting rate (e.g., weight of organics annually removed from the solid waste stream, number of households participating, etc.)?

11 responses - see comments

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4. From your perspective, what issues or barriers stand in the way of either creating or expanding a food waste/organics composting program in your community? (Please rank the following choices on a scale from 1-5 where 1 represents an issue or barrier that does not exist in your community and 5 represents a very significant barrier.)

- 138 The general public has not made a connection between composting and reduced solid waste management costs
- 149 No political will to support a new program with taxation
- 113 The “ick factor”, a lack of interest or willingness to participate at the residential level
- 169 Lack of either public or private composting facility infrastructure in the area (land, buildings, tractors, machinery, existing/compatible agricultural operation, etc.)
- 203 Lack of municipal financial resources to invest in necessary infrastructure
- 115 Perceived lack of return on investment
- 75 Active/robust home and farm composting programs, therefore no perceived need to create a public program
- 16 Other, please explain  
See comments
- 

**5. Whether or not your municipality participates in a public or private composting program, does your community promote or support composting at home by making how-to information easily accessible, providing composting containers for home use, etc.?**

- 43 We have not implemented any home composting promotional programs
- 10 We actively promote home composting through education and information sharing
- 7 We support home composting by providing composting containers at no or low cost to interested residents/businesses

**6. What role, if any, should state government play in creating, expanding or enhancing composting programs in your region? (Please rank the following choices on a scale from 1-5 where 1 represents an inappropriate or ineffective state role and 5 represents an effective state role.)**

- 189 Lead by example; establish a composting program for all state government facilities and institutions
- 190 Finance and implement a statewide public information and educational media

campaign promoting recycling and composting programs

- 192 Provide financial resources to municipalities or multi-municipal regional entities to assist in the creation of local/regional programs and composting infrastructure
- 124 Relax environmental and other regulatory barriers to the establishment of composting facilities
- 127 Help create a strong market for composted organics through state purchasing
- 109 Mandate, with supporting assistance, all generators of large quantities of food waste to compost their organics (e.g., schools, colleges, hospitals, institutions, large restaurants, etc.)
- 93 Mandate, with supporting assistance, all municipalities to implement composting programs
- 4 Other possible state government approaches (please describe)  
See comments

**7. Please provide any additional information about your positive or negative experiences with composting programs, the perceived importance or value of composting programs in your region, how those programs can be designed to succeed, and any other ideas on the subject of composting you think would be valuable to the Natural Resources Committee.**

18 responses, see comments

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Thank you for your participation in this survey. Please return completed survey by Wednesday, September 9<sup>th</sup> to Laura Ellis either by fax (624-0129), by email ([lellis@memun.org](mailto:lellis@memun.org)) or by mail: Maine Municipal Association, 60 Community Drive, Augusta, ME 04330.





## **2014 Municipal Solid Waste Survey Results**

Maine Municipal Association

60 Community Drive

Augusta, ME 04330

1-800-452-8786

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## Introduction

The Maine Municipal Association, in conjunction with the Maine Resource Recovery Association, developed and issued a survey to each of MMA's 487 municipal members (out of 492 total municipalities in Maine). The survey was conducted over the summer of 2014.

**Background:** In early 2014, the Legislature passed a bill, LD 1483, "An Act To Promote and Enhance State Policy To Preserve and Support Existing Methods of Disposal of Municipal Solid Waste", which strengthened the Department of Environmental Protection's (DEP) utilization of Maine's solid waste hierarchy. The hierarchy prioritizes solid waste disposal in the following order: reduce, reuse, recycle, compost, incinerate, landfill.

As originally drafted, LD 1483 sought to alleviate a looming revenue gap at Maine's incineration or "Waste-to-Energy" facilities, associated with the expiration of a federal electricity subsidy, by imposing higher tipping fees at landfills. Maine's municipalities are almost evenly split on their primary method of waste disposal, with some using landfills and others using waste-to-energy facilities, and MMA's Legislative Policy Committee opposed the "take from one to give to the other" approach in the original bill. As the 127<sup>th</sup> Legislature draws near, owners of waste-to-energy facilities and landfills are reportedly drafting new legislation to address the anticipated financial shortfall facing waste-to-energy facilities.

**Results:** In a perfect world, municipalities would be able to offer their own single solution to the fiscal challenge facing waste-to-energy facilities. While this survey does not seem to have elicited any "one size fits all" panacea proposal, the following survey results demonstrate a serious effort to offer suggestions to help chart the future course of solid waste policy in Maine.

Fifty-four\* municipalities of varying population sizes, waste disposal methods, and geographic locations throughout the state responded to the survey, answering limited quantitative questions as well as open-ended qualitative questions. The quantitative data provides valuable information regarding general municipal attitudes on solid waste management throughout the state, and the qualitative responses contain a wide variety of perspectives that will hopefully inform state-level discussions in 2015.

What follows are the results of this survey effort. Because many recurring themes transcended particular questions, the qualitative responses have been categorized by topic rather than question number. Confidence levels or margins of error have not been ascribed to these results; all responses have been included and merit consideration.

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\* The three municipalities of Owls Head, South Thomaston, and Thomaston responded as one "three-town cooperative", so their input was counted collectively as one response.

## Quantitative Responses

*Percentages displayed after each answer reflect the number of respondent municipalities selecting that option.*

1. What actions could the state take to help your municipality increase its adherence to the top part of the solid waste hierarchy (reducing, reusing, recycling, and composting) and depend less on the lower part of the solid waste hierarchy (incineration and landfilling)?
  - A. Promote model waste management ordinances that encourage recycling and composting. **31%**
  - B. Require municipalities to develop a plan for achieving a minimum 50% recycling rate. **25%**
  - C. Provide revenue sharing bonus for exceeding state recycling goals. **60%**
  - D. Establish financial or other penalties for not meeting state recycling goals. **6%**
  - E. Provide grants for recycling infrastructure. **67%**
  - F. Establish disposal bans (e.g., corrugated cardboard, metals, mattresses). **12%**
  - G. Participate in a Northeast regional effort to support the development of businesses to process and/or utilize recyclables. **65%**
  - H. Develop and implement a state-wide promotional recycling campaign. **48%**
  - I. There is nothing the State could/should do that would be helpful. **0%**
  - J. Other. **17%**

*Municipalities showed their strongest preference for having the state provide grants for recycling infrastructure (67%), followed by encouraging the development of recycling businesses (65%), creating financial rewards for achieving high recycling levels (60%), and implementing a statewide promotional recycling campaign (48%). There was moderate municipal support for promoting model waste management ordinances that encourage recycling and composting (31%) and requiring municipal plans for achieving a 50% recycling rate (25%). Very little municipal support was shown for establishing disposal bans (12%) and imposing financial penalties (6%).*

2. The state has implemented a goal of achieving at least a 50% rate of recycling and composting for municipalities.

Do you believe the 50% goal is realistic and achievable?

Yes – 58%    No – 29%

Do you see obstacles to achieving the 50% standard in your municipality?

If yes, which obstacles?

Yes – 73%

*More than half of the respondent municipalities believe they can achieve the 50% recycling goal, but nearly three-quarters of respondents see impediments to reaching this benchmark. The chief impediments cited are a lack of infrastructure and/or transportation costs, as well as a lack of willingness to recycle on the part of residents.*

3. Public works expenditures are second only to education expenditures in municipal budgets statewide, and solid waste management is the most costly sector of non-roads public works spending. Aside from cost, which of the following factors influence solid waste management decisions in your community on a scale of 1-5 (with 5 being the greatest degree of influence)?

Maine's waste management hierarchy

*27% consider important*

1- 27%      2- 10%      3- 15%      4- 19%      5- 8%

State recycling goals

*17% consider important*

1- 25%      2- 29%      3- 12%      4- 13%      5- 4%

Environmental impact/sustainability

*26% consider important*

1- 13%      2- 21%      3- 23%      4- 13%      5- 13%

State or federal regulations

*44% consider important, 29% very much so*

1- 12%      2- 8%      3- 19%      4- 15%      5- 29%

Accessibility of disposal facilities and available infrastructure

*63% consider important, 44% very much so*

1- 10%      2- 6%      3- 12%      4- 19%      5- 44%

Other

1- 0%      2- 0%      3- 2%      4- 10%      5- 4%

*For municipal managers, solid waste management decisions appear to be based mostly on practical disposal and infrastructure considerations as well as legal and regulatory requirements. After cost, convenient access to disposal facilities and related infrastructure is far-and-away the most significant factor in municipal solid waste management decisions (63%). State or federal regulations have a moderately significant impact as well (44%). The structure of the established hierarchy, environmental impact, and statutory recycling goals have the least significant influence (27%, 26%, and 17%, respectively).*

4. Do any existing state or federal regulations, or other practical limitations, inhibit your ability to adhere to the hierarchy? If so, which regulations or limitations and how?  
 Yes – 42%    No – 27%

*Few regulatory issues were cited in response to this question. Rather, practical limitations were the main issue for municipal officials. Prohibitive costs and a lack of inexpensive alternatives, combined with current revenue shortfalls, market contract requirements and citizen apathy, were the chief forces identified as impediments to municipal adherence.*

5. What suggestions do you have regarding the future of waste-to-energy incineration?  
Possible examples include:
- a. Replace the expiring federal subsidy with a state-level incentive by including waste-to-energy in the mix of Maine's Renewables Energy Portfolio Standard. *29%*
  - b. Provide no incentives, let facilities stand on their own. *15%*
  - c. Assess tipping fees in accordance with the state's solid waste hierarchy (i.e. assess a higher tipping fee on landfilled waste than incinerated waste). *31%*
  - d. Other *31%*

*A relatively even mix of responses shows modest municipal support for some manner of subsidy, but not necessarily on the backs of municipalities. Market-based incentives and assistance are generally attractive to municipal officials.*

6. What is your general level of satisfaction with the solid waste recycling, management and disposal systems in your municipality?
- a. Very Satisfied - *29%*
  - b. Satisfied - *35%*
  - c. Neutral - *17%*
  - d. Dissatisfied - *10%*
  - e. Very dissatisfied - *0%*

*Overall, municipalities have a significant degree of satisfaction with their current waste disposal system.*

7. Additional Comments or Suggestions: *See Below*

## Qualitative Responses

The following responses were provided for specific questions on the survey, and the question number is provided after each statement. The responses are compiled by category rather than question as a method of conveying general municipal perspectives on solid waste policies.

### *Cost Issues - Generally*

- Our biggest obstacle is funding – for infrastructure, ongoing labor costs, education and equipment (composting bins for residents, for example). [Our city] is very strapped for funds due to its position as a regional service center and its already high property tax rate. The loss of revenue sharing has only made things worse. Q2
- Having the necessary funding to implement a robust recycling program is an obstacle. Q2
- The cost of establishing a realistic program. Q2
- The cost of construction of a new transfer station and recycling center. Q2
- Cost to towns. Q2
- Fee for service and equity mechanisms for funding the overall methodology and cost of waste disposal [influence municipal decision-making]. Q3
- The State has specific regulations for the disposal of Universal Waste and Hazardous Waste, but [our town] does not have the resources to meet these requirements. The Town's response has been to direct citizens to suitable destinations for disposal of this waste. Q4
- Mostly practical limitations which include spending scarce resources on solid waste when there are so many other higher priorities, like fixing roads and funding education. Q4
- Our bulky waste & hazardous waste disposal is limited due to costs and regulations. Q6
- We have improvements to make; costs are holding us back. Q6

### *Cost Issues – Existing Market*

- Cost of disposal of pressure treated wood as opposed to grinding and incinerating it. It all ends up in the landfill ultimately. Q3
- No market for #1 and #3 - #7 plastics. Q4
- Lack of economic incentives is the main obstacle to a higher recycling rate, e.g. pay for the expense you cause. Lack of stable markets for the recyclables, costs more than revenues generated, economics... Policy makers locally need to be "out front" on these issues, they hesitate and "need cover" or deflection of the criticism. Q4
- Consumer based economy makes educating "reduce, reuse" a hypocrisy. Q4
- Cost/cost recovery/cost benefit ratios don't always work, or are not predictable on a long term basis - commodity priced disposal of recyclables is affected by too much fluctuation. Those communities, who have no practical alternatives other than landfills, should not be penalized to support the cost of continued operation of incinerators. In a perfect world, a laissez faire economy in which government kept its nose out would be a wonderful solution. While I believe that we need to stay as close as reasonably possible to that goal, I also believe that Maine is too small an economy to effectively compete in the open market without some assistance in leveling the playing field. We are still trying to find practical alternatives to how to justify the cost of recycling when the commodities prices are down too much to break even on the overall cost. [Providing a state subsidy for waste-to-energy] is a reasonable solution at first blush. To answer properly, more information is needed. Q4 + Q5
- Aroostook County is limited in their options. Q5

### ***Cost Issues – Municipal Contract Requirements***

- Local contractor for hauling to PERC (yearly) contract [influences municipal decision-making]. Q3
- PERC's requirement for a certain amount of tonnage. Q4
- Our Town is a member of the MRC and minority owner of PERC. We are required by contract to incinerate MSW at PERC facility until 2018. Towns that are not meeting their guaranteed tonnage as part of that contract have disincentive to Reduce, Reuse, Recycle, which would further decrease their tonnage. That disincentive needs to be eliminated. Q4
- A prime limiting factor is the long-term contracts for disposal options that municipalities must implement for the disposal facility to appropriate funds and recoup the investment in permitting and facilities. The State should examine their hierarchy and adapt existing policies that direct future investments and facilities while fully allowing current facilities to complete their useful/permitted life cycle and investments. Q4
- Regulations related to owning/operating a landfill force the decision to landfill waste to be a long term one. Quick changes to municipal solid waste arrangements are not possible. Q4

### ***Cost Issues – Recycling***

- Currently it costs the town more to recycle than to take to a landfill. Unless recycling costs are reduced [recycling >50%] will not happen. Q1 + Q2
- The volume of recycling here in Aroostook County does not make it feasible to recycle 50%. The cost to meet the [50% goal] would be too high. Single-Sort recycling would make it easier to reach that goal, but the cost to do that makes it nearly impossible. If there were curbside recycling pick up that may influence people to use it more. Q2 + Q4
- Single stream recycling would encourage more people to recycle but not cost effective. Q4
- As a community we received \$9,231 in revenue and paid \$31,560 to support [recycling]. We also saved over \$7,000 from sending the material to the local transfer station. We collected in revenue or saved from transfer station fees 50 percent of our recycling budget.
- We have found that single stream is still too expensive an option for us at this time. Q6

### ***Cost Issues – Transportation***

- Distance from processing centers – [our town] does not have a lot of opportunities to market materials. What to me is lost in looking at solid waste management is the cost paid by communities like ours – we are 100 plus miles from Norridgewock, transportation is our largest single expense. Q2 + Q6
- [Our Municipality] is not very close to an incinerator, so transportation costs are an issue for the city and for its private haulers who are licensed for curbside pickup of trash and recyclables. Also, the local landfill takes a very limited list of recyclables, which means that because most of our licensed haulers are small (and cannot afford to take recyclables elsewhere), they cannot offer a comprehensive recycling service. Q4
- Transportation cost is a big factor. We use PERC because no alternative is any less distant than going to PERC. Q4
- Tipping stations. Distance = money. Q4
- Municipalities make the decision on landfills or incineration based on the costs associated with transporting the trash to the disposal facility. [Our town] would prefer incineration but the transportation costs to the nearest facility are not cost effective for our town. Towns should not be penalized for using a landfill if it is the closest facility. Q5
- Transportation costs to southern Maine make [recycling] some items impractical. Q6

- Most of what hurts us is the cost of freight to get the collected material to market. So anything that helps cover the cost would be encouraging.

