

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

October 13, 2015
10:00 a.m.

AGENDA

- 10:00 a.m. Welcome, introductions and overview of meeting
- 10:05 a.m. Materials and solid waste policy survey results and review of October 8th MMA session on materials management
➤ *Dr. Cynthia Isenhour et. al, Materials Management Research Group, Mitchell Center*
- 11:00 a.m. Overview of State materials management plan and solid waste regulatory updates
➤ *Leslie Anderson, acting director, Bureau of Remediation and Waste Management, Department of Environmental Protection*
- 11:30 a.m. State regulation of biomass facilities
➤ *Marc Cone, director, Bureau of Air Quality, Department of Environmental Protection*
- 12:00 p.m. Break for lunch (30 minutes)
- 12:30 p.m. Overview of EPA award to New England Environmental Finance Center
➤ *Martha Sheils, project director, New England Environmental Finance Center, University of Southern Maine*
- 12:45 p.m. Packaging recycling and policy
➤ *Laura Rowell, global sustainable packaging manager, Sonoco Products Company; also presenting on behalf of AMERIPEN, the American Institute for Packaging and the Environment*
- 1:00 p.m. Committee discussion
- 2:30 p.m. Adjourn

ENR Interim Meetings – Questions to Consider

1. **Solid waste fees:** Is there interest in examining the solid waste disposal fee statutes to amend those fees so that they better align with the solid waste hierarchy?
2. **Composting requirement:** Is there interest in implementing a food waste disposal ban for large generators, similar to that in place in Massachusetts, Connecticut and Vermont? If so, what parameters are appropriate, both in terms of defining large generators (i.e., how much food waste must be produced for a generator to be subject to the ban) and whether to institute a geographical component to the ban (i.e., only comply if within X miles of a composting facility)?
3. **Waste to energy as recycling:** Is there interest in recognizing certain aspects of waste to energy processes as “recycling” (e.g., MRC’s proposed facility that would turn waste into a fuel)? What about fuel generated from sludge in landfills as “recycling?”
4. **Packaging initiatives:** Is there interest in exploring or instituting a product stewardship program or other legislative approach relating to product packaging?
5. **Regional approach:** In developing legislation to encourage increased recycling, composting, etc., is it appropriate to consider instituting different statutory approaches by region?
6. **Incentive-based approach:** Is there interest in instituting some type of statutory or regulatory program that provides incentives to municipalities with higher recycling rates?
7. **Biomass questions:** Is there interest in further examining the regulatory barriers to increasing the generation of energy through the burning of wood wastes, including CDD?
8. **Funding sources related to bottle bill:** Is there interest in pursuing an approach similar to that proposed in LD 1204 (e.g., removing certain large containers from redemption program), or examining the possibility of using non-commingled unclaimed deposits, to provide a funding source for supporting composting and recycling programs in the State?

On this tab are the survey respondents' self-identified stakeholder classification.

Respondents by Stakeholder Groups	Respondents
Municipal Official (Town with less than 5,000 residents)	37
Municipal Official (Town with between 5,000 and 15,000 residents)	24
Municipal Official (Town with more than 15,000 residents)	8
Regional	40
Statewide	29
National	12
Sovereign	0
Elected Official	11
Public Sector	26
Private Sector	35
Quasi-Public	8
Nonprofit or NGO	14
Waste-To-Energy	28
Landfill	27
Transfer Station	42
Hauler	15
Environmental Group	10
Recycling	69
Organics	40
Construction Demo Debris	30
Large Institution	1
Academic	10
Citizen/Taxpayer Only	31

On this tab are the percentages for respondents that were against a given policy (either "actively oppose" or "not in favor of") or for a given policy (either "actively advocate" or "in favor of"). There is also the basic count by each of the five options. A heat chart was used to help highlight the options with the highest rankings. Darker red means a high percentage or count, darker blue means a low percentage or count, and white means a moderate level.

	% Against or For		Count by response option				
	Against (both actively or slightly)	For (both actively or slightly)	Actively Oppose	Not in favor	Neutral	In favor	Actively Advocate
Organics Planning and Management							
No separation of organics from the waste stream in Maine	61%	20%	40	55	30	17	15
Mandatory source separation of organics from the waste stream in Maine	31%	53%	10	38	26	57	26
Disposal ban for large volume generators of organics	20%	54%	11	20	41	62	21
Subsidies for entities and companies that divert organics	29%	43%	14	30	43	56	10
Investing in infrastructure to manage organics	11%	72%	3	15	27	83	30
A comprehensive state plan to increase organic diversion	9%	78%	3	11	20	91	33
Product Stewardship and the Bottle Bill							
Product Stewardship for carpets	14%	66%	4	18	31	79	24
Product Stewardship for mattresses	13%	69%	5	15	28	85	23
Product Stewardship for packaging	12%	68%	5	14	31	83	22
Adding items to the Bottle Bill	29%	50%	18	28	33	59	20
Removing items from the Bottle Bill	65%	18%	40	61	27	15	13
Removal of the ENTIRE Bottle Bill	73%	14%	69	44	20	9	13

On this tab are the percentages for respondents that were against a given policy (either "actively oppose" or "not in favor of") or for a given policy (either "actively advocate" or "in favor of"). There is also the basic count by each of the five options. A heat chart was used to help highlight the options with the highest rankings. Darker red means a high percentage or count, darker blue means a low percentage or count, and white means a moderate level.

	% Against or For		Count by response option				
	Against (both actively or slightly)	For (both actively or slightly)	Actively Oppose	Not in favor	Neutral	In favor	Actively Advocate
Landfill Planning and Management							
Expansion of current landfills	39%	41%	11	48	30	55	7
Siting new landfills	45%	28%	14	55	40	39	4
Reducing the demand for landfills	6%	85%	1	8	14	92	38
Removal of all landfill disposal fees	69%	15%	38	66	23	21	2
Creation of landfill disposal fees	22%	51%	14	20	41	67	12
Removal of current landfill disposal fee exemptions	21%	47%	8	24	48	59	12
Other Programs							
Polystyrene foam ban	24%	57%	7	30	29	72	16
Single-use bag fees	29%	56%	13	31	23	70	15
Adjusting the state recycling goal of 50%	16%	54%	6	19	47	72	11
Changing the recycling and waste metrics	8%	49%	5	7	63	57	15
Support for waste volume reducing technologies	5%	83%	1	6	19	107	20
Incentives for companies that use Maine recycled materials	10%	77%	5	10	21	101	18
Recyclable materials landfill ban	24%	61%	10	26	24	69	24
Changing the waste hierarchy	22%	32%	11	22	70	41	7
Waste reduction targets for state agencies	7%	77%	3	8	24	105	13
Minimum tipping fees for solid waste disposal	22%	48%	10	24	46	64	10

On this tab are the percentages for respondents that were against a given policy (either "actively oppose" or "not in favor of") or for a given policy (either "actively advocate" or "in favor of"). There is also the basic count by each of the five options. A heat chart was used to help highlight the options with the highest rankings. Darker red means a high percentage or count, darker blue means a low percentage or count, and white means a moderate level.

Funding	% Against or For		Count by response option				
	Against (both actively or slightly)	For (both actively or slightly)	Actively Oppose	Not in favor	Neutral	In favor	Actively Advocate
No additional state-level funding for materials and solid waste management programs	62%	19%	14	80	28	26	3
Funding for organics diversion	19%	63%	5	24	28	86	11
Funding for facilities, such as transfer stations upgrades and expansion	19%	63%	6	22	28	87	8
Funding for reuse organizations or collection centers	18%	61%	5	23	31	84	9
Funding for regional cooperatives	15%	64%	4	19	32	85	11
Funding for educational tools for communities on materials management	14%	75%	2	19	18	101	13
Funding to incorporate materials management into K-12 education	11%	78%	4	13	17	101	18

On this tab is the percentage of individuals that were in favor of a given program or policy excluding the individuals that responded they were neutral for the policy in question. The first column (B) is for those who were in support of the program to any degree, the second column (C) was those who specifically would "actively advocate for" the program or policy. Darker red means a high percentage or count, darker blue means a low percentage or count, and white means a moderate level.