### ***Hierarchy Observations – Generally***

- Rather than focus on the 50% goal, [our municipality] has preferred to emphasize improvement in the four “R”s and reduction of the solid waste (trash) weight totals. Weigh the sustainability/environmental impact of incineration vs. landfills. Q2 + Q5
- [Increased tipping fees] are a good option, BUT banning landfill of unprocessed MSW is better solution, and the "landfill tax" (higher tipping fee) should not be used to subsidize WTE, which is not at the top of the hierarchy. Perhaps, if there is any subsidy, it should be used to REDUCE, REUSE, RECYCLE. Q5
- Examine the hierarchy: reduce, reuse, recycle, compost, incinerate, landfill for conflicts. Reduction complements all aspects. Reuse is not generally free and comes at a cost, but also implies that the element is not yet a waste stream item. Compost implies the separation of organics that are the most easily and beneficially reused for their captured nutrient properties. Recycling is sometimes, but not always, environmentally sensible. The removal of recyclables is largely adverse to incineration as many of the recyclable products are high BTU items. There is a catch 22 of increasing recyclables while decreasing the necessary volume for incineration to produce enough electricity to repay investments. Incinerators still need landfills for greatly reduced volumes but of a higher concentration of toxicities. Summary: We have not addressed the interrelations sufficiently within the 6 components of the hierarchy. Emphasis has been placed on reducing the amount of materials going to a landfill by implementing the hierarchy, but less focus has been placed on the impacts of incineration. Economics drives most operations. One cannot always do the most environmentally friendly alternative if the economics don't allow. Incineration is not currently economically viable absent a subsidy, landfill operations are. For any disposal mechanism that is not economically viable, one would reasonable identify options that are viable and not penalize operations that are more self-sufficient. There are Combine Operation Facilities, such as Ecomaine, that perform incineration as part of their sustainable business model. I suggest that standalone incineration facilities adopt a more sustainable and currently known business model. Any non-subsidized business entity would do the same as their only option to survive. The 6 elements of the hierarchy need to be combined to produce a self-sustaining business model. Incineration alone does not work. Q5
- We have solid options in place for trash and recycling but reducing and reusing is a challenge. Also, more composting opportunities would be helpful. Q6
- In our area, even though I am a Board Member on Penquis Solid Waste, I am all too well aware of the things that we could/should be addressing through recycling. We make a substantial effort for a small area faced with cost limitations. I believe that we are making steady progress in the right direction, but that we still have a long way to go. Q6

### ***Hierarchy Observations – Landfilling***

- Municipal landfill complicates economics of waste disposal. Picture will be clearer after landfill closes making recycling more economically advantageous. Get state out of landfilling business. Long history of local disposal at landfill is status quo and easy to use. Q2, Q5 + Q6
- The state supports landfills which is an unwise policy. They have not supported waste to energy plants. Casella will make a fortune in Old Town with a dummy corporation not tethered to the Burlington headquarters corporation and will leave the liability on the state. Fees should recognize long term costs, not just immediate profits to Casella. Q4

- Incineration as opposed to landfilling at a higher cost to the already stressed taxpayer. Q4
- As stated earlier it is always less expensive to landfill than use a WTE plant. That being said, landfilling only buries the problem so that future generations will have to deal with it. Q5

### *Hierarchy Observations – Recycling*

- [Our city] is currently at 46% with a PAYT Bag program for MSW and single sort recycling. This is a time proven and user friendly system, which is producing 46% recycling rates. I note that the effort/investment/punitive actions necessary to go from 46% to 50% plus seems exponential with diminishing rates or return on dollars spent. [Our city is] satisfied but working on improvements to single stream recycling to include in the near future single stream disposal of all waste with the receiving company sorting all product. Q2 + Q6
- 50% for each community is an absurd way of dealing with statistics. 50% as a state may be a reasonable goal but the variations in communities' demographics is too wide to establish such an individual goal. A community with a large warehouse dealing in goods could have corrugated cardboard and paper recycling that is brought to one place by a wide variety of their facilities in turn giving credit to the house community. Examples could include such companies as Hannaford and Shaws with regional facilities. Support of regional facilities where volume would make recycling more efficient and economical would bring down the transfer station operation costs thus allow funds to be directed towards toward other activities such as recycling. Do ten towns in a region need 10 transfer stations with at least two employees each, two compactors, a scale, and all the other costs that go with it. Plain and simple, we make trash and have made the process of reducing it more costly than it needs to be. Oh and to get the state off their standard answer, "One Size Fits All," for any issue. One size does not fit all. Q2
- Considering all the things that can't be recycled or composted, [50%] seems a very high goal. Q2
- I feel the 50% rate of recycling and composting is achievable and is consistent with [our city's] recently completed and Council approved Solid Waste Master Plan update. In order to achieve that goal, [our city] will need to continue adopting and implementing policies that reduce solid waste and increase recycling. Examples include consideration for larger recycling totes for residents rather than use of recycling bins, adopting fees and prohibitions on certain packaging materials such as polystyrene foam, and plastic and paper bag fees at retail and grocery stores; development of stronger recycling services within [our city's] School systems, and continued use of single stream recycling programs which makes recycling convenient and accessible. In addition, the City will be issuing an RFP on Solid Waste services to review the operational manner in which the City provides solid waste and recycling services to residents; I anticipate a review of additional recycling and waste reduction recommendations to be considered from that body of work such as best practices with implementing a food composting service program to all residents of the City. Continued support with Ecomaine's waste to energy operation and recycling operations will also help to achieve these higher recycling goals; our participation in Ecomaine is a foundation for [our city's] waste reduction and recycling programs. [Our City] is a founding member of Ecomaine and through our City Council has supported waste reduction programs and efforts that are sustainable, consistent with policy goals and objectives and results orientated. Currently the City's recycling rate is approximately 36% and growing. Overall current operations using personnel from the City's Department of Public Services are seen as responsive, customer friendly. The City will soon be commissioning a study to review all aspects of our solid waste operations to affirm its efficiency and effectiveness. Q2 + Q6

- We successfully maintain a transfer station location for waste disposal. Our recycling has substantially increased since [our local recycling center] is taking more materials. We are continually looking at ways to increase our recycling efforts. Q6
- Curbside trash and recycling pickup is an excellent and convenient service, but recycling rate still falls far below what it should be, with respect to the ease of disposal. [Our town] sees room for improvement in several areas, and the Town intends to pursue these. Q6
- Need to work on curbside [collection]. Q6
- Some want more recycling and some want fewer rules on disposal and less recycling. Q6
- Recycling not where it needs to be. Q6
- It is somewhat frustrating when we focus so much of our resources on recycling when it is often the lesser evil. It's fantastic to recycle plastic widgets but if they are just processed into mixed plastic that is not recyclable haven't you just delayed the item getting landfilled? Q7

### *Hierarchy Observations – Waste-to-Energy*

- At the moment, we incinerate our solid waste and offer single stream curbside collection. I am not aware of any current practical limitations or state/federal regulations. I will note, however, that the future of the waste to energy plant in Auburn is in question now that it has lost its long term energy contract. This will require significant increases in tipping fees and drive the costs of incineration above the cost to landfill, a violation of the hierarchy. Given today's fiscal reality, only the wealthiest and greenest city's will chose to pay more to continue to incinerate. In [our city], we will have no option but to seek the lowest cost outlets for our waste. It would be a true failure of policy to allow the incinerators to close in favor of the existing landfills which would see a dramatic increase in volume and shortening of life. (And exactly how and where will we permit new landfills? For those with long memories, refer to Sawyer's attempt to license a landfill in Township 20 downeast.) Further, geographic monopolies would result around the two operating msw landfills in the state, undoubtedly driving up costs in the face of diminished competition. Once shuttered, it will be difficult and likely expensive to reopen waste to energy facilities. I don't believe it to be in our best interest to be at the mercy of Casella or Waste Management with no other options or competition available in large stretches of the state. Q4
- There are no state or federal regulations or practical limitations that inhibit the City's ability to adhere to the solid waste hierarchy. The City is a lead participant in the very successfully operating and managed Ecomaine Waste to Energy and Materials Recovery Facility for recycling; our participation ensures our adherence and support of the State's hierarchy, where large volumes of recyclables are processed for reuse and use of waste to energy technology is the principle method of disposal of non recyclable materials. Ecomaine has been operating without a subsidy for numbers of years and has used best business and marketing strategies to ensure that the Plant is run efficiently, maximizing energy output while increasing volume through strong business, financial and operating practices. Guided by a very strong policy board, the Ecomaine staff run an outstanding operation where long debt on the fix assets and other site improvements were paid off in the summer of 2013. Continued strong operations is envisioned with Ecomaine and increases in volumes from Recycling are anticipated due to the efficiencies and costs associated with Ecomaine's programs. Q4 + Q5
- WTE should be #1 in hierarchy. The issue is trash, incinerated waste remains, (my view), the best solution to the problem of solid waste disposal, all efforts should be directed at making it the most affordable. Eco-Maine is the number 1 leader in the field in terms of management, operation and costs. Maine's waste management hierarchy should make operations of such

quasi-municipal facilities the top priority with any second or third priorities so far behind they barely exist. Q3, Q5 + Q6

- WTE is only one step above landfilling in the hierarchy, it is not the best long-term solution. Q5
- I believe we should work in the direction of recycling and incineration. I am hoping the incinerators can start to remove organics to compost. Q7
- We have a number of burn facilities in the State. I would rather see the trash turned into power instead of landfill space.

### *Historical Perspectives*

- [Our city] is in the unique position of being the host community to Juniper Ridge, a Charter Municipality of PERC, and a member of the MRC. There are decades of federal, state, and local mandates that often puts the City at odds with one of the above mentioned groups let alone our citizens. We are mandated by State Law (Title 38) to provide disposal services and yet each new piece of legislation, such as 1483, has many unintended consequences that drive up disposal costs because of the interrelatedness of solid waste management in Maine with existing laws and current disposal methods. Q4
- There should be no additional costs to communities that have made the capital expense to put in their own landfill because there was no market for an incineration company; should be no incentives for waste to energy facilities. Understanding the historical reasons why communities had to make the decisions they made 20 to 30 years ago is important to figure out acceptable solutions going forward. Q7

### *Need For Infrastructure*

- [Our town does] not have adequate storage facilities to store material until we have quantities to ship a load. Q2
- Towns need to make recycling easy by making container bins and composting facilities available. Q2
- Current lack of nearby recycling infrastructure. Q2
- The state and the municipality lack the infrastructure needed to more fully implement/manage the 50% standard. Access to recycling facilities provided by our contractor is limiting, due to our having to move these facilities into a restrictive area with set hours. Q2 + Q6
- Space to store recyclables is sometimes an issue. We are waiting on a new compactor for single sort system for recycling, when it arrives I think more people will recycle. Q2 + Q6
- The cost of setting up more efficient recycling infrastructure [inhibits recycling in our town]. Q2 + Q6
- A regional transfer station system is needed. Ideally, infrastructure would be provided across the state, and BY the state, on a regional basis. We need a system of regional transfer stations for trash and recycling, regional composting facilities for organic waste, regional facilities for hard-to-recycle materials such as Styrofoam packaging (there is a business in Massachusetts that will take this material if it is delivered to them), etc. We as a state will never reach our recycling goals if we continue to function as we have been. Q4 + Q7
- We are doing some things [with respect to recycling] but would like to do more. We lack the infrastructure, personnel, and the financial resources to move forward. Q6
- Single stream recycling plants in central Maine would make single stream more cost effective. Q7

### ***Need For Public Participation***

- I think that, given the current infrastructure, it will be difficult to reach 50%, though possible. The bigger challenge is getting buy-in from staff and community who don't necessarily view this issue as important. Q2
- Sometimes people feel it's not worth it. Q2
- Lack of local resources (funds and personnel) and state support to promote recycling and raise public awareness of environmental and economic value of recycling. Q2
- Many "old time" Mainers just will not recycle. Not sure what will encourage. Q2
- There are no incentives. Q2
- Apathy, lack of incentive, people lack space to organize and collect recyclables at home, many people do not get the big picture. They are busy and view things in terms of what makes their life more complicated. Q2
- Lack of interest/responsibility/concern for recycling. Q2
- Achieving a high recycling rate is easier or harder based on community demographics. Percentage of home ownership has a major impact since home owners are both more invested in the community and more cognizant of the benefits of municipal cost avoidance strategies. Low levels of literacy and education and high levels of poverty also have an impact. As a result, a one-size fits all standard (50%) is unrealistically low for some communities and unrealistically high for others. The biggest obstacle we face is the high proportion of renters in the community. As a group, they are much less likely to recycle and are much more mobile than homeowners, often not being aware of the recycling programs/systems that they could avail themselves of. In addition, most multi-family property owners are responsible for their own solid waste collection and disposal systems and do not directly participate in municipal programs. As a result, implementing multi-family recycling is much more complicated and falls to the property owner who is probably just going to keep having folks use their dumpsters and not go to the bother/expense/uncertain success (how do landlords enforce tenants separating out their recyclables/not contaminating recyclables) of separate collection containers for solid waste and recyclables. This leaves most renters with only the choice to self-transport to a collection location, a process which is inconvenient and which may not be possible for all, particularly low income renters without vehicles. The second major obstacle is that there is no financial incentive to recycle given that solid waste collection is covered through property taxes and not a separate per bag fee. It is unlikely that such a fee can be adopted in the short run due to political opposition and the reality that our tax rate is already widely seen as too high and solid waste collection is one of the most visible services that property owners receive for their tax payments (perhaps along with snow plowing where everyone thinks we do either too much of and waste money or too little). This relates to a third concern – to reach 50% we would have to go to pay to throw. Given the nature of our community, we are convinced that this would lead to considerable illegal dumping/disposal. Q2
- Business' (and residents') attitudes toward recycling. Q2
- The Town averages a low 30% rate of recycling. A good percent of the residents have a "throw it away" attitude that is hard to change. They would rather pay for trash stickers than recycle. Q2
- No incentive for citizens to recycle. Q2
- Yes, changing people's habits. Some just don't care. Q2
- Education of Public - They go their own way. Some comply, some don't. Q2

- A lot of people do not want to be bothered with the processing, cleaning, sorting and storing of recyclable items at their house. Q2
- Public participation and education [is needed to achieve the 50% recycling goal]. Q2
- We are a seasonal town with many campgrounds. Q2
- Small community with many seasonal residents. Q2
- Changing public attitudes about recycling. [Having to change] public disposal practices [inhibits recycling in our town]. Q2 + Q6
- Most people are too busy to recycle, also homes do not have space needed to store recyclables. Not enough people concerned with recycling, have dumpsters in yard or take to work and throw. Q2 + Q6
- Individuals needs to see recycling as important to make a substantial contribution to the reduction of waste. The level of participation by community members needs to improve. Q2 + Q6
- It is difficult to get the message out that reduce and reuse are serious suggestions. Many people view it as just another fluffy green idea but don't see it as a normal lifestyle. Q4
- [The only limitations to adhering to hierarchy are] cost and obtaining support of the citizens. Q4
- Additionally, public opinion, support, and participation, as well as "local feuding and infighting" were all cited as factors that influence decision making in Q3.

#### ***State-Level Recommendations – Generally***

- The State needs to be more supportive of the hierarchy. The recent decision on the Juniper Ridge landfill to allow additional tonnage when there is capacity at existing WTE facilities shows that the incinerate then landfill sequence is not being taken seriously. Q4
- Limitation set on burning clean wood - no longer able to burn wood. Q4
- DEP regulations on the storing and burning of brush and wood waste products. They require them to be stored on a cement pad and not on the gravel ground. Stumps are naturally in the ground and brush grows from the ground but we cannot store them on gravel. Doesn't make sense to me. Q4
- Change what can be placed in landfill - much of what is being buried could be incinerated with a little effort - i.e.: rugs, couches, chairs, plastic toys, pails, etc. Q5
- We understand the value of pursuing WTE via PERC almost 30 years ago and therefore there is no regret. But there are now new technologies that must be pursued, and it seems the State has not been adequately assisting with a long-term comprehensive vision and plan. Q6
- State support for the regionalization of transfer stations as most communities are nearing the life of the capital equipment and other needs of current facilities. Q7

#### ***State-Level Recommendations – Educational***

- More education about the existence & importance of the hierarchy. Q1
- Need more education and public incentive. Q2
- In general I am satisfied with the Town's efforts and progress. The funding for curb side collection of recyclables and MSW remains intact. A state wide media campaign would help keep waste and recycling issues in the fore front. Q6
- [An impediment to more recycling is the] lack of local resources (funds and personnel) and state support to promote recycling and raise public awareness of environmental and economic value of recycling. Regarding the State's solid waste hierarchy, and especially the

proper disposal of hazardous waste materials, [our town] would support a concerted and well-publicized effort at the State level to promote these practices. Q2 + Q7

### *State-Level Recommendations – Financial*

- Stop all subsidies, make disposers pay for the costs they generate. For those who claim hardship, provide incentive for offset of costs by credits for recyclables they bring to the disposal site. Economic incentives will affect the changes desired, local ordinances or policies that make people pay for the actual weights disposed of will be a game changer. Q1 + Q5
- These goals are more attainable when the rest of the budgets are not so constrained by revenue sharing raids; economics are driving budget decisions and recycling costs more money, especially to communities with landfills compared to disposing, restore revenue sharing. Q2
- Come up with individual incentives that benefit taxpayers directly. Q5
- I think any subsidy has to exist as a temporary measure to help WTE establish itself rather than a permanent discount. Q5
- [Let facilities stand on their own], but only concurrent with ban on landfilling and unprocessed MSW. Q5
- [Do not incentivize waste-to-energy;] Look at Sweden - they are looking to import MSW because they make money from waste-to-energy. Q5
- Conduct a cost benefit analysis including short and long term costs and provide for a level playing field. Q5
- Assess a small electricity surcharge statewide, or find some other statewide funding mechanism that spreads the costs for subsidizing waste-to-energy. We are a state with a small population and a large geographic area, so the state needs to help fund solutions. Q5
- Higher tipping fees could be assessed on out-of-state waste with those funds being used to support the incinerators. Minimally higher tipping fees could be applied against in-state waste taken to landfills. These funds should not be transferred to incinerators but should be returned to the municipalities generating the fees as grants or perhaps in some system that provides incentives for the municipality to meet the solid waste hierarchy. Higher tipping fees for in-state waste should start small with some additional increases built in for future years. That would give municipalities time to plan on the changes and develop plans to avoid the mitigate costs. Q5
- I hope the higher tipping fee on landfilled waste never happens – you are taking from communities that may not have a choice due to location and giving to communities that may already have lower costs due to their location. Q5
- If there are incentives it should not come as a penalty from landfilled waste. There are certainly "2 Maines" when it comes to this issue. What works in the larger population levels does not work in [our municipality] in Aroostook County. Q5
- Option A [state-subsidized electricity rate] is likely the most feasible one, and one that I would support. There is already a strong precedent for subsidizing alternative energy sources, and waste to energy plants should benefit from such subsidies. Alternative B [letting waste-to-energy stand on its own] is likely the death knell to incineration. Rumor has it that the landfill operators have at least hinted to the owners of waste to energy plants that they will provide them with preferred pricing if they move to landfilling. The clear goal with such an approach is to price the competition out of business with the end result being greater long term costs and environmental damage. C [higher tipping fees on landfills] will run into strong

opposition from those communities that have no competitive option (i.e., those far from incinerators or who own their own msw landfills). Q5

- State incentives to assist startup of new conversion technologies and facilities, and State incentive to municipalities to switch disposal choice from landfill to WTE (i.e. 5 yr rebate of partial tip fee paid after switching). If the state can help create economically accessible markets, municipalities will use them. This can be accomplished with a mix of incentives, regional planning, and rules/regulations. Q5 + Q7
- I think consideration of some other measures to make landfilling solid waste a disincentive would further advance the State's solid waste hierarchy goals, such as assessing a State fee to municipalities or entities that select use of landfilling as opposed to accessing available waste to energy facilities. This would help to ensure that the State supports the hierarchy goals and provides a direct incentive to use the very successful regional waste to energy facilities like Ecomaine for disposal of solid waste and recycling materials. Q7

#### ***State-Level Recommendations – Landfilling***

- Prohibit the landfilling of *unprocessed* Municipal Solid Waste (MSW) after a certain target date. This will cause a leveling of the playing field and equalize the cost of disposal that is in line with the hierarchy. The technology is available. Q1
- The state needs to be less free with landfill expansion and allowances for waste to be landfilled. It will always be cheaper to landfill than use other means of disposal. Q1
- We need to incentivize the waste hierarchy and do whatever possible to divert waste from landfills. Landfilling is simply a waste storage strategy that pushes the true cost of dealing with the waste off to future generations. There are much better alternatives. We need responsible state wide solid waste policies that provide incentives that help divert waste from landfills. Landfilling can be a more affordable option for some communities but that is short sighted - landfills have longer term consequences that must be considered. Q7
- Do not build another mountain of trash that will never disappear. We have 2 already. Q7
- Don't tax landfills for a subsidy towards incineration. Can you imagine is the inverse was being contemplated? Q7

#### ***State-Level Recommendations – Recycling***

- Invest leveraged funds into the Private Business Sectors that are developing new technologies for single stream recycling, thereby making recycling more user friendly. Q1
- State should provide technical support regarding hard-to-recycle items (small pieces of metal, metal wire, metal rods, uncoded plastics, large plastic items). Private contractors can also help promote and expand recycling and reuse. Q1
- Invest in new recycling technology. Renew federal subsidy. Federal investment (DOE) in recycling technology. Packaging requirements that promote waste reduction and recycling. Q1 + Q5
- Yes [recycling 50%] is achievable, make it economically advantageous to residents. Political obstacles, policy setters are reluctant (even with supporting survey results) to make the tough decisions... User fees will drive the results, there may be some limited negative responses, nevertheless, the "dumping" should not deter anyone... (an overused reason and not valid). Q2
- We used to get a Recycling report telling us what our Recycling rate was but that has ended for some reason if that was reinstated that would help Towns to better evaluate how they are doing. Q2

- [The 50% goal may only be met] by taking some very significant measures via state policy. And this is not something that can be managed solely by the municipalities. If the Town was forced to achieve 50% recycling it would have to take ownership of this service and facilitate the process (our community does not provide municipal collection and therefore recycling is a decision that is currently driven by the market and personal choices of our residents). Q2
- The 50% rate can only be accomplished through aggressive actions such as mandated recycling/mandatory pay per bag systems/financial penalties against communities. I doubt that these will hold up (see, for example, school consolidation). 50% is probably achievable but probably not realistic. Q2
- [The 50% recycling rate] will only be achievable if associated with either a penalty, reward, or both. Q2
- Pay as you go works; sale of bags helps to defer the costs of MSW and lowers our tax bill. Hire or have volunteers police and or head up the [recycling] programs? Q2 + Q5
- If there were curbside recycling pick up that may influence people to [recycle] more. Q4
- We used a grant from the State Planning Office to expand our recycling center and purchase a glass pulverizer. We now have more storage space and with the pulverizer we can sell our glass to a Maine based manufacturer. That grant was a huge boost to our recycling efforts. We would like to expand our storage space but our budget is tight. Any source of funding would help us. I believe the State needs to encourage businesses to use recycled material in their manufacturing process. I feel that recycling efforts should be supported on the State level and encouraged with access to resources. The State should also encourage the market to use the recycled material in the manufacturing process. I do not feel that recycling will be successful if it becomes a burden to communities. I like the idea of additional income for encouraging recycling efforts. We incur an expense to support our local recycling center each year. Q5
- I sometimes think the fastest way to improve recycling would be to place a cost on disposing of incinerated trash although this is generally considered very negatively by most of the public who, admittedly, are having a very difficult time in today's economy. If the State were to mandate recycling and impose costs on solid waste disposal, it would level the playing field in the State and relieve some of the strain on local budgets if the imposed costs were shared back with the towns. Q6
- The amount of materials allowed in the recycle collections needs to improve. Q6
- Encourage Maine based business to utilize recyclables; consider banning non-recyclable items, i.e. plastic bags. Q7

#### ***State-Level Recommendations – Recycling Market Development***

- The most important element for recycling is to have businesses that use recycling material. You need a market for the products with reasonably stable pricing. So activities that encourage products that are made from recycled materials would be helpful. Q2
- Lack of markets for adding materials to "recyclable" list. Municipal recycling and disposal decisions revolve around economics. If a market exists for recycling something, the decision to access it will depend on whether it's cheaper than disposal. Q2 + Q7
- Wish there were more viable markets for other items to be recycled. Q6
- One of the biggest obstacles to recycling is developing a market for the material collected. The market for the collected material is the key. If there is a good market, then communities will do more to collect the material.

### ***State-Level Recommendations – Waste-to-Energy***

- Burn it baby! Provide energy. Q5
- In our reviews of "PERC" we don't understand why they think they can't make money without the subsidy. Maybe the state should do an audit of their finances and business model - I think they can and are making loads of money now and they could in the future as well. Q7
- The waste to energy plants should have to sort trash. Recover what is recyclable before burning and if they do not get enough trash to be profitable (along with recovered recyclables) maybe there are not enough people in Maine to make this work without bankrupting everyone. Q7

### ***Miscellaneous Comments***

- Perhaps MSW plants can assist the state in meeting looming federal CO2 limits to assist in the NE Greenhouse Gas program. [Our city] utilizes MMWAC for solid waste; in return, we accept MMWAC's ash at our landfill. This provides good and affordable pricing on both ends and works well with no need for long distance hauling of either msw or ash. Probably the most cost effective system in place in the state today. We also provide curbside single stream recycling and have entered into an agreement with Casella to construct a materials processing facility at our solid waste facility that will process all of Casella's single stream customers in Maine, eliminating the current need to ship recyclables to Mass. This will also reduce costs to current and future customers by eliminating long hauls for waste. Q1+Q6
- [The question, "how many schools recycle?" was asked, implying school recycling could help.] Q1
- [A state electricity subsidy] may help but with more and more recycling coming on board there is going to be less trash to burn. Either waste to energy plants get smaller, an alternate method is used, or the plants are forced to bring in out-of state waste to support fuel needs which is very unpopular. Q5
- Single stream - cardboard only bin - Metal collection can on site - Pay as you go (bags) - 2 "Demo" days per year. Clean site! Q6
- We have a model that is great and works amazingly well. Q6
- Somewhat satisfied. We could do a lot better if the political will was present...we have had some success in the amounts recycled voluntarily... Please share all the success stories you have, we need to point these out. Please also inform us of the real experiences associated with pay per throw, e.g. the "dumping" really is not as people exaggerate it is... Please provide the savings resulting from pay per throw experiences... Q6+Q7
- The more local control the better! Q7

## APPENDIX A

### Respondent Municipalities

Alfred  
Arrowsic  
Bath  
Belfast  
Cape Elizabeth  
Caribou  
China  
Cornish  
Dixmont  
Dover-Foxcroft  
Dyer Brook  
Eustis  
Fairfield  
Falmouth  
Farmington  
Gardiner  
Gorham  
Great Pond  
Harrison  
Hermon  
Hollis  
Jackman

Leeds  
Lewiston  
Littleton  
Lubec  
Mapleton  
Mars Hill  
Mechanic Falls  
Milo  
Montville  
Newcastle  
North Haven  
Old Town  
Owls Head  
Poland  
Porter  
Portland  
Presque Isle  
Prospect

Sanford  
Scarborough  
Searsmont  
Shapleigh  
Solon  
South Thomaston  
Sullivan  
Surry  
Thomaston  
Topsham  
Troy  
Vienna  
Westbrook  
Winslow

# Composting has promise, but requires committed participation

*Local efforts are sprouting up across the state, especially in Greater Portland. At this point, participation is voluntary and cost savings typically are small.*

By Janine Pineo

**G**arbage is money. It costs money to buy the items that make up the bulk of what is thrown into the trash. It costs more money to dispose of that trash. Municipalities across the state have recycling programs for cans, plastics, glass, cardboard, e-waste and the like which can be sold to businesses that recycle those goods. But, tons of trash still pour through the waste stream daily.