	% For (excluding Neutral)	
	All in Favor of	Only Actively Advocate
Organics Planning and Management		
No separation of organics from the waste stream in Maine	25%	12%
Mandatory source separation of organics from the waste stream in Maine	63%	20%
Disposal ban for large volume generators of organics	73%	18%
Subsidies for entities and companies that divert organics	60%	9%
Investing in infrastructure to manage organics	86%	23%
A comprehensive state plan to increase organic diversion	90%	24%
Product Stewardship and the Bottle Bill	All in Favor of	Only Actively Advocate
Product Stewardship for carpets	82%	19%
Product Stewardship for mattresses	84%	18%
Product Stewardship for packaging	85%	18%
Adding items to the Bottle Bill	63%	16%
Removing items from the Bottle Bill	22%	10%
Removal of the ENTIRE Bottle Bill	16%	10%
Landfill Planning and Management	All in Favor of	Only Actively Advocate
Expansion of current landfills	51%	6%
Siting new landfills	38%	4%
Reducing the demand for landfills	94%	27%
Removal of all landfill disposal fees	18%	2%
Creation of landfill disposal fees	70%	11%
Removal of current landfill disposal fee exemptions	69%	12%

On this tab is the percentage of individuals that were in favor of a given program or policy **excluding the individuals that responded they were neutral for the policy in question** . The first column (B) is for those who were in support of the program to any degree, the second column (C) was those who specifically would "actively advocate for" the program or policy. Darker red means a high percentage or count, darker blue means a low percentage or count, and white means a moderate level.

	% For (excluding Neutral)	
	All in Favor of	Only Actively Advocate
Other Programs		
Polystyrene foam ban	70%	13%
Single-use bag fees	66%	12%
Adjusting the state recycling goal of 50%	77%	10%
Changing the recycling and waste metrics	86%	18%
Support for waste volume reducing technologies	95%	15%
Incentives for companies that use Maine recycled materials	89%	13%
Recyclable materials landfill ban	72%	19%
Changing the waste hierarchy	59%	9%
Waste reduction targets for state agencies	91%	10%
Minimum tipping fees for solid waste disposal	69%	9%
Funding	All in Favor of	Only Actively Advocate
No additional state-level funding for materials and solid waste management programs	24%	2%
Funding for organics diversion	77%	9%
Funding for facilities, such as transfer stations upgrades and expansion	77%	7%
Funding for reuse organizations or collection centers	77%	7%
Funding for regional cooperatives	81%	9%
Funding for educational tools for communities on materials management	84%	10%
Funding to incorporate materials management into K-12 education	88%	13%

On this tab you will find the respondents' rank preferences for different sources of funding for materials and solid waste management.

	We should not fund materials and solid waste programs	Earmarked state funds (tax base)	Solid waste disposal fees	Statewide Pay-As-You-Throw	Unclaimed Bottle Bill deposits
Average Rank	3.93	3.06	2.38	2.58	3.06

	We should not fund materials and solid waste programs	Earmarked state funds (tax base)	Solid waste disposal fees	Statewide Pay-As-You-Throw	Unclaimed Bottle Bill deposits
Priority Level					
Highest	19	15	40	39	26
	41	33	37	39	23
Middle	13	39	35	25	31
	18	41	18	23	43
Lowest	82	15	9	17	20

	We should not fund materials and solid waste programs	Earmarked state funds (tax base)	Solid waste disposal fees	Statewide Pay-As-You-Throw	Unclaimed Bottle Bill deposits
Priority Level					
Highest	13.3%	10.5%	30.8%	27.3%	18.2%
	7.7%	23.1%	25.9%	27.3%	16.1%
Middle	9.1%	27.3%	24.5%	17.5%	21.7%
	12.6%	28.7%	12.6%	16.1%	30.1%
Lowest	57.3%	10.5%	6.3%	11.9%	14.0%

On this tab you will find the respondents' rank preferences for the importance of addressing each of the following materials and solid waste management topics.

Organics management and planning	Addressing hard-to-manage items (Product Stewardship, The Bottle Bil, polystyrene ban, disposable bag fees)	Landfill management and planning	Funding for materials and solid waste programs (facilities, education, reuse, cooperatives, etc.)	Adjusting the data and metrics for measuring outcomes (recycling rate, waste generation, etc.)
Average Rank	2.39	3.13	2.94	3.85

Organics management and planning	Addressing hard-to-manage items (Product Stewardship, The Bottle Bil, polystyrene ban, disposable bag fees)	Landfill management and planning	Funding for materials and solid waste programs (facilities, education, reuse, cooperatives, etc.)	Adjusting the data and metrics for measuring outcomes (recycling rate, waste generation, etc.)
Priority Level				
Highest	40	27	31	17
	40	33	23	10
Middle	28	41	26	16
	17	22	32	26
Lowest	10	12	23	6

Organics management and planning	Addressing hard-to-manage items (Product Stewardship, The Bottle Bil, polystyrene ban, disposable bag fees)	Landfill management and planning	Funding for materials and solid waste programs (facilities, education, reuse, cooperatives, etc.)	Adjusting the data and metrics for measuring outcomes (recycling rate, waste generation, etc.)
Priority Level				
Highest	29.6%	20.0%	23.0%	12.6%
	29.6%	24.4%	17.0%	7.4%
Middle	20.7%	30.4%	19.3%	11.9%
	12.6%	16.3%	23.7%	19.3%
Lowest	7.4%	8.9%	17.0%	48.9%

% of Non-Neutral for a given program/policy

By Service Area

Stakeholder Group	Municipal-Small	Municipal-Medium	Municipal-Large	Municipal-All	Regional	Statewide	National	ALL Responses	
Count	37	24	8	69	40	29	12	174	
Organics Management and Planning									
Mandatory source separation of organics from the waste stream in Maine	Oppose	48%	35%	50%	43%	38%	27%	22%	37%
	Support	52%	65%	50%	57%	62%	73%	78%	63%
	# Neutral	5	5	3	13	2	2	2	26
Disposal ban for large volume generators of organics	Oppose	38%	14%	33%	29%	25%	20%	0%	27%
	Support	62%	86%	67%	71%	75%	80%	100%	73%
	# Neutral	13	7	1	21	11	3	4	41
Subsidies for entities and companies that divert organics	Oppose	46%	36%	100%	46%	53%	29%	50%	40%
	Support	54%	64%	0%	54%	47%	71%	50%	60%
	# Neutral	8	10	5	23	8	6	2	43
Investing in infrastructure to manage organics	Oppose	34%	0%	0%	19%	8%	7%	10%	14%
	Support	66%	100%	100%	81%	92%	93%	90%	86%
	# Neutral	6	3	3	12	4	0	1	27
A comprehensive state plan to increase organic diversion	Oppose	16%	20%	0%	16%	16%	7%	10%	10%
	Support	84%	80%	100%	84%	84%	93%	90%	90%
	# Neutral	10	1	2	13	3	0	1	20
Product Stewardship and the Bottle Bill									
Product Stewardship for carpets	Oppose	25%	26%	33%	25%	18%	12%	0%	18%
	Support	75%	74%	67%	75%	82%	88%	100%	82%
	# Neutral	12	3	1	16	6	2	2	31
Product Stewardship for mattresses	Oppose	18%	21%	33%	19%	18%	12%	0%	16%
	Support	82%	79%	67%	81%	82%	88%	100%	84%
	# Neutral	8	3	1	12	6	3	2	28
Product Stewardship for packaging	Oppose	18%	13%	14%	14%	11%	12%	0%	15%
	Support	82%	87%	86%	86%	89%	88%	100%	85%
	# Neutral	7	7	0	14	10	2	1	31

% of Non-Neutral for a given program/policy

By Service Area

Stakeholder Group	Municipal- Small	Municipal- Medium	Municipal- Large	Municipal-All	Regional	Statewide	National	ALL Responses	
Landfill Management and Planning									
Expansion of current landfills	Oppose	41%	25%	40%	35%	41%	44%	75%	49%
	Support	59%	75%	60%	65%	59%	56%	25%	51%
	# Neutral	4	6	2	12	9	7	4	30
Siting new landfills	Oppose	44%	62%	67%	51%	62%	67%	67%	62%
	Support	56%	38%	33%	49%	38%	33%	33%	38%
	# Neutral	9	9	1	19	10	7	2	40
Reducing the demand for landfills	Oppose	9%	5%	0%	7%	0%	8%	0%	6%
	Support	91%	95%	100%	93%	100%	92%	100%	94%
	# Neutral	5	3	1	9	4	2	0	14
Removal of all landfill disposal fees	Oppose	76%	89%	71%	80%	80%	92%	100%	82%
	Support	24%	11%	29%	20%	20%	8%	0%	18%
	# Neutral	7	3	0	10	6	2	2	23
Creation of landfill disposal fees	Oppose	24%	38%	33%	28%	48%	29%	17%	30%
	Support	76%	63%	67%	72%	52%	71%	83%	70%
	# Neutral	11	6	1	18	10	6	3	41
Other Programs									
Polystyrene foam ban	Oppose	44%	19%	17%	33%	28%	29%	40%	30%
	Support	56%	81%	83%	67%	72%	71%	60%	70%
	# Neutral	11	5	0	16	6	6	1	29
Single-use bag fees	Oppose	40%	20%	29%	29%	19%	36%	33%	34%
	Support	60%	80%	71%	71%	81%	64%	67%	66%
	# Neutral	9	1	0	10	5	5	1	23
Adjusting the state recycling goal of 50%	Oppose	19%	15%	60%	23%	16%	21%	0%	23%
	Support	81%	85%	40%	77%	84%	79%	100%	77%
	# Neutral	5	9	2	16	14	8	4	47
Changing the recycling and waste metrics	Oppose	25%	15%	40%	21%	18%	13%	0%	14%
	Support	75%	85%	60%	79%	82%	88%	100%	86%
	# Neutral	18	8	1	27	13	9	5	63
Support for waste volume reducing technologies	Oppose	9%	0%	0%	5%	6%	4%	17%	5%
	Support	91%	100%	100%	95%	94%	96%	83%	95%
	# Neutral	4	1	1	6	5	3	4	19