A large portion of that garbage is food waste.

Mark King, environmental specialist with the Sustainability Division of the Maine Department of Environmental Protection, said food scraps make up 40 to 45 percent of the state's waste.

"Food is very heavy and very wet," King said.

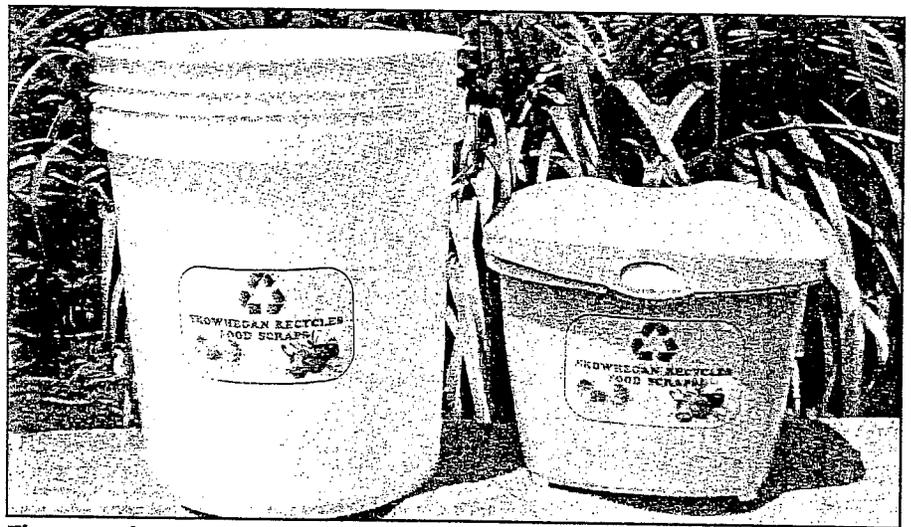
Those same organics bring their own complications to the waste stream as they tend to start breaking down within days. "They are a huge pain to manage," King said.

What would happen if that part of the waste stream could be removed and turned into its own revenue stream? Where would a municipality even begin?

"For things to be really successful, you've got to take baby steps," King said.

The steps lead to composting – and some communities are already there.

At a municipal level, converting food scraps into compost is a straightforward process that can be complicat-



*These are the composting buckets used in Skowhegan. (Submitted photo)*

ed by any number of issues large and small, something that King has learned in more than 20 years of working on waste composting in Maine.

"Maine is a very, very funny state," he said. "We deal with waste very differently by region."

## **Skowhegan's voluntary approach**

One of the towns that decided to take on composting food scraps is Skowhegan.

"We've been taking baby steps," said Randy Gray, Skowhegan's solid waste management director and the town's code enforcement officer, echoing King's words. "It's just absolutely the right thing to do right now."

The food scrap composting program started about two years ago,

Gray said. The town, like many other municipalities, already composted leaf and yard waste.

Gray said the key is getting residents to participate voluntarily. "If you try to force this on them, it won't work," he said.

Skowhegan has a two-yard container that the nearly 20 residents who participate in the program can fill in six to eight weeks, with Gray estimating that the contents weigh between 800 and 1,000 pounds.

"Under our license, we can only take six cubic yards of food scraps per month," he said. And while Skowhegan is nowhere near that capacity yet, Gray said that it would require the town to apply for a change in its license once the program grows.

*Janine Pineo is a freelance writer from Hudson and relatively new Maine Townsman contributor, [jepineo@gmail.com](mailto:jepineo@gmail.com).*

**Collaboration Corner** is a regular feature in the Maine Townsman, highlighting ways that municipalities work together to become more efficient and better serve citizens.

## GARBAGE TO GARDEN

Since June 2013 Garbage to Garden has helped greater Portland divert 2,016.5 tons of organic waste from incineration and landfills. The following chart outlines the growth in diversion relative to Garbage to Garden's expansion in both residential customers and commercial clients:

Month	Total Waste	Residential	Commercial
July 13	114	111	3
August 13	126	122	4
September 13	134	129	5
October 13	143	134	9
November 13	141	131.5	9.5
December 13	156	134	22
January 13	165	135	30
February 14	178.5	135.5	43
March 14	190	141	49
April 14	198	143	55
May 14	227	157	70
June 14	244	166.5	77.5

The residential data includes households in Portland, South Portland, Westbrook, Falmouth, Cumberland, and Yarmouth. In Portland, where Garbage to Garden currently services 14% of households, the city sees a savings of \$70.50 per ton in tipping fees, as well as other costs associated in waste removal. EcoMaine's totals should reflect a reduction in waste going through their facility that is now being composted. The above totals outline the amount of solid waste that would otherwise be incinerated and landfilled for the corresponding month.

Source: Garbage to Garden.

Residents are asked to bring "fluffy" food scraps such as leafy greens for now, Gray said, as the town works up to some of the items that are harder to compost. The town provides interested residents with one-gallon pails if they want one for the kitchen and a five-gallon pail with a sealed lid for holding the scraps until the resident takes them to the transfer station.

Gray cited a need for the station to be open regularly, which in Skowhegan means nine hours a day, five days a week. The convenience to the residents is "a huge benefit."

The additional incentive to doing "the right thing," Gray said, is that composting saves taxpayer dollars. The municipality reduces the amount of

tipping fees, which are \$65 per ton for Skowhegan.

The compost made from the food scraps also can be given back to participating residents as motivation to join the program, or used in municipal projects or sold to customers. It also means, he said, that the transfer station is doing more and using no more money by composting food scraps as a regular part of its workload.

### Lincoln County collaboration

Lincoln County launched over the past winter its own pilot program for composting food waste for its 19 municipalities.

Ryan Kenyon, yard foreman at Lincoln County Recycling in Wiscas-

set, said about 30 residents signed up and were given five-gallon buckets with lockable lids. The residents brought their buckets to the plant, where food scraps were weighed before dumping.

The scraps were mixed with manure from a nearby farm at a 50/50 rate, resulting in about 20 yards of finished compost. "I've had zero complaints" he said, about the quality of the compost.

Kenyon said samples of the compost are sent to King's office at the DEP to see that it meets standards before it can be given back to participants or sold to customers. King said that the standard analysis done by his office tests for nutrients and salinity and then for stability, because compost is a soil additive and not a fertilizer.

Lincoln County is approaching the process slowly, taking the long view of recycling food waste. Kenyon said in five years he would like to see a food scrap bin at all nine of the county's transfer stations.

"If we could get at least half the people, we'd be making a huge difference," he said.

Kenyon said that the county is trying to avoid single-stream waste "at all costs" because, in his view, it ultimately costs towns more. "There is a market for everything," Kenyon said, noting that companies pay recyclers for the items they collect. "If we can push the same for composting," he said, "it would be second nature to you."

Kenyon also noted that the county is showing how composting food scraps can be done, even with a small-scale operation. Five are employed at the plant, with the composting work added to the daily routine.

When the program grows, Kenyon said, then costs will change, mostly in startup charges, such as buying the bins for the transfer stations and purchasing a truck to pick up the waste from those bins and transporting it to the facility. He said more than one person would be needed to work the compost pile as well.

King of the DEP has worked on is a basic checklist of what it takes for a municipality to start a composting operation that will be successful:

- Space available to collect food scraps.
- Reasonable hours of the composting operation at a collection facility.
- Wherewithal to provide educa-

**Helping your employees  
save for their futures  
is one of the best moves  
you can make!**

Simple ✓  
Convenient ✓  
High Quality ✓  
Low-Cost ✓

# MAINE START

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MaineSTART is the Defined Contribution program from Maine Public Employees Retirement System (MainePERS).

Contact: Stephanie Fecteau  
tel: 207-512-3305 e-mail: Stephanie.Fecteau@mainepers.org

[www.mainestart.org](http://www.mainestart.org)

tion to residents.

- At least two key people to work on project.
- Capital to "make it happen."
- A collection system.
- Finding a reliable hauler, if the waste needs to be transported to a separate composting facility.

To help smaller municipalities, King has set up a "consolidated collection center" to jumpstart the process. He calls it "composting by remote control" by taking away some of the

hurdles a composting operation can have when it starts. Bowdoinham is looking at this, he said.

The model for the center requires a front-end loader, King said. Residents would dump their five-gallon pails into the container, the facility staff would use the loader to dump sawdust on it daily, which kick-starts the composting process right in the container.

### Schools can help

Another place where municipalities

can consider a food waste program is in schools. King said he is working with Rockland on a program for this school year.

Scarborough High School, Fal-mouth Elementary School and South Portland High School started collecting food scraps by working with a private company, Garbage to Garden, during the past school year. Sean Milligan, commercial account director for Garbage to Garden, said that it was "a huge learning curve for us and the schools." The company said seven schools plan to participate during this school year.

According to a presentation by students to the Scarborough School Board in April, there were pickup fees ranging from \$40 to \$60 each week. In return, the school received finished compost for multiple gardens. Milligan said the amount was calculated by volume.

Garbage to Garden also does residential pickup of food waste in Portland, South Portland, Westbrook, Fal-mouth, Yarmouth and Cumberland. Milligan said the company serves 3,700 households, including about 14 percent of Portland. "We deal with private citizens directly," he said.

People who want to participate pay a monthly fee for weekly pickup. They also can have weekly delivery of a 10-pound bag of compost if they request it.

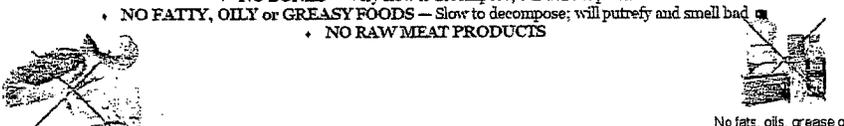
Milligan estimated that the company, which started in 2012, now collects about 36 tons of food waste a week from its accounts. The company estimated that it saved municipalities \$144,000 in tipping fees at a rate of \$70.50 per ton at ecomaine.

"I'm not seeing it," said Troy Moon, Portland's environmental program manager, saying that the fee numbers are flat for Portland at ecomaine.

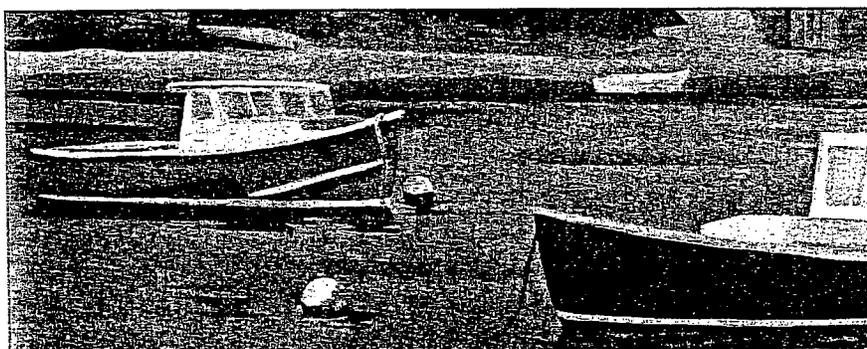
Moon said Portland schools are doing extensive recycling, collected by a different company, and that finished compost is returned to the schools. "It was really exciting to tell the kids," he said of explaining that the food they discarded was now compost.

Moon said that the city, which has pay-as-you-throw trash disposal with free recycling, has conducted a feasibility study on food waste composting.

"Municipal composting is something we're interested in," he said, but the trick is in getting people who are committed. ■

LISTING OF ACCEPTABLE "GREEN" MATERIALS	
<ul style="list-style-type: none"> <li>• <b>ALL FRUITS AND VEGETABLES</b> — Includes all types of fruits (fresh &amp; dried), fruit peels, skins, and rinds</li> <li>• <b>EGG SHELLS &amp; (COOKED) EGGS</b> — no raw eggs</li> <li>• <b>GRAINS, BREADS &amp; PASTA</b> — Includes dough, bakery items, oatmeal, rolls and all types of pasta</li> <li>• <b>CHEESES</b> — all types of hard cheeses, and most soft or cooked (ie. pizza) - no cottage cheese, cheese sauce or liquids</li> <li>• <b>SEAFOOD &amp; SHELLS</b> — Includes all kinds of seafood and their shells—lobster, clams, oysters, etc.</li> <li>• <b>TRIMMINGS (FLORAL, GRASS, WEED)</b> — Includes cut and dried flowers, houseplants (not bug-infested), fresh green grass clippings and plant trimmings grown without pesticides or weed killers</li> <li>• <b>COFFEE GROUNDS, PAPER FILTERS &amp; TEA BAGS</b></li> <li>• <b>NUT SHELLS</b></li> </ul>	
MATERIALS TO AVOID	
<ul style="list-style-type: none"> <li>• <b>NO LIQUIDS !!!</b> Will putrefy all other contents in bucket and smell bad!!</li> <li>• <b>NO DAIRY</b> (other than cheeses) - Includes milk, soy milk, yogurt, sour cream, ice cream and juice</li> <li>• <b>NO BONES</b> — Very slow to decompose; can attract pests.</li> <li>• <b>NO FATTY, OILY or GREASY FOODS</b> — Slow to decompose; will putrefy and smell bad</li> <li>• <b>NO RAW MEAT PRODUCTS</b></li> </ul>	 <p>No raw meat products (beef, poultry, pork, seafood)</p> <p>No fats, oils, grease or non consumable liquids (vegetable oil or lard)</p>

The Town of Lincoln's information composting brochure. (Submitted photo)



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## *Memorandum*

*To: Members of the Joint Standing Committee on Environment and Natural Resources*  
*From: Michael Barden, Department of Economic & Community Development*  
*Date: February 4, 2015*  
*Subject: State-owned Landfills*

### **Policy Background**

- 1989 comprehensive overhaul of solid waste laws including ban on new commercial solid waste disposal facilities (incinerators/landfills). Established Maine Waste Management Agency to site/permit state-owned landfill.

### **State-owned Landfills**

**Carpenter Ridge.** Unorganized Territory , T2 R8. (Appx 2 miles west of Interstate 95, Exit 227,)

- Waste Management Agency purchases 1500 acre site in 1995 from Lincoln Pulp and Paper. State/LPP sales agreement reserves capacity for approved waste stream from the mill operations.
- Licensed as special waste landfill by DEP in 1996. Landfill footprint approximately 35 acres, 1.8 million cubic yards capacity with projected life span of 18 years based on disposal rate of 100,000 cy/yr.
- \$15 million estimated for development build out (1995 estimate)
- To date, landfill capacity not needed and site remains undeveloped as a potential "safety net" for future development if needed. License is current.
- May 2014 Contract with Maine Licensed Forester (David Irving, Shelterwood Forest Solutions, Lincoln) for forest inventory and completion of Woodland Resource Action Plan. David Irving contracted to manage/oversee harvesting operations starting in 2015, which are designed to: enhance species composition and quality of forest vegetation; improve wildlife habitat; improve access roads and trails; generate stumpage revenue; protect integrity of the watershed.

**Juniper Ridge Landfill.** Old Town and Alton (short section of access road). Interstate 95 Exit 199

- 2003. Transfer of Georgia Pacific's West Old Town Landfill to State (SPO) pursuant to Resolve 2003, Ch 93 (121<sup>st</sup> Legislature). (West Old Town Landfill licensed by DEP in 1993 to accept wastes generated by the Georgia Pacific mill operations). Total site acreage is 780 acres, approximately 68 acres for existing landfill footprint and associated roads and infrastructure to support landfill operations.
- 2003. SPO issues RFP to solicit bids for contract operations at the landfill. Casella Waste Systems, Inc. awarded contract.
- 2004. State acquires landfill from Georgia Pacific. State and Casella finalize Operating Services Agreement for landfill operations and management, including a construction and demolition fuel agreement between Casella and Georgia Pacific (Fort James Operating Company) and host community benefit agreements with Old Town and Alton. The term of the Agreement is for 30 years. Casella is responsible for all costs associated with development, operations, and closure/post closure activities, including costs associated with an expansion permit application to be submitted for DEP review by 2007, or at such time Casella determines is reasonable based on disposal volumes and remaining landfill capacity.
- 2004. Casella/State receive DEP approval for vertical increase, increasing landfill disposal capacity from approximately 3 million cubic yards to 10 million cubic yards. At current fill rates (2011-2014 average is 648,000 tons), estimated landfill capacity exhausted by 2019.
- January 2012. Casella/State receive DEP approval for Public Benefit Determination to apply for expansion application to develop an additional 9.35 million cubic yards of disposal capacity at JRL.
- October 2012. State and Casella submit license amendment application to accept municipal solid waste from 13 Maine towns that were previously being handled at the Maine Energy Recovery incinerator in Biddeford, which closed in December 2012.
- December 2013. DEP issues Conditional Approval of Amendment Application. Casella/State appeal certain conditions to Board of Environmental Protection; Ed Spencer, Old Town resident, appeals license approval.
- June 2014. Board denies appeals of Casella/State and Ed Spencer and Approves DEP Conditional Approval with certain modifications: Casella/State may accept up to 81,800 tons/yr MSW until March 2018.
- September-December 2014. Casella/State host informational meetings with DEP/Juniper Ridge Advisory Committee Chair/City of Old Town representatives/interested public members to discuss licensing criteria and design parameters for expansion application.
- **July 21, 2015. Casella/State submit application to DEP for 9.35 million cubic yards (54 acres) landfill expansion.**
- **August 7, 2015. DEP determined application "Complete for Processing**

- **September 1, 2015. DEP Commissioner requests that Board of Environmental Protection assume licensing jurisdiction of the expansion application. Board to consider request at it's September 17 monthly meeting**
- 2018. Begin construction of expansion cell(s)
- 2019. Begin waste disposal operations in expansion cell(s).

#### **Dolby Landfill. East Millinocket**

- 2011. Transfer of Dolby Landfill from Katahdin Paper Company to State (SPO) pursuant to Resolve 2011, Ch 90.
- Consists of 3 licensed areas – Dolby I, II, III - total acreage of land transferred to the state was approx 3300 acres. Dolby I/II closed, comprising 90 acres. Dolby III has 75 acre footprint with approx 400,000 cubic yards of remaining licensed capacity.
- Waste categories disposed at landfill include non-hazardous wastes from GNP operations at E Millinocket and Millinocket mills (no mill wastes disposed since 2012), wood ash and wastewater treatment plant residuals from neighboring towns (< 400 tons/year)
- September 2011. SPO awards contract to Sevee & Maher Engineers, Inc, Cumberland Center, Maine, to manage Dolby Landfill operations. Contract term and provisions expire June 30, 2013.
- March 2012. SPO issues RFP for contract operations at Dolby to include all funding for landfill operations and closure/post closure expenses. No formal bids submitted.
- July 2014. RFP for continued contract operations awarded to Sevee Maher Engineers. Average O/M costs from 2012-2014, \$396,000/yr
- Fall 2014. GNP files bankruptcy at East Millinocket mill. Leachate Treatment Agreement between State and GNP provided leachate treatment at no cost to the State at the mill wastewater treatment plant (which also provides secondary treatment for the Town of East Millinocket sanitary wastewaters). Town and State negotiating MOU for cost-share to maintain/operate existing wastewater treatment plant. Planning studies to determine most cost-effective long-term treatment option for state and town.
- Department of Administrative and Financial Services submitting supplemental budget request for FY 15 treatment plant expenses and Biennial budget includes additional allotment for Dolby expenses for treatment plant O/M.
- **Supplemental Budget request approved for \$500,000. Biennial Budget includes \$500,000/yr allotment for leachate treatment expenses, and \$6MM Maine Governmental Facilities Authority (MGFA) borrowing initiative for capping/closure of the landfill. Closure activities expected to be completed over a 4-5 year period and cost \$12MM. Leachate volumes estimated to be reduced by 90+% upon completion of cap.**

## Administration

- SPO is abolished and state landfill ownership transferred to Department of Administrative and Financial Services, Bureau of General Services. State landfill manager position transferred to Department of Economic and Community Development. PL 2011, Ch 655 (LD 1903).
- Information on state-owned landfills posted on DECD website <http://www.maine.gov/decd/meocd/landfills/index.shtml>

**Environment and Natural Resources Committee**  
**September 10, 2015**  
**Comments by Casella Waste Systems: Landfilling**

**Karen Flanders:**

Senator Saviello, Representative Welsh, members of the Committee, my name is Karen Flanders. I am the Vice-President of Sustainability and Regulatory Affairs for Casella Waste Systems. Earlier today the Committee heard Jeff McBurnie speak about our organics recovery operations, but before we begin the topic of landfilling, I'd like to give a brief overview about our company:

- Casella began in 1975 with one truck and today has grown into a leading resource management company with over 1,800 employees and operations in six states throughout the Northeast. Since opening our first recycling center in 1978, long before recycling was popular and well understood, Casella has recognized the value of managing discarded materials as resources. We have made it our mission to create value for our customers, our communities, and our company by investing in environmentally sound disposal practices and the infrastructure necessary to make recovering discarded material easy and convenient.
- We began operating in Maine in the late 1990's and currently have vertically integrated hauling, disposal, recycling and organics operations. In addition to operating an environmentally sound disposal facility, Juniper Ridge Landfill in Old Town, our commitment to resource recovery is demonstrated by our development and operation of the Hawk Ridge Compost Facility in Unity and Zero-Sort recycling facility in Lewiston.
- Earlier this year the Committee heard from Dan Emerson speaking about the Casella Zero-Sort single stream recycling facility in Lewiston which opened in the fall of 2014. This facility serves more than 50 Maine municipalities and is expected to process approximately 30,000 tons of recyclables this first year of operation, with capacity to process over 40,000 tons/year in the few next years.
- We continuously strive to minimize environmental impacts and maximize resource recovery. Recognizing the benefit of capturing gas from the landfill, we built Maine's first landfill gas power plant at the Pine Tree Landfill in Hampden. Since 2008, Casella has generated more than 100 million kilowatt hours of renewable electricity at the landfill gas to energy project, producing enough power to supply about 1,000 homes.
- Today, we own and/or operate 29 solid waste and resource recovery facilities in Maine; approximately 350 employees.

- In 2014, Casella operations in the State of Maine diverted from disposal:
  - 87,000 tons of recyclable materials.
  - 190,000 tons of organic material into compost or direct land application.
  - 380 tons of waste tires.
  - 150 tons of universal and electronic waste.

In 2014, Casella's activities and facilities in Maine also made a significant contribution to the State's economy, including:

- More than \$16 million in payroll.
- Nearly \$2 million in host community benefits.
- Tax payments of nearly \$3 million
- More than \$26 million in payments to subcontractors and suppliers.

Moving the needle requires partnership between the policy makers, municipal governments and the private industry. It requires creative thinking, innovation and investment in technology. We applaud the Committee's effort to hold these informational meetings and appreciate the invitation to speak. If the Committee is interested in learning more about recycling and material recovery, we would be glad to give a more detailed presentation at one of the next 2 Committee meetings.

I'll now turn it over to Jeremy Labbe, the Environmental Manager for Juniper Ridge Landfill, who will talk briefly about landfilling and highlight an aspect of our operations that we are very excited about: producing renewable electricity from landfill gas at the state-owned Juniper Ridge Landfill which is operated by a Casella entity, NEWSME Landfill Operations.

**Jeremy Labbe:**

As you may be aware, the Juniper Ridge Landfill accepts many different waste streams from all across the State. Primarily we receive construction and demolition debris and debris processing residue, ash, sludge, municipal solid waste incinerator process residue, contaminated soil, and other special wastes, some of which have no current sustainable recycling potential. These various materials make up over 90% of what we accept. You may be wondering why I did not mention municipal solid waste (household trash). In 2014, less than six percent of the material we took in was unprocessed municipal solid waste. While this may be the waste that gets the most discussion, the reality is, it does not make up much of our waste stream at JRL, and as Karen mentioned, this is one of the waste streams that we at Casella are making great strides toward improving the recycling rate of.

We see landfills as playing a crucial role for years to come handling wastes that cannot reasonably be reduced, re-used, or recycled. We are not alone in this perspective. A Denmark study, in agreement with members of the sustainable landfill foundation and the European landfill directive concluded:

“... no matter how much prevention, re-use and recycling a society realizes, there will always be a role for landfill in a waste management system, namely to dispose of wastes that for some reason cannot be prevented, re-used or recycled. There are some types of waste for which landfill is the best waste management option. Moreover, treatment of waste results in residues for which there is very often no option other than landfill available. Landfill is also a ‘safety net’ for other waste management operations experiencing a (temporary) lack of capacity. Landfill will continue to play a role in future waste management systems. This means that landfill is a valuable and essential element of any integrated waste management system, and should be recognized as such.”

- The Role of Sustainable Landfill In Future Waste Management Systems, Scharff

Landfills have advanced significantly over the past 30 years. One of the great advancements in landfill operation is energy recovery from gas that is generated during the waste decomposition process. This gas is collected by utilizing an extensive network of integrated piping that is pre-designed and placed throughout the landfill. This landfill gas is considered a renewable energy source since the material decomposing is present day carbon, and not fossil fuel derived. At JRL, landfill gas is generated from the decomposition of the organic matter in many of the wastes we take in, like sludge, municipal incinerator process residue, and even construction debris. Currently we are flaring this gas at JRL, but we are working on a generating plant, similar to the one we have at the Pine Tree Landfill, to fuel internal combustion engines, producing electricity. The current schedule is to have this plant operation in 2016. This will have the capacity to power about 5,000 homes for years to come, even after closure of the landfill. Across the United States there are over 600 of these projects producing enough renewable energy to power over 1.2 million homes and heat over 760,000 homes per year.

Our vision is that waste management decisions must be environmentally, economically, and socially sustainable. We should not be instituting fees on one comparable waste disposal option to sustain another, especially when they primarily handle different materials. We need to be looking further up the waste hierarchy. This is also the sentiment of the Denmark study which states:

...As well as environmental considerations, sustainability has many other facets, including economic and social. One could imagine development that is considered sustainable from an environmental perspective but is too expensive for a society. It is clear that this society could not sustain such development in the long run. In general there is agreement that ... sustainable

development ...meets the needs of the present without compromising the ability of future generations to meet their own needs (definition of the UN Bruntland Committee).

- The Role of Sustainable Landfill In Future Waste Management Systems, Scharff

As stated by Karen, at Casella we are making significant and successful efforts at providing avenues for homes and business to recycle, and at the Juniper Ridge Landfill we are providing an avenue for disposal of materials that are not utilized in a recycling process. As our State continues to change and adapt, landfills will continue to play a crucial role in future of our integrated waste management system.

RESPONSE BY CASELLA WASTE SYSTEMS TO ENVIRONMENT AND NATURAL RESOURCES  
COMMITTEE MEMO OF AUGUST 25, 2015

- (1) Please briefly describe your organization's landfill operations, including any data you are able to share regarding the source(s) and amount of solid waste landfilled; the expected capacity of your landfill as well as the need, if any, for future expansion; the recycling, composting or other waste diversion programs your landfill is engaged in; and any other relevant data you may have regarding the landfill and its operations.