% of Non-Neutral for a given program/policy

By Service Area

Stakeholder Group	Municipal- Small	Municipal- Medium	Municipal- Large	Municipal-All	Regional	Statewide	National	ALL Responses
Incentives for companies that use Maine recycled materials	Oppose	13%	11%	33%	16%	8%	18%	11%
	Support	87%	89%	67%	84%	92%	82%	89%
	# Neutral	6	3	1	10	4	0	21
Recyclable materials landfill ban	Oppose	38%	12%	60%	32%	26%	22%	28%
	Support	62%	88%	40%	68%	74%	78%	72%
	# Neutral	6	5	2	13	4	0	24
Changing the waste hierarchy	Oppose	47%	50%	67%	48%	47%	33%	41%
	Support	53%	50%	33%	52%	53%	67%	59%
	# Neutral	16	12	4	32	13	6	70
Waste reduction targets for state agencies	Oppose	10%	13%	33%	14%	9%	11%	9%
	Support	90%	87%	67%	86%	91%	89%	91%
	# Neutral	7	7	1	15	7	1	24
Minimum tipping fees for solid waste disposal	Oppose	29%	25%	100%	33%	35%	22%	31%
	Support	71%	75%	0%	67%	65%	78%	69%
	# Neutral	7	6	4	17	8	2	46
Funding								
Funding for organics diversion	Oppose	24%	13%	29%	20%	8%	11%	23%
	Support	76%	87%	71%	80%	92%	89%	77%
	# Neutral	11	6	0	17	5	2	28
Funding for facilities, such as transfer stations upgrades and expansion	Oppose	15%	20%	57%	22%	10%	0%	23%
	Support	85%	80%	43%	78%	90%	100%	77%
	# Neutral	2	6	0	8	9	4	28
Funding for reuse organizations or collection centers	Oppose	24%	13%	43%	24%	16%	14%	23%
	Support	76%	87%	57%	76%	84%	86%	77%
	# Neutral	7	6	0	13	7	3	31
Funding for regional cooperatives	Oppose	19%	6%	29%	16%	15%	17%	19%
	Support	81%	94%	71%	84%	85%	83%	81%
	# Neutral	9	4	0	13	6	3	32
Funding for educational tools for communities on materials management	Oppose	15%	13%	17%	15%	12%	0%	16%
	Support	85%	88%	83%	85%	88%	100%	84%
	# Neutral	2	5	1	8	5	0	18
Funding to incorporate MM into K- 12 education	Oppose	9%	12%	33%	13%	12%	0%	13%
	Support	91%	88%	67%	87%	88%	100%	88%

% of Non-Neutral for a given program/policy
By Disposal Facility and Organization Type

Stakeholder Group	Landfill	Waste-To-Energy	Private Sector	Public Sector	Quasi-Public	Nonprofit or NGO	ALL Responses
Count	27	28	35	26	8	14	174
Organics Management and Planning							
Mandatory source separation of organics from the waste stream in Maine	40%	33%	48%	30%	33%	18%	37%
	60%	67%	52%	70%	67%	82%	63%
# Neutral	2	0	5	3	1	2	26
Disposal ban for large volume generators of organics	30%	29%	41%	19%	17%	15%	27%
	70%	71%	59%	81%	83%	85%	73%
# Neutral	4	4	6	5	2	1	41
Subsidies for entities and companies that divert organics	48%	30%	48%	38%	29%	0%	40%
	52%	70%	52%	62%	71%	100%	60%
# Neutral	6	5	8	12	1	3	43
Investing in infrastructure to manage organics	13%	8%	15%	4%	0%	8%	14%
	87%	92%	85%	96%	100%	92%	86%
# Neutral	4	2	8	2	0	1	27
A comprehensive state plan to increase organic diversion	8%	12%	10%	4%	0%	8%	10%
	92%	88%	90%	96%	100%	92%	90%
# Neutral	2	1	4	2	1	1	20
Product Stewardship and the Bottle Bill							
Product Stewardship for carpets	23%	22%	17%	10%	40%	27%	18%
	77%	78%	83%	90%	60%	73%	82%
# Neutral	3	2	4	5	3	3	31
Product Stewardship for mattresses	14%	17%	17%	10%	40%	27%	16%
	86%	83%	83%	90%	60%	73%	84%
# Neutral	3	1	5	4	3	3	28
Product Stewardship for packaging	5%	15%	19%	5%	25%	25%	15%
	95%	85%	81%	95%	75%	75%	85%
# Neutral	6	4	7	4	4	6	31

% of Non-Neutral for a given program/policy
By Disposal Facility and Organization Type

Stakeholder Group	Landfill	Waste-To-Energy	Private Sector	Public Sector	Quasi-Public	Nonprofit or NGO	ALL Responses
Landfill Management and Planning							
Expansion of current landfills	Oppose	33%	42%	62%	60%	56%	49%
	Support	67%	58%	38%	40%	44%	51%
	# Neutral	7	6	11	2	3	30
Siting new landfills	Oppose	50%	60%	85%	57%	60%	62%
	Support	50%	40%	15%	43%	40%	38%
	# Neutral	9	7	11	1	3	40
Reducing the demand for landfills	Oppose	14%	7%	0%	0%	0%	6%
	Support	86%	93%	100%	100%	100%	94%
	# Neutral	3	3	0	0	1	14
Removal of all landfill disposal fees	Oppose	77%	77%	83%	71%	100%	82%
	Support	23%	23%	17%	29%	0%	18%
	# Neutral	2	5	1	1	2	23
Creation of landfill disposal fees	Oppose	45%	48%	19%	50%	10%	30%
	Support	55%	52%	81%	50%	90%	70%
	# Neutral	5	8	4	4	4	41
Other Programs							
Polystyrene foam ban	Oppose	18%	43%	29%	50%	23%	30%
	Support	82%	57%	71%	50%	77%	70%
	# Neutral	7	4	4	2	1	29
Single-use bag fees	Oppose	15%	46%	18%	33%	31%	34%
	Support	85%	54%	82%	67%	69%	66%
	# Neutral	4	8	3	2	1	23
Adjusting the state recycling goal of 50%	Oppose	28%	33%	35%	60%	11%	23%
	Support	72%	67%	65%	40%	89%	77%
	# Neutral	7	10	8	3	5	47
Changing the recycling and waste metrics	Oppose	18%	0%	23%	50%	0%	14%
	Support	82%	100%	77%	50%	100%	86%
	# Neutral	6	7	9	4	4	63
Support for waste volume reducing technologies	Oppose	8%	11%	0%	0%	0%	5%
	Support	92%	89%	100%	100%	100%	95%
	# Neutral	1	3	6	3	5	19

% of Non-Neutral for a given program/policy
By Disposal Facility and Organization Type

Stakeholder Group	Landfill	Waste-To-Energy	Private Sector	Public Sector	Quasi-Public	Nonprofit or NGO	ALL Responses
Incentives for companies that use Maine recycled materials	Oppose	17%	18%	5%	13%	8%	11%
	Support	83%	82%	95%	88%	92%	89%
	# Neutral	2	6	4	0	1	21
Recyclable materials landfill ban	Oppose	22%	41%	24%	14%	11%	28%
	Support	78%	59%	76%	86%	89%	72%
	# Neutral	2	1	3	1	4	24
Changing the waste hierarchy	Oppose	31%	26%	31%	50%	55%	41%
	Support	69%	74%	69%	50%	45%	59%
	# Neutral	8	14	11	2	2	70
Waste reduction targets for state agencies	Oppose	10%	3%	10%	14%	0%	9%
	Support	90%	97%	90%	86%	100%	91%
	# Neutral	4	4	3	1	3	24
Minimum tipping fees for solid waste disposal	Oppose	43%	35%	22%	60%	10%	31%
	Support	57%	65%	78%	40%	90%	69%
	# Neutral	5	11	7	3	4	46
Funding							
Funding for organics diversion	Oppose	23%	39%	10%	14%	8%	23%
	Support	77%	61%	90%	86%	92%	77%
	# Neutral	4	5	4	1	2	28
Funding for facilities, such as transfer stations upgrades and expansion	Oppose	28%	24%	15%	29%	18%	23%
	Support	72%	76%	85%	71%	82%	77%
	# Neutral	7	4	5	1	3	28
Funding for reuse organizations or collection centers	Oppose	16%	29%	18%	17%	20%	23%
	Support	84%	71%	82%	83%	80%	77%
	# Neutral	6	9	7	2	4	31
Funding for regional cooperatives	Oppose	20%	33%	10%	14%	8%	19%
	Support	80%	67%	90%	86%	92%	81%
	# Neutral	6	9	4	1	2	32
Funding for educational tools for communities on materials management	Oppose	0%	17%	13%	14%	8%	16%
	Support	100%	83%	87%	86%	92%	84%
	# Neutral	4	3	2	1	2	18
Funding to incorporate MM into K-12 education	Oppose	4%	13%	9%	14%	10%	13%
	Support	96%	88%	91%	86%	90%	88%

% of Non-Neutral for a given program/policy
By Professional Grouping

Stakeholder Group	Transfer Station	Hauler	Recycling	Organics	Construction Demo Debris	Environmental Group	ALL Responses
Count	42	15	69	40	30	10	174
Organics Management and Planning							
Mandatory source separation of organics from the waste stream in Maine	41%	64%	41%	31%	37%	10%	37%
	59%	36%	59%	69%	63%	90%	63%
# Neutral	3	0	9	3	3	0	26
Disposal ban for large volume generators of organics	19%	45%	27%	16%	14%	0%	27%
	81%	55%	73%	84%	86%	100%	73%
# Neutral	9	2	14	7	6	1	41
Subsidies for entities and companies that divert organics	39%	50%	39%	40%	43%	13%	40%
	61%	50%	61%	60%	57%	88%	60%
# Neutral	12	3	16	8	7	1	43
Investing in infrastructure to manage organics	14%	33%	7%	5%	7%	0%	14%
	86%	67%	93%	95%	93%	100%	86%
# Neutral	4	1	9	2	2	0	27
A comprehensive state plan to increase organic diversion	8%	0%	7%	8%	7%	10%	10%
	92%	100%	93%	92%	93%	90%	90%
# Neutral	3	1	6	2	1	0	20
Product Stewardship and the Bottle Bill							
Product Stewardship for carpets	18%	27%	19%	15%	24%	11%	18%
	82%	73%	81%	85%	76%	89%	82%
# Neutral	6	2	13	3	4	0	31
Product Stewardship for mattresses	14%	25%	15%	13%	16%	11%	16%
	86%	75%	85%	88%	84%	89%	84%
# Neutral	4	1	11	4	4	0	28
Product Stewardship for packaging	10%	25%	14%	10%	13%	0%	15%
	90%	75%	86%	90%	87%	100%	85%
# Neutral	9	1	15	6	5	2	31

% of Non-Neutral for a given program/policy
By Professional Grouping

Stakeholder Group	Transfer Station	Hauler	Recycling	Organics	Construction Demo Debris	Environmental Group	ALL Responses
Landfill Management and Planning							
Expansion of current landfills	Oppose	39%	40%	38%	41%	100%	49%
	Support	61%	60%	63%	59%	0%	51%
	# Neutral	10	15	10	10	3	30
Siting new landfills	Oppose	52%	65%	76%	65%	100%	62%
	Support	48%	35%	24%	35%	0%	38%
	# Neutral	12	4	21	10	8	40
Reducing the demand for landfills	Oppose	11%	7%	6%	4%	0%	6%
	Support	89%	93%	94%	96%	100%	94%
	# Neutral	3	0	5	2	1	14
Removal of all landfill disposal fees	Oppose	91%	82%	87%	92%	100%	82%
	Support	9%	18%	13%	8%	0%	18%
	# Neutral	6	1	7	3	1	23
Creation of landfill disposal fees	Oppose	38%	38%	38%	37%	0%	30%
	Support	62%	42%	62%	63%	100%	70%
	# Neutral	13	2	18	11	9	41
Other Programs							
Polystyrene foam ban	Oppose	11%	22%	13%	21%	11%	30%
	Support	89%	78%	87%	79%	89%	70%
	# Neutral	11	3	12	6	5	29
Single-use bag fees	Oppose	15%	22%	15%	12%	0%	34%
	Support	85%	78%	85%	88%	100%	66%
	# Neutral	6	3	10	2	3	23
Adjusting the state recycling goal of 50%	Oppose	21%	14%	30%	28%	17%	23%
	Support	79%	86%	70%	72%	83%	77%
	# Neutral	11	7	23	16	12	47
Changing the recycling and waste metrics	Oppose	13%	13%	9%	12%	0%	14%
	Support	87%	82%	87%	88%	100%	86%
	# Neutral	12	3	22	9	2	63
Support for waste volume reducing technologies	Oppose	5%	8%	2%	4%	17%	5%
	Support	95%	92%	98%	96%	83%	95%
	# Neutral	2	2	11	7	3	19

% of Non-Neutral for a given program/policy
By Professional Grouping

Stakeholder Group	Transfer Station	Hauler	Recycling	Organics	Construction Demo Debris	Environmental Group	ALL Responses
Incentives for companies that use Maine recycled materials	Oppose	6%	9%	8%	9%	11%	11%
	Support	94%	91%	92%	91%	89%	89%
	# Neutral	5	3	8	5	0	21
Recyclable materials landfill ban	Oppose	16%	36%	22%	23%	13%	28%
	Support	84%	64%	78%	77%	88%	72%
	# Neutral	7	0	10	5	0	24
Changing the waste hierarchy	Oppose	38%	13%	44%	55%	71%	41%
	Support	62%	88%	56%	45%	29%	59%
	# Neutral	17	6	28	16	1	70
Waste reduction targets for state agencies	Oppose	9%	8%	7%	8%	0%	9%
	Support	91%	92%	93%	92%	100%	91%
	# Neutral	4	2	9	1	0	24
Minimum tipping fees for solid waste disposal	Oppose	26%	44%	28%	25%	0%	31%
	Support	74%	56%	72%	75%	100%	69%
	# Neutral	13	5	20	13	3	46
Funding							
Funding for organics diversion	Oppose	22%	55%	25%	18%	0%	23%
	Support	78%	45%	75%	82%	100%	77%
	# Neutral	8	3	14	3	0	28
Funding for facilities, such as transfer stations upgrades and expansion	Oppose	22%	50%	20%	26%	14%	23%
	Support	78%	50%	80%	74%	86%	77%
	# Neutral	9	4	16	10	2	28
Funding for reuse organizations or collection centers	Oppose	24%	50%	21%	21%	13%	23%
	Support	76%	50%	79%	79%	88%	77%
	# Neutral	11	4	17	12	1	31
Funding for regional cooperatives	Oppose	26%	64%	22%	21%	11%	19%
	Support	74%	36%	78%	79%	89%	81%
	# Neutral	8	3	20	7	0	32
Funding for educational tools for communities on materials management	Oppose	16%	31%	16%	14%	0%	16%
	Support	84%	69%	84%	86%	100%	84%
	# Neutral	3	1	9	2	1	18
Funding to incorporate MM into K-12 education	Oppose	11%	17%	12%	12%	0%	13%
	Support	89%	83%	88%	88%	100%	88%

SENATE

THOMAS B. SAVIELLO, DISTRICT 17, CHAIR
ERIC L. BRAKEY, DISTRICT 20
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

October 2, 2015

Hon. Paul LePage, Governor
Office of the Governor
1 State House Station
Augusta, ME 04333-0001

**Re: Request for Department of Environmental Protection staff attendance at
Environment and Natural Resources Committee meeting on October 13**

Dear Governor LePage:

As you know, the Environment and Natural Resources Committee is holding a number of meetings this interim to discuss matters relating to solid waste management. The Committee will hold its second interim meeting on Tuesday, October 13, 2015, and respectfully requests the attendance at the meeting of specific staff from the Department of Environmental Protection for the purposes outlined in this letter.

First, the Committee anticipates discussion at the second meeting of the State's regulation of biomass and other facilities that burn wood wastes to produce energy. At the previous meeting, specific suggestions were made that the Department's current regulation of these facilities, especially its rules regarding air emissions, have restricted the growth of this industry in Maine.

Accordingly, the Committee requests that Marc Cone (Director, Bureau of Air Quality), or other appropriate staff person from the Department, attend the meeting to provide a brief overview of the regulation of these types of facilities, with a focus on air emissions, and to discuss barriers to or options for amending State regulations in this field to encourage greater production of energy through the burning of wood wastes.