**Casella owns the Pine Tree Landfill in Hampden. Although the Pine Tree Landfill stopped accepting waste at the end of 2009, it continues to generate renewable electricity using landfill gas as the fuel.**

**Casella operates the state-owned Juniper Ridge Landfill in Old Town.**

**Sources of waste disposed at Juniper Ridge: only solid waste generated in Maine.**

**Amount of solid waste landfilled at Juniper Ridge: In 2014, 444,173 tons were disposed and 184,858 tons were used for alternative daily cover, a form of recycling.**

**Remaining capacity at Juniper Ridge: 3,903,600 yards at the end of 2014; without an expansion, existing capacity is estimated to be exhausted in 2019.**

**Expansion: An expansion of 9.35 million cubic yards is under review by the DEP.**

**MSW diversion to locations other than Juniper Ridge by Casella in 2014:**

- 25,026 tons to Casella Zero-Sort recycling.
- 50,225 tons of source-separated cardboard recycled.
- 42,603 tons delivered to ecomaine (incineration and recycling)
- 89,902 tons delivered to PERC.
- 147 tons delivered to MMWAC
- 20,276 tons to other landfills.

**Total diverted: 228,179 tons**

**MSW disposed at JRL in 2014: 38,516 tons**

- (2) Where applicable, what barriers to or problems with increasing composting, recycling and other waste diversion programs and rates has your organization experienced and how have you addressed or removed these barriers or problems?

**Most of the solid waste disposed at Juniper Ridge cannot be feasibly diverted to composting or recycling. Municipal solid waste represented less than 6% of what was disposed at Juniper Ridge (see attached table of waste types and percentages) in 2014.**

- (3) What role do you see landfilling of solid waste playing in the future of solid waste management in Maine?

**Reduction, reuse, recycling, and composting are important aspects of our solid waste management hierarchy and system, but this system cannot function without landfills. Recycling, composting, construction and demolition debris processing, and incineration all produce residues that must be landfilled.**

- (4) What suggestions, if any, do you have for improving the statutory solid waste fee schedule to better align waste management disposal fees with the solid waste hierarchy?

**As noted above, most of the waste types that are disposed at the Juniper Ridge Landfill cannot be feasibly reduced, reused, recycled, or incinerated. As such, disposal of those wastes at Juniper Ridge is consistent with the solid waste hierarchy. Changes in the solid waste fee structure will not change how those wastes are managed. One example is "special waste" which Juniper Ridge is licensed to accept.**

"Special waste," means any solid waste generated by sources other than household and typical commercial establishments that exists in such an unusual quantity or in such a chemical or physical state, or any combination thereof, that may disrupt or impair effective waste management or threaten the public health, human safety or the environment and requires special handling, transportation and disposal procedures. Special waste includes, but is not limited to:

- (1) Ash;
- (2) Industrial and industrial process waste;
- (3) Sludge and dewatered septage;
- (4) Debris from nonhazardous chemical spills and cleanup of those spills;
- (5) Contaminated soils and dredge materials;
- (6) Asbestos and asbestos-containing waste;
- (7) Sand blast grit and non-liquid paint waste;
- (8) High and low pH waste;
- (9) Spent filter media residue; and
- (10) Shredder residue.

-DEP solid waste management rules, Chapter 400.1.Nnn.

**Most special wastes cannot be reduced, reused, recycled, composted, or incinerated. Disposal fees on special waste will have no bearing on the solid waste hierarchy.**

(5) What other information or suggestions regarding landfilling might you have for the Committee to consider during its deliberations this fall?

**Included in your packet from Casella are the following:**

- **DVD that includes two short video presentations: one on how the Juniper Ridge Landfill liner is constructed; the second on landfill operations.**
- **Project description and press releases about a pollinator habitat project undertaken this year at the Pine Tree Landfill in conjunction with the University of Maine, showing how a closed landfill can provide a beneficial natural resource function.**



# JUNIPER RIDGE LANDFILL

Operated by NEWSME Landfill Operations, LLC

2014 SUMMARY OF WASTES RECEIVED AS PERCENTAGE OF TOTAL		
	Tons received	Percentage of Total
Burn pile ash and/or hot loads area ash*	2,442	0.39%
Catch basin grit & street sweepings	747	0.12%
CDD processing residue - bulky waste	48,219	7.67%
CDD processing residue - fines*	126,152	20.06%
Coal, oil & multifuel boiler ash*	22,329	3.55%
Contaminated soil & debris	9,624	1.53%
Crushed Glass	56	0.01%
Dredged spoils	-	0.00%
FEPR	57,048	9.07%
Industrial WWTP sludge	8,112	1.29%
Leather scraps	63	0.01%
Lime mud and grit*	2,100	0.33%
Miscellaneous special wastes	-	0.00%
Mixed CDD	199,405	31.70%
MSW	36,878	5.86%
MSW Bypass	1,638	0.26%
MSW incinerator ash*	54,131	8.61%
Municipal WWTP/POTW sludge	37,892	6.02%
Non friable asbestos	703	0.11%
Non-hazardous chemical related	276	0.04%
Oil spill debris	2,434	0.39%
Pulp mill waste	2,585	0.41%
Rock and soil drill cuttings	-	0.00%
Sandblast grit	221	0.04%
Short-paper fiber*	7,841	1.25%
Spoiled foods	831	0.13%
Stumps	-	0.00%
Sulfur Scrubbing Residues	20	0.00%
Sulfur slurry & sulfur filter media	-	0.00%
Treated biomedical waste	406	0.06%
Urban fill soil & debris	6,452	1.03%
Wood from CDD	46	0.01%
WWTP grit screenings	369	0.06%
<b>Total Disposed</b>	<b>444,173</b>	<b>71%</b>
<b>Total Alternative Daily Cover</b>	<b>184,848</b>	<b>29%</b>
<b>2014 TOTAL</b>	<b>629,021</b>	<b>100%</b>

\*Denotes materials used partially or fully as alternative daily cover.

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A Division of New England Waste Services of ME, Inc.

## News Release

### FOR IMMEDIATE RELEASE

#### **Tour of Pollinator Habitat Plantings at Pine Tree Landfill**

Casella Waste Systems, with the USDA Natural Resources Conservation Service and the University of Maine, will host a tour on Tuesday, September 8, 2015 from 4:30-6:30 pm, at the Pine Tree Landfill, 358 Emerson Mill Road, Hampden. The public is invited to see a demonstration garden and a wildflower plot that were installed at the landfill by researchers from the University of Maine, Orono, to support wild bees by providing flowers throughout the growing season.

The demonstration garden at the Pine Tree Landfill is part of a pollinator habitat project to support bees. Bees pollinate the wild blueberry crop and many garden plants, trees and wildflowers. As many as 270 native bee species in Maine, plus honey bees, can benefit from increased abundance of flowers throughout the growing season. Near the railroad tracks at the landfill is a shrub and perennial border that contains plants that attract bees but may be difficult to grow in a meadow. In a separate plot up on top of the landfill, three pollinator seed mixes were sown in June.

"Pollinator habitat is compatible with a capped landfill, and the bees are already visiting the hilly meadow at Pine Tree Land Fill", Dr. Alison Dibble says. "By providing pollinator habitat on a large meadow such as a landfill, where no insecticides are used, we have an ideal win-win situation; erosion is prevented, and native bees and butterflies have plenty of food".

A brief overview talk will start at 4:45 pm, and then the group will hike to both gardens (about 1 mile round trip) and enjoy views over I95, Hampden and Bangor. Hike: moderate difficulty, wear sturdy shoes and long pants. Rain date: Thursday September 17, 4:30-6:30.

Directions: Enter the landfill and stay right at the scaling station, take next right to the landfill office parking lot.

#### Contact information:

About the pollinator project: Dr. Alison C. Dibble, School of Biology and Ecology, University of Maine, [adibble2@gmail.com](mailto:adibble2@gmail.com).

About the Pine Tree Landfill: Donald Meagher, 862-4200, ext. 230 or [don.meagher@casella.com](mailto:don.meagher@casella.com)



## DEMONSTRATION PROJECT

# Pollinator Habitat on a Large Scale

Flowers are food for bees. Honey bees and native wild bees, including bumble bees that fly from early spring to hard frost, benefit if flowers are in abundance around the farm. A flowering meadow on a capped landfill can be excellent pollinator habitat because to meet water quality standards, no herbicides or pesticides are in use.

The University of Maine, in cooperation with Casella Waste Systems which operates Pine Tree Landfill in Hampden, ME, and G.M. Allen and Son Wild Blueberries of Orland, ME, was funded through the USDA Natural Resources Conservation Service in a competitive Conservation Innovation Grant. Two additional farms are involved on the Steering Committee: Dancing Goat Farm of Montville and BrightBerry Farm, Dixmont. The Environmental Incentives Quality Program (EQIP) of the NRCS can help farmers get started with creating pollinator habitat.



A native solitary bee, *Andrena*, gathers nectar on willow in early spring.

We are pleased to offer a Year 1 demonstration off two types of plantings that are intended to support bees and other pollinators. Our 3-year project, begun in September 2014, improves wildlife habitat for pollinators and grassland birds, prevents soil erosion, and beautifies the landscape. We emphasized native species where possible. A wildflower meadow tests three seed mixes (sources on back of this sheet). Each section is about 30 x 50 ft. Pollinator strips do not address foraging needs of early spring bees, and may have a few gaps in the succession of flowers, so we also installed a perennial and shrub border in a separate location to demonstrate some important bee plants such as willow, shadbush, and garden perennials.

We should have delayed planting a full year and controlled weeds prior to planting the three wildflower mixes. Though we tilled the soil and hand-pulled weeds in Year 1, several large weeds have grown quickly in the meadow planting: Canada thistle and quack grass at Pine Tree Landfill, and lamb's quarters at G.M. Allen and Son Wild Blueberries. To address this we will mow in early autumn and continue to hand weed as much as possible.

Farmers and home gardeners can reduce the amount of labor involved by planning their pollinator strip several years in advance. Use of herbicides are typically recommended for this, but effective control can often be had by tilling the soil shallowly, about 1 inch or less, over and over as weed seeds in the soil bank continue to germinate. Tilling could be every few weeks as conditions permit. Eventually the soil seed bank will be exhausted and wildflower seed can be sown in June mixed with vermiculite. Sow thinly or the wildflowers grow too close together and compete with each other. Colorful annuals flower in Year 1, and long-lasting perennials flower in Years 2 or 3. It may be necessary to continue to hand weed now and then, because additional weed seeds will blow into the plot. Replenish the wildflower seed after Year 3 if flowers are dwindling in abundance. Depending on the plants and soil moisture conditions, mow the planting in autumn (or spring) but wait until seeds of desired plants have ripened so that the pollinator planting perpetuates itself to some extent.

Some of the plants you can see in these gardens, that are much-visited by bees, include:

Anise hyssop, <i>Agastache foeniculum</i>	Northern blue violet, <i>Viola soraria</i>
Blanketflower, <i>Gaillardia pulchella</i>	Purple coneflower, <i>Echinacea purpurea</i>
Blazing star, <i>Liatris spicata</i>	Russian sage, <i>Perovskia atriplicifolia</i>
Butterfly milkweed, <i>Asclepias tuberosa</i>	Shadbush, <i>Amelanchier alnifolia</i>
Lance-leaved coreopsis, <i>Coreopsis lanceolata</i>	Summersweet, <i>Clethra alnifolia</i>
Japanese pussy willow, <i>Salix chaenomeloides</i>	Wild sunflower, <i>Helianthus annuus</i>

For additional information about how to plant a wildflower meadow for pollinators see:

Downloadable fact sheets from the University of Maine Cooperative Extension:

<http://extensionpubs.umext.maine.edu/> search by "pollinators"

Publications by the Xerces Society for Conservation of Invertebrates, [www.xerces.org](http://www.xerces.org)

**SOURCES FOR WILDFLOWER SEED** include these companies and there are many others:

Applewood Seed Co., Arvada, CO., Tel. 303-431-7333, ask for "Maine Pollinator Blueberry Mix"; rate 4-12 lb./ac. We ordered 1/2 lb for two areas each 30 x 50 ft at \$22.75.

Johnny's Bee Feed Mix, Albion, ME. A packet sows 75' row or 20 sq.ft.; 4.5 oz./1,000 sq.ft.; 6-12 lb./acre. Full sun. Varieties are subject to change depending upon availability. We ordered 1/2 lb for two areas each 30 x 50 ft at \$22.75.

Ernst Conservation Seeds, Xerces Northeastern Pollinator Mix ERNMX #XERC00103. We customized the mix to exclude tall lupine seed because the plant is invasive in Maine; we also reduced the amount of grass seed. We ordered 1/2 lb for two areas each 30 x 50 ft at \$27.76.

**EQIP:** The NRCS offers financial assistance, through the Farm Bill, to agricultural producers who qualify for the EQIP program. Contact the Maine offices of USDA NRCS in Bangor: [http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/me/programs/financial/eqip/?cid=nrcs141p2\\_002867](http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/me/programs/financial/eqip/?cid=nrcs141p2_002867)

**Acknowledgments** -- Thank you to the NRCS, Casella Waste Systems, and G. M. Allen and Son, Inc. for making this project possible. We appreciate site preparation at G. M. Allen property by the farm crew of Blueberry Hill Farm in Jonesboro, ME. Thank you to Casella Organics of Unity, ME who provided GroMax compost and NutriMulch mulch that greatly enhanced these gardens. University of Maine students assisted in many ways, including laborious hand weeding.

University of Maine scientists involved in this project are Alison C. Dibble, Frank Drummond, Lois Berg Stack, and Eleanor Groden. Write-up prepared by Dr. Dibble, email [adibble2@gmail.com](mailto:adibble2@gmail.com).

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# News Release

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## FOR IMMEDIATE RELEASE

### University of Maine Receives USDA Grant for Pollinator Habitat Project

Bangor, ME, September 15, 2014 – The USDA Natural Resources Conservation Service (NRCS) Acting State Conservationist, Cathee Pullman, has announced that the University of Maine will receive \$34,854 to carry out a pollinator habitat project. These funds will be awarded through a Conservation Innovation Grant (CIG), a component of the Environmental Quality Incentives Program. This is as a result of a statewide competitive grants process to address some of the state's most pressing natural resource conservation needs.

The purpose of CIG is to stimulate the development and adoption of innovative conservation approaches and technologies while leveraging Federal investment in environmental enhancement and protection, in conjunction with agricultural production. CIG projects are expected to lead to the transfer of conservation technologies, management systems, and innovative approaches into NRCS technical manuals or guides, or to the private sector.