Second, the Committee anticipates further consideration at the meeting of the State's materials management plan and what legislative or regulatory changes might be implemented to increase and support composting and recycling in Maine.

As such, the Committee requests that Leslie Anderson (Acting Director, Bureau of Remediation and Waste Management), or other appropriate staff person from the Department, attend the meeting to

review the State's materials management plan with the Committee, focusing on the Department's efforts to support and remove barriers to increasing composting and recycling rates in the State as well as on steps that might be taken to provide additional technical and financial assistance to municipalities, businesses or individuals interested in instituting or expanding composting or recycling programs.

Should you require additional information on any of the above, please contact our Committee analyst, Dan Tartakoff, at 287-1670.

Sincerely,

Thomas B. Saviello ^(DCT)

Senator Thomas B. Saviello
Senate Chair

Joan W. Welsh ^(DCT)

Representative Joan W. Welsh
House Chair

cc: Avery Day, Acting Commissioner, Department of Environmental Protection
Members, Environment and Natural Resources Committee

SENATE

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

MEMORANDUM

To: Avery Day, Acting Commissioner, Department of Environmental Protection
From: Senator Tom Saviello, Representative Joan Welsh, Committee Chairs
Date: October 8, 2015
Re: ENR interim meeting on solid waste on October 13, 2015

As you know, the Environment and Natural Resources Committee has requested the attendance of Department bureau directors Marc Cone and Leslie Anderson at the Committee's interim meeting on solid waste issues scheduled for Tuesday, October 13, 2015. Per your instructions, we are submitting written, detailed questions that the Committee would appreciate responses to at the meeting. Should you require additional information, please contact our legislative analyst, Dan Tartakoff, at 287-1319.

Questions for Marc Cone/Bureau of Air Quality:

- (1) From an air quality/air emissions perspective, how does the State currently regulate biomass and other facilities that burn wood wastes to produce energy?
- (2) What changes, if any, could feasibly be made to these regulatory standards that would allow for a greater production of energy by these types of facilities (i.e., it has been suggested that the State's strict emissions standards may be hampering the growth of this industry)? What are the potential barriers to making any of these potential regulatory changes? Would the Department support the implementation of any of these regulatory changes?

Questions for Leslie Anderson/Bureau of Remediation and Waste Management:

- (1) Can you describe the State's current materials management plan, including what progress has been made since the January 2014 release of the updated plan towards: (a) promoting organics management and new technologies, (b) increasing beneficial use and recycling, (c) supporting municipalities and businesses in their waste management activities, and (d) providing reliable data to support sustainable materials management?

- (2) Since January 2014, what specific activities has the Department engaged in to promote, facilitate and assist in the composting of organic materials in the State? Are there any additional strategies or actions relating to composting that the Department is planning or developing over the coming year(s)?
- (3) What barriers does the Department identify as the primary impediments to increasing composting rates in Maine? Are there any solutions (statutory, regulatory, etc.) to overcoming those impediments that the Department can identify and would support?
- (4) Since January 2014, what specific activities has the Department engaged in to promote, facilitate and assist in the collection and recycling of recyclable materials in the State? Are there any additional strategies or actions relating to recycling that the Department is planning or developing over the coming year(s)?
- (5) What barriers does the Department identify as the primary impediments to increasing recycling rates in Maine? Are there any solutions (statutory, regulatory, etc.) to overcoming those impediments that the Department can identify and would support?
- (6) What types of technical or financial assistance does the Department currently offer to municipalities or businesses interested in starting or expanding composting or recycling programs or initiatives? If additional funds were available, would the Department support the creation of and have the capacity to administer a grant or loan program to assist or enable municipalities in developing or expanding composting and recycling programs or initiatives?
- (7) Are there any other legislative changes, programs, initiatives or other actions the Department and the ENR Committee can find agreement and collaborate on to increase diversion, recycling and composting rates statewide; to reduce the amount of waste landfilled and preserve landfill capacity; to support and advance the waste-to-energy industry in the State; to assist municipalities, businesses and individuals in advancing sustainable waste management activities; to encourage the establishment, growth or relocation of recycling, composting and other waste-related businesses and industries in Maine; and to otherwise advance the State's materials management goals?

cc: Micki Mullen, Special Assistant to the Governor
Members, Environment and Natural Resources Committee

Regulations for Multi-Fuel Boilers Burning Biomass and Construction and Demolition Debris (CDD) Wood Fuel

Rule	Multi-fuel boiler burning biomass	Multi-fuel boiler burning biomass and CDD or railroad ties
State Rules		
06-096 CMR 101	Opacity limits	Opacity limits
06-096 CMR 103	PM emission limits	PM emission limits
06-096 CMR 115	New Source Review, Best Available Control Technology, Ambient Air Quality Dispersion Modeling	Same
06-096 CMR 113	NOx Offsets, VOC offsets	same
06-096 CMR 138 (NOx RACT)	NOx emission limits	NOx emission limits
06-096 CMR 418 – Solid Waste Management Rules; Beneficial Use of Solid Waste	Does not apply to clean or traditional biomass	Source would need to get approval from BAQ and BRM to burn CDD wood fuel or railroad ties. CMR 418 limits the burning of these fuels not to exceed 50% of total fuel by weight combusted on an average annual basis. Source would need to file application which requires Operation Manual, map, a contract/letter from facility willing to take residues and bypass waste, Hazardous Waste and Special Waste handling and exclusion plan, and trial burn. Operating requirements include quality standards for CDD wood fuel and blended biomass wood fuel*, third party fuel certification, and composite sampling based on tons of fuel received, QA/QC Plan.
Maine Statutes Title 38 Chapter 4 §585-B – Mercury statutes	25 pound per year limit for Hg (most biomass units emit between 5-10 pounds per year)	25 pound per year limit for Hg (CDD wood fuel increases Hg emissions so this limit may become a concern).
Federal Rules		
National Emission Standards For Hazardous Air Pollutants (NESHAP)		
40 CFR Part 63 Subpart JJJJJ NESHAP for Area Sources; Industrial, Commercial, and Institutional Boilers	PM limit for new biomass boilers (between 10-30 MMBtu/hr 0.07 lb/MMBtu; > 30 MMBTU/hr – 0.03 lb/MMBtu/hr) would require PM controls. Compliance date – upon start	Same as Biomass

	up for new units. Existing biomass units are required to conduct tune ups and conduct a one-time energy assessment. Compliance date for existing boilers – March 21, 2014.	
40 CFR Part 63 Subpart DDDDD – NESHAP for Major Sources: Industrial, Commercial and Institutional Boilers and Process Heaters	Contains emission limits for HCl, mercury, filterable PM and CO including work practices which include tune-ups and a one-time energy assessment and operating limits based on what controls are in place. Compliance date for existing boilers is – January 31, 2015 unless source is granted a compliance extension for installation of controls or natural gas infrastructure.	See discussion under Standards of Performance for Commercial and Industrial Solid Waste Incineration Units (CISWI). Amount of CDD wood fuel or railroad ties combusted may be limited by Hg or HCl emission limits.
New Source Performance Standards		
40 CFR Part 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Boilers	Emission limits for SO ₂ , PM and NO _x ; may result in the installation of controls for these pollutants	Same
40 CFR Part 60 Subpart Dc – Standards of Performance for small Industrial-Commercial-Institutional Boilers	Emission limits for SO ₂ and PM; may result in the installation of controls for these pollutants	Same
Solid Waste Incineration Rules		
40 Part 241 Subpart B – ID of non-hazardous materials	does not affect multi-fuel boilers burning traditional fuels including biomass	EPA has not yet made a decision on whether CDD wood fuel and railroad ties are a non-solid waste. Decision is pending. Boilers burning solid wastes are regulated under the CISWI regulation.
40 CFR Part 60 Subpart CCCC/DDDD - Standards of Performance for Commercial and Industrial Solid Waste Incineration Units (CISWI)	Would not be regulated under CISWI unless boiler is burning a fuel defined as a “solid waste”.	If CDD or railroad ties are designated as solid waste then boilers burning these would be considered incinerators and subject to this regulation. The CISWI rule contains emission limits for Cd, CO, dioxin/furans, HCl, Pb, Hg, NO _x , PM, and SO ₂ . The compliance date for existing sources is February 8, 2018.

There are many requirements regarding multi-fuel boilers which are made up of both state and federal regulations. The Bureau of Air Quality has not been made aware of what specific barriers are significant that impede the use of the different biomass fuels.

* **Standards for CDD Wood Fuel.** Sources of processed construction or demolition debris wood must be examined by the licensee and found to consistently produce a product that meets or exceeds the wood fuel quality standards in (i) below prior to blending with other fuels. The fuel quality standards in (ii) below must be met after any blending and prior to combustion.