The objective of this grant, entitled "Toward Pollinator Habitat on a Large Scale", is to provide food for native bees and honey bees by improving plantings selected for pollinator gardens. This will be accomplished through demonstration gardens at Pine Tree Landfill in Hampden, which is managed by Casella Waste Systems, and at G. M. Allen and Son, producer of Maine wild blueberries in Orland, by: (1) Demonstrating methods of establishing and maintaining pollinator-friendly plants for Maine, (2) Assessing bee visitation rate and other attributes of NRCS-recommended pollinator habitat seeds and plants, (3) Evaluating two NRCS conservation practice standards that are due for revision, and (4) Documenting the benefits to other wildlife species of improving pollinator habitat. In addition to cooperators Casella Waste Systems and G. M. Allen and Son in Orland, the steering committee includes Jean Hay Bright of BrightBerry Farm, Dixmont, and Jeffrey and Patty Crawford of Dancing Goat Farm, Montville.

"NRCS recognizes the importance of pollinators to biodiversity and food security and addresses pollinator issues in a number of different ways," said Pullman. "I look forward to seeing the environmental and economic results of this project."

"Maine has hundreds of municipal and commercial landfills that require vegetation, and numerous large and small farms where bee habitat is a priority," said Dr. Alison C. Dibble of the School of Biology and Ecology, who heads up the project for the University of Maine. "However, many plants recommended in a succession of flowers, as food for pollinators, are not yet tested in our area. Both Pine Tree Landfill and G.M. Allen already offer pollinator habitat and have an

abundance of bees, but this new NRCS project will enable us to articulate the methods by which habitat for bee forage and other wildlife can be improved over large areas and in gardens across the state. Pollinator conservation activities of this kind can lead to greater food security for us all. We will hold several field days when growers and the public can visit the demonstration gardens on Pine Tree Landfill and at G. M. Allen and Son."

Maine NRCS also provided CIG grants to the following:

The Southern Aroostook Soil and Water Conservation District in Houlton received \$74,043 for "Building Soil Health with Innovative Potato Cropping Systems", to demonstrate how, through the use of multi-species cover crops and companion plantings, conventionally-farmed potato soil can rebuild itself as a living ecosystem. The objectives of this project are to: (1) Introduce multi-species cover crops and companion plantings on three conventional potato farms in Southern Aroostook, (2) Demonstrate improvement in increased water holding capacity, build-up of soil stability, root quality and yields, and plant-available nutrients, (3) Provide a cost analysis to compare the economic values for farms growing grain in a rotation year versus a diverse cover crop, (4) Develop multi-species mixes for planting in a northern climate and as part of a potato cropping system, and (5) Provide educational and outreach opportunities to other farmers on the process and results.

The Somerset County Soil and Water Conservation District received \$75,000 for "Improving Soil Health Through Cover Cropping and Reduced Tillage in the Dairy Belt of Maine", to demonstrate and quantify the impacts of cover crops and reduced/no-till corn silage systems on soil quality and nutrient management. The objectives of this project are to: (1) Increase winter cover crop planting in Kennebec, Somerset and Waldo counties using new establishment methods for increased success, (2) Increase use of reduced/no till silage corn, (3) Improve soil health, (4) Decrease erosion and nutrient runoff from corn fields, (5) Reduce the levels of chemical fertilizers and pesticides applied to corn silage fields, (6) Improve farm profitability through reduced inputs and labor, and (7) Diversify crops to benefit soil biological communities and reduce the risk of crop loss.

NRCS, in existence since 1935, is the lead conservation agency that helps farmers conserve, maintain and improve natural resources through science-based conservation efforts, technical assistance and incentive-based programs. For information on NRCS and its programs, visit [www.me.nrcs.usda.gov](http://www.me.nrcs.usda.gov).

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Presentation to the  
COMMITTEE ON THE ENVIRONMENT AND NATURAL RESOURCES  
The Role of Landfills in Maine's Solid Waste Management System  
September 10, 2015

by  
Mark Draper, Solid Waste Director  
TRI-COMMUNITY RECYCLING & SANITARY LANDFILL

As requested, the information provided herein will follow the general format of the questionnaire provided by the Committee Chairs in a memo dated August 25, 2015. I have made a concerted effort to keep the information pertinent to the questionnaire topics, and as brief and succinct as possible. I would be happy to provide additional information should the Committee find it useful.

*(1) Briefly describe your organization's landfill and recycling operations*

TCL owns and operates a secure, regional, municipally-owned landfill located in the Town of Fort Fairfield, in Aroostook County, Maine. The facility is owned by the municipalities of Fort Fairfield, Limestone, and Caribou, and provides disposal capacity for approximately 32 other communities in the Aroostook County region, representing approximately one-half of the County's population (please see map attached as Appendix 1). The landfill facility itself was first sited at the present location in 1977; and has undergone essentially 3 major phases of development since then, driven primarily by changes in the environmental regulations, and subsequently the size of the region served.

The secure landfill cells are lined with double-composite liner systems, with leak detection and leachate collection. Leachate collected from the landfill is temporarily stored in similarly double-lined lagoons with leak detection systems. It is subsequently pumped via an HDPE pipeline to the Caribou Utilities District wastewater treatment plant under the terms of a contract with that facility.

In 2014, TCL received the following waste volumes:

- 23,472 tons of MSW
- 1,939 tons of CDD
- 1,329 tons of special wastes (primarily petroleum contaminated soils)

These volumes are generally consistent with what has been received over the past several years, with the highest volume of MSW received in any year being 26,279 tons in 2008. The vast majority of the waste is delivered to the landfill by commercial haulers; either directly from curbside collection routes, or from regional transfer stations. However, on busy days up to 200 or more private vehicles may pass through the gate to dispose of household waste, demolition debris, appliances, wood, metal, tires, recyclables, or universal wastes.

Appendix 2 attached to this report illustrates the remaining constructed and licensed capacity of the site. Based on recent trends, constructed capacity will last for an additional 11 to 14 years; and remaining licensed capacity should last for an additional 36 to 45 years. In addition, the potential exists for a 1 million cubic yard expansion, should it ever be necessary.

Inherent to the remaining capacity calculation, TCL also annually updates the closure/post-closure care liability estimates. The adequacy of TCL's reserves to cover this future liability is assessed annually by TCL's auditors, and has been found to be adequate. This means that, at the time of closure of the landfill, funds will be available to install a cap over the landfill, and also to maintain the facility for at least 30 additional years. A portion of the tipping fees charged to today's users of the landfill will offset this cost.

TCL operates a recycling center at the landfill location where, in addition to baling of traditional recyclable materials, bottle bill redemption materials are also baled. These include PET plastic soda bottles, aluminum cans, and glass bottles. The PET and aluminum is baled and sold into the traditional recycling markets; while the glass is processed into an aggregate fill material and given away to residents and contractors.

Collection of "traditional" recyclable materials occurs in two (2) ways. First, TCL has established 20 drop-off locations in 17 different communities in central and northern Aroostook County. Magazines, newspapers, tin cans, and clear and colored HDPE (#2) plastics are collected at these locations. The recyclable material is source-separated and residents are asked to place them in colored "igloos," which are then emptied into a specially-designed truck by TCL. Cardboard recycling dumpsters are also located at a few of the sites. Second, commercial haulers and other businesses deliver recyclable corrugated cardboard to TCL's recycling center. To incentivize participation, TCL offers a revenue sharing program for commercial entities that deliver corrugated cardboard to our facility; whereby 50% of the revenue generated by the sale of the material is returned to the generator. This helps to bolster commercial recycling of cardboard.

*(2) What barriers has your organization encountered that limits increased recycling and waste diversion.*

By far, the single largest barrier to increasing recycling and waste diversion efforts is the sparsely-populated, rural nature of the region. Collection efficiencies, both from a functional and cost perspective, are poor, and require extra effort on the part of participants who must be motivated to expend the extra time and effort to recycle.

In addition, and perhaps equally important, is the economic condition of most municipalities with shrinking municipal budgets from municipal revenue sharing cuts, and intense pressure to keep property tax rates as low as possible. The cost of expanding (or even maintaining) recycling programs is hard to justify to municipal officials who are trying to pay for a myriad of municipal services all vying for the same limited dollars. Coupled with the current depressed market for recyclable commodities, and the economics are difficult to justify.

While the traditional arguments for recycling (saves space in the landfill, it is good for the environment, etc.) are all true and legitimate, my most recent attempt to convince more residents and businesses to recycle is by pointing out that recycling generates non-tax revenue that is used to offset the costs of the landfill operation. Hopefully this becomes more tangible for resident taxpayers and connects their actions to their tax bills.

*(3) What role do you see the landfilling of solid waste playing in the future of solid waste management in Maine?*

Landfills will remain as an essential component of an integrated waste management system in Maine, or in any other state. We cannot forget that, first and foremost, our job as municipal solid waste managers is to provide a feasible option for the disposal of the waste generated by our society. Landfills provide that foundational ability.

I am hopeful that emerging processing technologies may be “scaleable” to a point where they become financially feasible at much lower volume thresholds than currently. If so, then I can envision small-scale processing plants being co-located with relatively small regional landfills to very effectively manage a region’s waste stream. However, depending on the lower end scale at which processing technologies become feasible, landfills may likely remain as the only viable option for sparsely-populated, rural areas of the State for quite some time. Landfills are a legitimate disposal option used extensively throughout the U.S. According to the U.S. EPA, in 2013, 53% of all waste generated in the U.S. was landfilled; as compared to 34% recovered through various methods; and only 13% incinerated in WTE plants. A significant distinction needs to be made when comparing today’s modern, secure landfills to yesterday’s “dumps.” Today’s landfills are highly-engineered facilities with complex liner and leak detection systems. Intense quality control standards are implemented during construction to guarantee the systems are constructed as designed; and continuous improvements are being made in gas extraction, leachate management, and cover systems to minimize any potential environmental impacts.

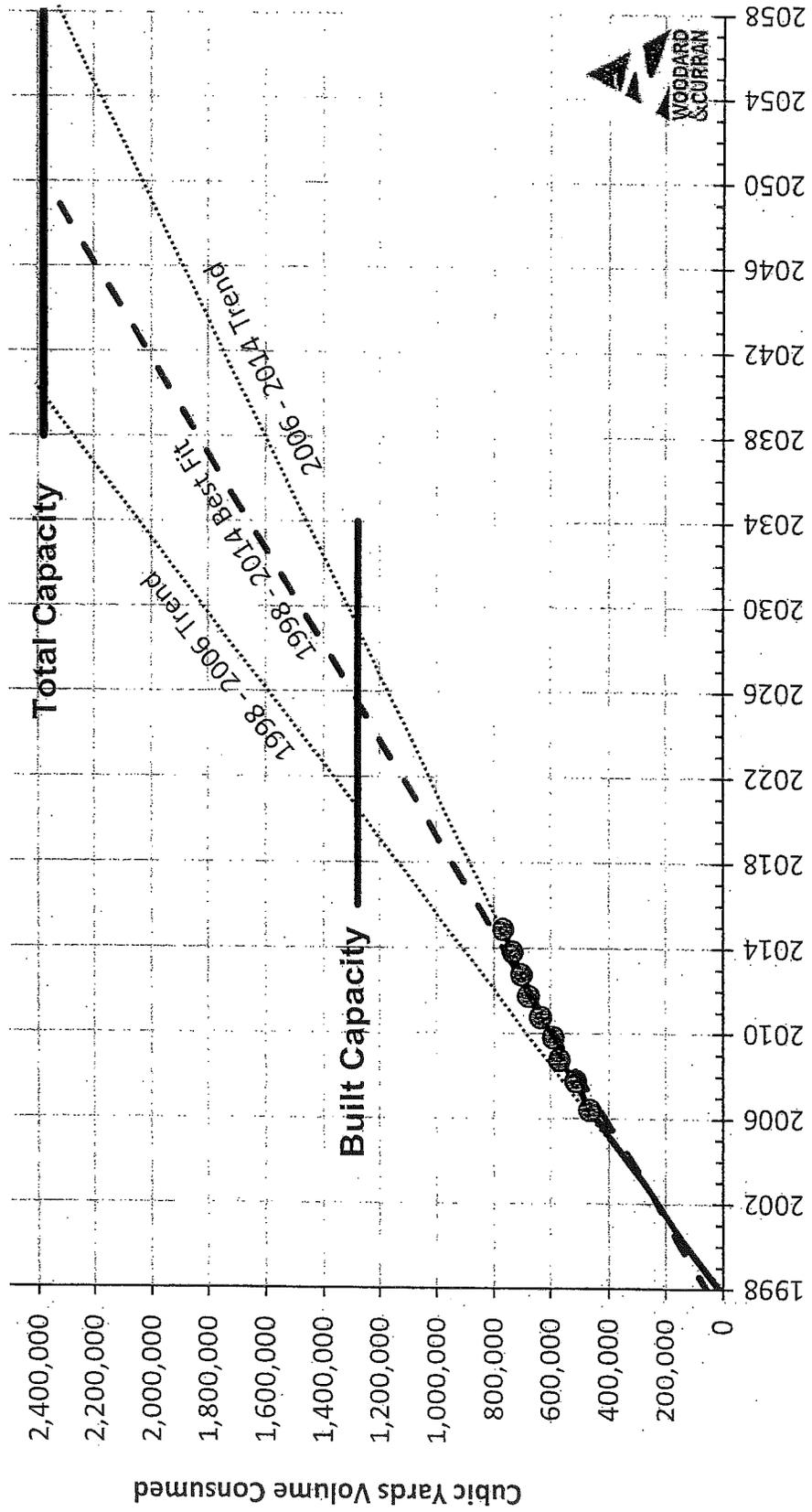
Contrary to more densely-populated areas of the State, where locating a landfill would be challenging at best, rural areas have plenty of space in which to do so, and, as I noted earlier, considerable capacity remains.

*(4) What suggestions do you have for improving the statutory solid waste disposal fee schedule to better align fees to the hierarchy?*

Nobody wants to pay more, and ideally, no additional fees would be implemented, but if any additional fees are considered, they must be implemented equally across all methods of disposal. The incineration of waste, while carefully controlled, still results in environmental impacts through a variety of avenues, and is not recycling or waste diversion. Therefore, for the purposes of establishing a fee structure, there should be only two “rungs” to the hierarchy; those being “disposal” and “otherwise diverted” from disposal. Any fees for disposal should be equivalent and across the board for all disposal options and not select one over the other.