(i) Fuel Quality Standards for CDD Wood

a. Non-combustible fraction exclusive of rocks, brick, and concrete	<1%
b. Plastics	<1%
c. CCA (chromated copper arsenate) treated wood	<1.5%
d. #4 minus fines (for publicly owned sources regulated under the Maine Solid Waste Management Rules)	20%
e. #4 minus fines (for sources other than publicly owned)	10%
f. Asbestos	<1%

(ii) Fuel Quality Standards for Blended Biomass Wood Fuel

g. Arsenic	<50 mg/kg
h. Lead	<375 mg/kg
i. PCB	<0.74 mg/kg

Questions for Leslie Anderson/Bureau of Remediation and Waste Management:

(1) Can you describe the State's current materials management plan, including what progress has been made since the January 2014 release of the updated plan towards: (a) promoting organics management and new technologies, (b) increasing beneficial use and recycling, (c) supporting municipalities and businesses in their waste management activities, and (d) providing reliable data to support sustainable materials management?

- The State's current materials management plan, updated in 2014, provides a broad-based approach to increasing the capture of discarded materials from the municipal solid waste stream.
- The Department initiated a series of eight statewide workshops entitled, "Food Scrap Diversion—Exploring Options and Opportunities" to help stimulate the collection and diversion of food scraps from disposal facilities. The focus was on capturing and diverting food scraps and directing them to animal producers, composting facilities, and anaerobic digesters. At each of the eight workshops, Department staff was able to locate a "Key" partner to serve as a cosponsor and help promote the workshop. Workshop partners included: The Androscoggin Valley Council of Governments (Auburn), Hancock County Planning Commission (Ellsworth), Morris Farm and Lincoln County Commissioners (Wiscasset), Town of Skowhegan, Eastern Maine Development Corporation (Bangor), Sunrise County Economic Council (Calais), Northern Maine Development Corporation (Caribou), and Chip Gray (owner of the Harraseeket Inn located in Freeport). In all, a total of 69 participants attended the sessions, representing the following sectors: hospital (administration), municipal (officials and employees), private business, commercial business, regional government, state government, waste companies (haulers and disposal facilities), education, the press and private citizens.
- Staff in the Division of Sustainability, through the various product stewardship programs and ongoing technical assistance, supports businesses, municipalities and institutions in reducing the types and volumes of materials being generated. Assistance is provided via phone conversations, email exchanges, on-site visits and recommendations of similar operations which have implemented programs of interest. Staff in the Division of Solid Waste Management likewise provides assistance and guidance to new projects and existing facilities in multiple program areas including municipal solid waste, beneficial use, residuals and sludge.
- Data is collected annually from municipalities, processors and their facilities, disposal facilities and other entities. That data is synthesized into the annual 'Waste Generation and Disposal Capacity Report' and available on line. In addition, staff responds to inquiries regarding specific waste stream components or programs, and individualized data is provided to the requester.

(2) Since January 2014, what specific activities has the Department engaged in to promote, facilitate and assist in the composting of organic materials in the State? Are there any additional strategies or actions relating to composting that the Department is planning or developing over the coming year(s)?

- The response to question one above addresses the outreach effort undertaken, and outreach is currently on-going with staff responding to municipal facilities, schools, businesses and institutions to capture and utilize their food scraps. Additionally, there is a constant demand for on-site visits to review possible composting sites, aid schools in developing food scrap composting and conversations with businesses to separate food scraps and divert to other uses, to which staff respond.
- The Divisions of Sustainability and Solid Waste Management are working with existing composters to expand their feedstock selection and facility operation to include food scraps from residents, businesses and institutions. Part of that effort includes looking at possible ways to encourage/facilitate collection of food scraps from multiple generators at a single site, to increase the volume of organics available at a single site, and be an incentive for a facility to manage that aggregated material. This "Consolidated Collection Center" concept allows communities who either lack the funds, space or manpower, to still remove organics from their residential waste streams and promote higher and better uses. Plans are being made to promote this concept through statewide workshops in 2016, similar to the Compost workshops held in 2014.

(3) What barriers does the Department identify as the primary impediments to increasing composting rates in Maine? Are there any solutions (statutory, regulatory, etc.) to overcoming those impediments that the Department can identify and would support?

- The most significant, overarching barrier is the lack of existing infrastructure to properly receive and manage the collected organics. This is slowly improving, but lack of investments and operational concerns, continue to be a barrier.
- The rural nature of our state, as well as transportation and collection costs is an enormous challenging statewide impediment.
- Public awareness and education surrounding composting is a barrier the Department has been striving to improve.
- Another barrier is what we refer to as the 'yuck' factor. Separating out food scraps, and other organics, is not always pleasantly received due to odors, pests and other issues. While educational efforts are helping, this is another 'barrier' that needs to be recognized and addressed.
- As with recycling, we are asking generators to separate their unwanted materials into several streams, each of which requires a different collection/management/disposition site, which adds to the expense. While the environmental benefit may be recognized and supported, the investment requirements, physical space, and health concerns often cause barriers.

(4) Since January 2014, what specific activities has the Department engaged in to promote, facilitate and assist in the collection and recycling of recyclable materials in the State? Are there any additional strategies or actions relating to recycling that the Department is planning or developing over the coming year(s)?

Since January 2014, the Department has been involved in several new possible product stewardship programs in addition to supporting the existing product stewardship programs. The paint recycling program started October 1 of this year and the Department actively promoting education and outreach concerning this new program.

(5) What barriers does the Department identify as the primary impediments to increasing recycling rates in Maine? Are there any solutions (statutory, regulatory, etc.) to overcoming those impediments that the Department can identify and would support?

- Increasing recycling efforts has been a long-standing goal of the State. Materials management is a local responsibility and the Department assists municipalities in examining options and opportunities.
- The most profitable way is usually the most sustainable way to grow. Supporting small businesses by allowing local entrepreneurs a level playing field will increase recycling as innovative businesses grow and increased volumes and competition encourage further recycling efforts.
- Maine municipalities are challenged because the most profitable portions of the recycling stream are by and large already recycled before they reach the local transfer station or municipal waste collection stream.
- Not all municipalities are similar in types of waste, or the volume of wastes, that their residents and businesses generate, so having a single 'option' that address concerns or impediments is challenging.

(6) What types of technical or financial assistance does the Department currently offer to municipalities or businesses interested in starting or expanding composting or recycling programs or initiatives? If additional funds were available, would the Department support the creation of and have the capacity to administer a grant or loan program to assist or enable municipalities in developing or expanding composting and recycling programs or initiatives?

- Currently, the Department offers educational outreach, program design and technical assistance, and provides assistance with facility design, siting, operational and growth assistance.
- The scope and intent of the grant or loan program would need to be better defined for DEP to determine if capacity to administer such a program exists. Funding of such a

program, in particular, would need to be detailed, as additional costs for materials management efforts necessarily mean additional costs for our municipalities.

(7) Are there any other legislative changes, programs, initiatives or other actions the Department and the ENR Committee can find agreement and collaborate on to increase diversion, recycling and composting rates statewide; to reduce the amount of waste landfilled and preserve landfill capacity; to support and advance the waste-to-energy industry in the State; to assist municipalities, businesses and individuals in advancing sustainable waste management activities; to encourage the establishment, growth or relocation of recycling, composting and other waste-related businesses and industries in Maine; and to otherwise advance the State's materials management goals?

- The ultimate goals of the Department and the ENR Committee are the same, and the Department is eager to explore innovative ways to advance the State's materials management goals.
- The Department plans to continue evaluating and revising our regulations to encourage diversion from disposal and to support innovative technologies to utilize waste materials to generate products and fuels.
- The Department revised our regulations for beneficial use in 2014 to allow more waste materials to be beneficially used through a streamlined permitting process. The Department has been promoting the beneficial use options available and is working to increase and promote recycling options through outreach and education to the regulated community by targeted industry specific outreach as well as additional internet based resources.
- The Department plans to evaluate current processes within DEP to determine if further steps can be taken to streamline and modernize internally in order to increase efficiency and improve permitting procedures.

Report to the Joint Standing Committee on Environment
and Natural Resources
126th Legislature, Second Session

Maine Materials Management Plan

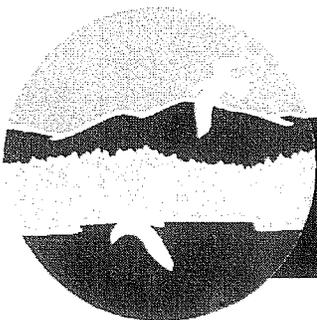
*2014 State Waste Management and
Recycling Plan Update*

&

*2012 Waste Generation and
Disposal Capacity Report*

January 2014

Contact: Melanie Loyzim, Director
Bureau of Remediation and Waste Management
Phone: 287-7890



MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
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I. Executive Summary

This update to the Maine Solid Waste Management and Recycling Plan is undertaken every five years, in accordance with 38 MRSA §2122 and must provide guidance and direction to municipalities in planning and implementing waste management and recycling programs at the state, regional and local levels. In addition, the Plan is to incorporate changes in waste generation trends, changes in waste recycling and disposal technologies, development of new waste generating activities and other factors affecting solid waste management as the Department finds appropriate. This Plan update also includes the 2012 Waste Generation and Disposal Capacity Report, which is the source for much of the current data referred to within the Plan.

The Department views this Plan as the opportunity to provide information to municipalities and other solid waste managers on current efforts and other activities supporting the state's solid waste management hierarchy. This includes information on reduction, recycling, beneficial use, and conversion technologies, as well as the cost of solid waste services.

An Advisory Committee, made up of public, private and non-profit solid waste program and policy managers, was convened by the Department to assist in this Plan's development and content. The committee members received background documents on various topics and participated in two meetings. A listing of the Advisory Committee members may be found in Appendix A. The Department thanks the members for their participation and input to this Plan's update.

Priorities determined by the Department, with assistance from the Advisory Committee, are detailed in the Plan. Some of the priorities are unchanged from past plans, e.g., 'increase amount of materials recycled' and 'increase collection and use of organic residuals'. There are also several new priorities, reflecting changing technologies and options now available to municipalities and businesses, including 'conversion technologies'.

The Plan includes strategies and actions for the Department and solid waste management entities to be accomplished in the next five years, including short-term changes and groundwork for longer-term opportunities with capital investments that may require a longer period for return on investment.

II. Vision and Purpose

The 2014 Maine Materials Management Plan includes strategies and actions to foster a continued shift toward a holistic system of materials management in Maine. Such an approach takes a broad view, and addresses the management of materials and products through their complete lifecycles, rather than focusing solely on management at the end of life (e.g. disposal). The materials management approach recognizes the full range of opportunities that exist throughout these lifecycles, from product design and manufacturing to reuse and recycling, in order to conserve resources, foster sustainability and minimize environmental impacts.

This Plan is based on the priorities of Maine's Solid Waste Management Hierarchy (38 MRS §2101(1)) and furthers the hierarchy's policy to "*plan for and implement an integrated approach to solid waste management for solid waste generated in this State and solid waste imported into this State . . .*" The Plan includes strategies to enhance the State's waste reduction and diversion efforts, consistent with policy articulated in Maine law (38 MRS §2101(2)). The Plan builds upon the 2009 Maine Waste Management and Recycling Plan and the successes that have been achieved in such areas as recycling, beneficial use, toxics reduction and extended producer responsibility.

The Department envisions continuing: movement toward comprehensive sustainable materials management in Maine, focus on adherence to the principles of the Solid Waste Management Hierarchy in the development and implementation of programs and waste management systems, and expansion of waste reduction and diversion efforts.

The purpose of the 2014 Maine Materials Management Plan is to provide information, guidance and direction to municipalities, regions, businesses and others, regarding the status, development and implementation of sustainable materials management and waste management programs at the state, regional and local levels. The Plan identifies state priorities and establishes an action plan for the next 5 years, including strategies and actions through which the state can support the materials management, waste diversion, and recycling efforts of municipalities, regions and businesses. Maine statute (38 MRS §2122) provides that:

"The department shall prepare an analysis of, and a plan for, the management, reduction and recycling of solid waste for the State. The plan must be based on the priorities and recycling goals established in sections 2101 and 2132. The plan must provide guidance and direction to municipalities in planning and implementing waste management and recycling programs at the state, regional and local levels."

Specifically, the statute (38 MRS §2123-A) requires that the following elements be part of the plan:

- 1. **Waste characterization.** The state plan must be based on a comprehensive analysis of solid waste generated, recycled and disposed of in the State. Data collected must include, but not be limited to, the source, type and amount of waste currently generated; and the costs and types of waste management employed including recycling, composting, landspreading, incineration or landfilling.*
- 2. **Waste reduction and recycling assessment.** The state plan must include an assessment of the extent to which waste generation could be reduced at the source and the extent to which recycling can be increased.*

*3. **Determination of existing and potential disposal capacity.** The state plan must identify existing solid waste disposal and management capacity within the State and the potential for expansion of that capacity.*

*4. **Projected demand for capacity.** The state plan must identify the need in the State for current and future solid waste disposal capacity by type of solid waste, including identification of need over the next 5-year, 10-year and 20-year periods.”*

The law provides that the analysis is to be revised by January 1, 2014 and every 5 years thereafter, to incorporate changes in waste generation trends, changes in waste recycling and disposal technologies, development of new waste generating activities and other factors affecting solid waste management as the department finds appropriate.

The plan is based on the priorities and policies of the Solid Waste Management Hierarchy found at 38 MRS §2101:

*“**Priorities.** It is the policy of the State to plan for and implement an integrated approach to solid waste management for solid waste generated in this State and solid waste imported into this State, which must be based on the following order of priority:*

- A. Reduction of waste generated at the source, including both amount and toxicity of the waste;*
- B. Reuse of waste;*
- C. Recycling of waste;*
- D. Composting of biodegradable waste;*
- E. Waste processing that reduces the volume of waste needing land disposal, including incineration;*
and
- F. Land disposal of waste.*

It is the policy of the State to use the order of priority in this subsection as a guiding principle in making decisions related to solid waste management.

***Waste reduction and diversion.** It is the policy of the state to actively promote and encourage waste reduction measures from all sources and maximize waste diversion efforts by encouraging new and expanded uses of solid waste generated in this State as a resource.”*

The Plan is also based upon the State recycling and waste reduction goals found at 38 MRS §2132:

*“**State recycling goal.** It is the goal of the State to recycle or compost, by January 1, 2014, 50% of the municipal solid waste tonnage generated each year within the State.*

***State waste reduction goal.** It is the goal of the State to reduce the biennial generation of municipal solid waste tonnage by 5% beginning on January 1, 2009 and by an additional 5% every subsequent 2 years. This reduction in solid waste tonnage, after January 1, 2009, is a biennial goal. The baseline for calculating this reduction is the 2003 solid waste generation data gathered by the former State Planning Office.”*

Although the State’s recycling and waste reduction goals are specific to the municipal solid waste (MSW) portion of Maine’s solid waste stream, the Plan includes information on the recycling and beneficial uses of construction & demolition debris (CDD) and other solid wastes such as industrial wastes.

In addition to revising the State's Solid Waste Management and Recycling Plan every five years, the Department is also charged with preparing the Solid Waste Generation and Disposal Capacity Report for the Legislature annually (38 MRS §2124-A). This report provides information on the statewide generation of solid waste, recycling rates and solid waste disposal capacity, and an analysis of the relationship between available disposal capacity and disposal prices. This year, the plan and the report have been combined into this single document.

III. Solid Waste Generation and Characterization

Solid waste is commonly categorized based on the type and source of the waste. Municipal solid waste (MSW) is waste that is typically generated by households and commercial businesses. The industrial sector also generates significant amounts of solid wastes that are regulated as "special waste" under Maine law because they have chemical or physical properties that make them difficult to handle or potentially pose a threat to public health, safety or the environment. (See Appendix B for statutory and regulatory definitions.)

Maine's solid waste management infrastructure includes municipal, commercial, and private industrial waste handling facilities. Once collected, solid waste in Maine is stored, transported, recycled, processed, beneficially used in place of virgin materials and as fuel, composted, digested, incinerated, and/or landfilled. Table 1 presents a summary of the types and amounts of solid waste generated in Maine in 2012.

Table 1 - 2012 Maine Solid Waste Types and Amounts

Waste type	2012 amount generated (tons)
Municipal Solid Waste (MSW)	1,307,787
Construction & Demolition Debris (CDD)/wood waste/landclearing debris	438,133
Special wastes (see Table 4 for break out by waste types and amounts)	828,184
Total Maine Generated Solid Waste 2012	2,574,104

In 2011, the University of Maine undertook a study to understand the types of solid waste Maine residents are disposing of in the mixed MSW stream. Figures 1 and 2 are reproduced from that report¹ to show the percentages of MSW by material type that currently is disposed of in Maine.