Furthermore, any revenue from fees should be funneled back for local projects and programs that supplement the upper rungs of the hierarchy. Priority for funding should be given to regional efforts that can demonstrate both need and benefit. Perhaps utilizing the Council's of Government or Development Commissions would be productive.

# Tri-Community Recycling & Sanitary Landfill Life Forecast







*Enhancing Prosperity for Maine's Restaurants*

Senator Saviello, Representative Welsh and distinguished members of the Environment and Natural Resources Committee, my name is Greg Dugal and I am here representing the Maine Restaurant Association and the Maine Innkeepers Association, at the request of your legislative analyst Dan Tartakoff to answer four questions about Massachusetts implementation of a commercial food waste disposal ban in October 2014 that prohibits commercial establishments that generate more than one ton of compostable organic material per week from disposing of that material at an incinerator or landfill (i.e., it essentially requires that material to be composted).

The first question was primarily, how is it going in Massachusetts, My counterpart there and his legislative advocacy provider were quick to point out that the onus in the Massachusetts model is on the hauler. Even though, the haulers were reluctant to be the "bad guys" in this process, they also wanted to save their customers, the restaurants, from trying to keep track of weights and compliance because the haulers have the tools to do so. So the haulers counsel the restaurants or institutional food providers if they are over the one ton level and work with them to resolve this. The solid waste units in the communities police the haulers and make sure they are also in compliance. In Massachusetts, those food service establishments that fall under the auspices of this law are generally hospitals, universities, sports stadiums and facilities, large hotels like the Sheraton Copley and the Four Seasons and large restaurants like Kowloon. So far everything is going pretty well, but Michael said that the biggest drawback in the Massachusetts model was the lack of a comprehensive plan among state agencies. While the Department of Environmental Protection was really pushing this initiative, the Department of Public Health was warning restaurants about their composting programs. Steve Clark from MRA suggests that the State of Maine convene a stakeholders group that would include DEP, Health Inspections and CDC, Agriculture and/or MOFGA as we all know that farmers can be a big part of this program.

Question 2 was about impacts on Maine businesses and I think they could be pretty extreme, if a lot of thought is not put forth to make this a viable program. Steve Clark felt that a logoed program like the Environmental Leader Program in DEP with all the participating agencies and stakeholders being listed as a sign of working together and also being promoted in that sense. Health Inspections has to be a big part of this so restaurants aren't running afoul of the Maine Food Code and that they are not generating vermin with the way the compostable materials are stored. He also cited October through March as being a big problem for lots of reasons, farms are generally not operating, compostable materials freezing or getting snowed in. Enforcement needs to be taken into consideration. Who is the cop, the DEP, Health Inspection, the local solid waste facility? How does one define a ton of food waste and who is responsible for verification? In Massachusetts they offer technical grants to the haulers to help restaurateurs to comply and the DEP conducts random inspections of haulers activities.





Question 3 was about our member's current habits as it relates to composting. We conducted a survey of both hoteliers and restaurateurs. We had 36 responses. Of the 36,

- 24 did not compost
- 4 were less than 25%
- 0 were 25-50%
- 3 were 50-75%
- And 5 were 75-100%

When asked what they did with it-

- 3 said they used their own compost
- 1 delivered it to a farm
- 3 had a farmer retrieve it
- 5 had a composting company retrieve it

Of those who did not compost

- 17 said they would if there were options out there
- 4 said no
- 3 said they were not sure

Question 4 was about barriers to composting:

- No space on site (13)
- Employee Training (10)
- Logistics (8)- Lots of concerns of sorting food waste from hard waste
- Mess (8)
- Smell (5)
- Cost (5)
- Other issues included No Farm Needs in the winter, need for refrigerated storage, daily pickup (2), animals (2), time, transportation, sorting and state rules

and what the State could do to assist:

- Restaurant Incentives (13)
- Increase Number of Vendors (7) Help farmers and enforce frequent pickups
- Free or low cost bins (6)
- Leave us alone (4)
- Cost effective, Education and don't know (2)
- No support needed (1)



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September 10, 2015

Joint Standing Committee on the Environment and Natural Resources  
100 Statehouse Station  
Augusta, ME 04333

Honorable Senator Saviello, Representatives Welsh, and members of the Committee

My name is Joseph Kazar and I am the Executive Director of MMWAC, the Mid-Maine Waste Action Corporation. Thank you for allowing me to address this special meeting of the Committee.

MMWAC is a quasimunicipal, non-profit solid waste management organization located in Auburn that was established in 1986 and is owned by 12 municipalities. We serve 14 others through contracts, and a number of others through private haulers. Our service area centers in Auburn and includes communities in Androscoggin, Cumberland, Kennebec, Oxford, and Sagadahoc counties. MMWAC's central mission is to provide for a reliable, economical and comprehensive regional solid waste management system that protects the environment primarily through waste to-energy processing and disposal services for the benefit of its members, Associate towns, and local citizens, material recycling opportunities, and the operation of a transfer station for the benefit of local business, residents and municipalities.

MMWAC owns and operates a 200-ton per day waste-to-energy facility that went into operation in 1992. The plant operates 24/7, and in recent years we have averaged 94% availability. Our plant takes regular household and commercial trash and through a modern incineration process destroys the organic matter with very high temperatures and captures the energy in the solid waste to create high pressure/high temperature steam. The steam runs through a turbine generator to produce electricity to run the plant, with excess electricity sold to regional electric grid. Flue gases are cleaned in a high-efficiency air pollution control system under rigorous permitting conditions.

We remove metal from the ash that remains after incineration and recycle it. We are then left with an inert ash that occupies only 10% of the volume of the trash that was processed, thus vastly extending landfill life. Our long-term ash-for-trash partner, the City of Lewiston manages this material in its secure landfill. Since the organic material has been destroyed in the incineration process, the ash does not create odors and does not cause settlement or leachate problems at the landfill. This arrangement has extended the life of this municipal landfill and saved the City considerable capital expenditures by lengthening cell life.

*MEMBER COMMUNITIES:*

*AUBURN • BOWDOIN • BUCKFIELD • LOVELL • MINOT • MONMOUTH • NEW GLOUCESTER • POLAND • RAYMOND • SUMNER • SWEDEN • WALES*

Waste-to-energy offers many benefits. It has long been recognized in the waste management hierarchy as a responsible way to manage post-recyclable municipal solid waste, reducing landfill requirements, recovering valuable domestic renewable energy, is a net reducer of greenhouse gases, and operates in a manner that is safe for the environment and the community's health. We also provide a positive impact in the community, with 28 employees who are highly skilled and enjoy quality jobs, and the use of outside contractors for maintenance outages and special projects.

Our transfer station accepts construction and demolition waste and bulky waste, as well as excess MSW that at certain seasons exceeds the plant's capacity, for disposal at Waste Management's landfill in Norridgewock. The transfer station also recovers wood waste for further processing by ReEnergy in Lewiston for biomass fuel. We also recycle tires, white goods and other metal, corrugated cardboard, propane tanks, and batteries. Local citizens also drop off typical household recyclables.

All of our 12 owner municipalities engage in recycling. Some use ecomaine's single sort facility in Portland, others use Casella's zero sort facility in Lewiston, and the remainder market their own source separated materials from their municipal transfer stations. Area businesses typically contract for recycling services or bring their materials to MMWAC for recycling.

What do we see as the barriers to diversion? While the solid waste hierarchy clearly encourages a prioritized approach to managing materials two factors come to mind. First is economics. Lowest current cost alternatives typically win out, regardless of their long term cost to society and their rank in the hierarchy. Unless a mechanism is put in place to tilt decision making this isn't likely to change. Also impacting economics are market conditions. Many materials markets are depressed at this time, and may remain depressed as long as leading world economies continue to languish, further limiting the viability of expanding programs.

The second barrier to diversion has to do with new, emerging technologies that offer promise for capturing materials currently disposed. Emerging technologies are just that, emerging. History shows us that most will fail due to technological, environmental, funding, or economic challenges. These can be viewed as high risk/high reward ventures. Perhaps there is a governmental role for providing demonstration grants to show the viability of certain processes to help spur their commercial development.

Waste-to-energy can be viewed as a diversion technology in terms of diverting solid waste that would have gone to landfill. Landfill capacity is valuable and difficult to replace once filled. Waste-to-energy plays a vital role in extending landfill life, since landfills will always play a role

in any comprehensive waste management system. Waste-to-energy is a mature, proven technology that can continue to provide a vital role long into the future.

The waste-to-energy industry does face challenges that threaten its future however. Tipping fees, the fees charged to process a customer's solid waste, in combination with the cost to haul to our facility, must make sense to a community or a business. We compete with other waste-to-energy plants and with landfills. This competition has depressed tipping fees below that required to properly maintain these capital intensive facilities. This is a common theme, short term cost versus long term goals and costs. Some ask why we don't simply raise tipping fees to the necessary level. The answer is that most plants must compete for much, or in some case all the trash they require on the open market. Price the service too high and the trash will flow to the cheaper facilities.

Another significant factor is our electric income, which helps keep tipping fees as low as possible, but has eroded drastically in recent years. MMWAC, like most facilities in New England, has outlived its long-term electric sales agreements that offered long term income certainty and often above-market prices for our power. This public policy was in recognition of the environmental value of waste-to-energy as well as the national interest being served by the production of our domestic, renewable energy. These contracts have largely expired and have been replaced by sales to the wholesale electric market. Prices in today's wholesale are very low by comparison, putting further pressure on today's surviving plants. Finally, with regard to electric sales income, waste-to-energy does not enjoy the renewable energy credit support that is available to other domestic, renewable energy generators, nor other supports to recognize our place in the hierarchy. This is a public policy issue that the legislature could consider.

Concerning statutory solid waste fees MMWAC has supported changes to the schedule to align it with the hierarchy. This could be done by enacting a landfill fee significantly higher than the waste-to-energy ash fee. This has not proven feasible in the past. At a minimum, the ash tax should be eliminated.

Please see the attached Informational Brochure for more information. You are all welcome to visit our facility in Auburn if you would like a first hand view of our operation.

Thank you for allowing me this opportunity to introduce MMWAC to the Committee.



## **Municipal Review Committee Responses to ENR Committee Questions for September 10, 2015 Meeting**

- (1) Please briefly describe your organization's waste processing operations, including any data you are able to share regarding the source(s) and amount of solid waste processed; the amounts of residue, bypass etc generated by your operation and their ultimate disposition; the recycling, composting or other waste diversion programs your facility is engaged in; and any other relevant data you may have regarding the facility and its operations.**

As you know, the MRC communities are currently in a 30 year arrangement with the PERC facility that comes to an end on March 31, 2018. We expect PERC representatives will answer questions involving that facility's data. You are also aware that the MRC has accepted the difficult reality that PERC cannot economically operate after 2018 without massive new subsidies. The MRC communities needed to find a new way to ensure that MSW processing in our region would continue after 2018 for the long term without relying on such subsidies.

We are on schedule to develop a replacement facility beginning service to the MRC communities on April 1, 2018. The new facility is designed to accept between 150,000 and 200,000 tons of MSW annually. Residuals in the range of 30,000 to 40,000 tons per year will be disposed at the Crossroads secure landfill in Norridgewock, Maine. Any MSW bypass will also be disposed at the Crossroads secure landfill in Norridgewock, Maine. Project economics are adversely impacted by the bypass of MSW, and therefore we are planning for minimal amounts of bypass MSW to be sent to the landfill.

The MRC communities sponsor a wide variety of local recyclables collection and processing programs and these programs are expected to continue, if not expand after 2018. The MRC/Fiberight facility will compliment these efforts by dramatically increasing recycling over the current waste to energy technology. The facility will recycle ferrous and non-ferrous metals, some paper materials and a wide range of plastics. The MRC/Fiberight facility expects to recycle between 25,000 and 34,000 tons of NEW material annually, in addition to what local programs in the region will recycle. The most exciting element of the new system is its ability to sort out the recyclables and then economically convert food waste and other organics in the waste stream (without source separation) into a valuable energy product – biofuel. The MRC/Fiberight technology will produce a significant amount of biofuel – i.e. 400,000 to 480,000 MMBTU/year.

Following the intensive processing at the MRC/Fiberight facility, which will remove as much usable matter as possible (either through recycling or converting to energy), the residual waste will be landfilled. As stated above, the residuals will amount to 30,000 to 40,000 tons per year, which is less than half the amount of PERC residuals currently being disposed of at the Juniper Ridge Landfill.

**(2) Where applicable, what barriers to or problems with increased composting, recycling and other waste diversion programs and rates has your organization experienced and how have you addressed or removed these barriers or problems?**

Barriers to an improved materials management practices are largely economic. We have removed these barriers by developing the MRC/Fiberight facility to operate at a scale that avoids the need to import MSW from outside the service area, allows Maine municipalities to increase the amount of material being recycled without exposure to GAT penalties for delivery shortfalls, captures significant new quantities of recyclables that were not captured at the local level and converts organics into a valuable energy product.

**(3) What role do you see the processing of solid waste playing in the future of solid waste management in Maine?**

By MRC's willingness to adapt to evolving economic realities and our willingness to ask member communities to invest capital in connection with making a local commitment to approve a long term agreement with the MRC/Fiberight facility, we expect the long-standing tradition of MSW processing will continue in our region. The MRC/Fiberight facility process is not a typical waste-to-energy process that incinerates to reduce volume (as well as create electricity), but rather a process that will increase recycling and utilize organics in the creation of higher value energy products that will directly decrease our dependency on fossil fuels (for heating and transportation).

**(4) What suggestions, if any, do you have for improving the statutory solid waste disposal fee schedule to better align waste disposal fees with the solid waste hierarchy?**

Any funds made available by statutory change to support development of better materials management systems, should be funded by state government or a very broad base of the general public. Efforts to apply fees to specific systems, facilities or material types favor certain regions of the state and have never worked well for Maine.

**(5) What other information or suggestions regarding waste processing/waste-to-energy might you have for the Committee to consider during its deliberations this fall?**

We look forward to being available to work with the Committee as it continues its deliberation this fall.