¹ 2011 Maine Residential Waste Characterization Study – School of Economics Staff Paper #601; Criner, George K. and Blackmer, Travis L., University of Maine; <http://umaine.edu/wcs/files/2012/02/2011-Maine-Residential-Waste-Characterization-Study1.pdf>

Figure 1 - Composition of Disposed MSW

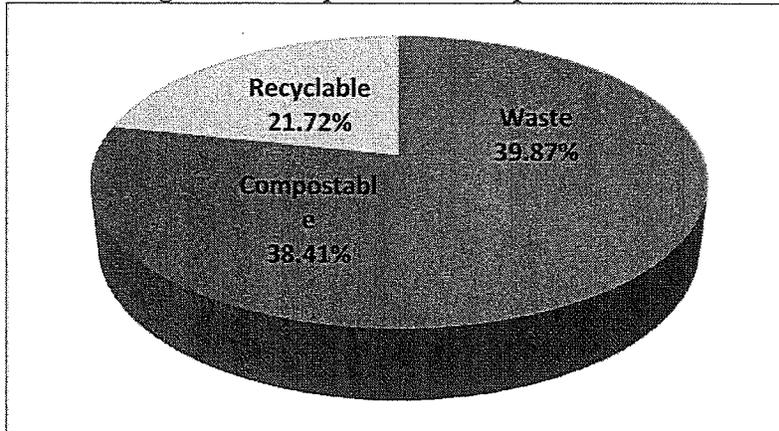
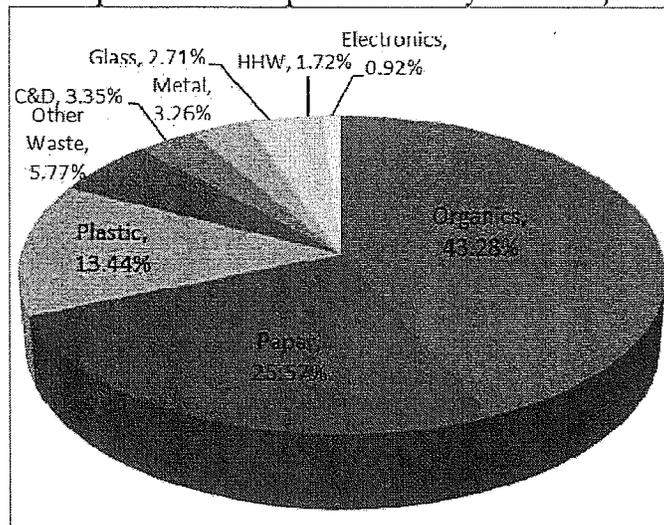


Figure 2 - Composition of Disposed MSW by Nine Major Categories



Understanding the composition of the MSW currently being landfilled or incinerated is critical to identifying the greatest opportunities for reducing MSW generation and increasing Maine’s MSW recycling rate. The 2011 *Maine Residential Waste Characterization Study* documented organics, paper and plastics as the three largest components in MSW disposed of from Maine. **Diversion of organics from disposal remains the largest opportunity to reduce Maine’s waste stream.**

IV. Managing Maine’s Solid Waste – Progress toward State Goals

In keeping with the Solid Waste Management Hierarchy (38 MRS §2101), there are a variety of options employed for managing Maine’s solid waste. Appendix C is a table that provides an overview of management options currently employed for the various components of Maine’s solid waste stream. This table provides a qualitative assessment of the comparative use of the management options. The options are grouped by levels on the Hierarchy, with those listed to the left preferable to those toward the right due to the resulting preservation and use of materials. By

examining Maine's waste stream by material type and current management options, we can identify opportunities for "moving up the hierarchy", decreasing disposal and increasing waste reduction, reuse, recycling and beneficial use.

A. Maine's Municipal Solid Waste Reduction Goal

Maine's statutory goals for waste reduction focus specifically on MSW. 38 MRS §2132(1-A) sets a State goal of reducing the biennial generation of municipal solid waste tonnage by 5% beginning on January 1, 2009, and by an additional 5% every subsequent 2 years. As Maine's recycling rate has held steady over the past several years, the State has experienced a reduction in the generation of MSW as reflected in the amounts of MSW disposed of in landfills and waste-to-energy incinerators. While historically there has been a positive correlation of MSW generation with activity in the overall economy, additional factors such as manufacturers' corporate sustainability initiatives that decrease the amount of packaging associated with consumer goods may be having an increasing impact.

In 2012, Maine residents generated and disposed of 0.537 tons (1,074 pounds) of MSW per person. Regional comparisons for 2010 show Mainers generated less MSW per person than any other New England state.

Table 2 - Per Capita MSW Disposal Rates – New England States 2010

State	Tons MSW Disposed 2010	2010 population	Tons per person
Maine	751,270	1,328,361	0.566
New Hampshire	748,028	1,316,470	0.568
Connecticut	2,371,767	3,574,097	0.664
Vermont	449,661	625,741	0.719
Massachusetts	4,830,756	6,547,629	0.738
Rhode Island	1,031,080	1,052,567	0.980

Municipal Solid Waste (MSW) Interstate Flow in 2010, January 30, 2013, Northeast Waste Management Association (www.newmoa.org)

The Department has been working with the Northeast Waste Management Officials' Association (NEWMOA) to quantify and track the interstate flow of MSW destined for disposal since 1999. The data collected show that the amount of MSW (exclusive of CDD and WTE ash) disposed of by Maine residents (both in-state and exported) decreased from 755,086 tons in 2008 to 713,713 tons in 2012. **This is a 5.5% decrease in disposal of MSW in 4 years.**

B. Maine's Municipal Solid Waste Recycling Rate

In 1989, the Maine Legislature enacted 38 MRS §2132, establishing a goal to recycle or compost 50% of the state's municipal solid waste annually. The legislated date to achieve the goal was revised in 2012 and extended to January 1, 2014. Individual municipal and regional recycling programs are not required to achieve a 50% recycling rate, but they are required to demonstrate progress towards the goal. The State remains committed to reaching the 50% goal in light of the value of reducing overall solid waste management costs, the positive impact on the environment, and a lessening of the need for additional solid waste disposal capacity.

The MSW recycling rate is calculated by dividing the total amount of MSW recycled by the total amount of reported in-state generated MSW in accordance with 38 MRS §2132 (3). The term "municipal solid waste" is not defined in Maine law, but has historically been interpreted as solid waste normally managed by municipalities in Maine, including CDD. However, other states and the U.S. Environmental Protection Agency (US EPA) exclude CDD from their calculations of MSW recycling rates. This creates inconsistencies when trying to compare Maine's calculated MSW recycling rate with the MSW recycling rates of other states. To address this, the Department has calculated the recycling rate for MSW as defined by EPA, and a separate recycling rate that includes CDD. This approach allows Maine to perform an apples-to-apples comparison with other states' MSW recycling rates, while also enabling Maine to evaluate where further efforts are needed to improve diversion of the broader spectrum of disposed materials handled by municipalities in Maine.

To determine the amount of material recycled in all years prior to this one, the State Planning Office and the Department utilized the annual municipal solid waste program reports submitted by communities, along with voluntarily reported data from commercial processors and materials brokers to determine MSW recycling from the commercial sector. However, this calculation was not a precise measurement as the data sets were incomplete. Many municipal reports had incomplete or inaccurately-reported data, and the agencies were unable to obtain data from all the commercial processors and materials brokers. This calculated recycling rate also reflects only recorded and reported information, and does not include volumes diverted by activities such as backyard composting, reuse from donations and used goods sales, and other unregulated strategies.

This year the Department engaged in a concerted effort to request recycling data from all commercial processors and materials brokers known to be operating in Maine to better understand the extent of the deficiencies in reporting on recyclables. Almost all of the processors and brokers were able to provide the Department with the amounts by material types and destinations for the materials they managed. This enabled the Department to eliminate any duplicative data (created when a commodity material was handled by multiple processors/brokers), and to check the data reported by municipalities in comparison to the data on municipal recycling reported by the materials processors and brokers.

The results of this effort confirmed that the reported data used to calculate Maine's MSW recycling rate has been incomplete in recent years. This is due to two factors: 1) many of Maine's municipalities do not have the resources needed to ensure complete and accurate reporting on municipal and commercial recycling within their borders in conformance with 38

MRS §2133 (7); and 2) materials processors and brokers of recyclables are not required to report on their activities in Maine.

Based on the data collected in previous years, Maine's recycling rate has remained fairly steady for the past ten years, ranging from a low of 34.8% in 2007 to a high of 39.6% in 2011. However, because deficiencies have been identified in the most recent data reported by municipalities, the Department has calculated the 2012 recycling rate by utilizing the more complete data voluntarily reported by materials processors and brokers. In addition to the 554,225 tons reported as recycled or composted, the Department estimates the non-reporting processors and brokers handled up to 5,000 tons of recyclable materials.

Table 3 - 2012 Maine's MSW Recycling Rate Calculation

	Tons
MSW landfilled in state	237,543
MSW disposed of through incineration in state (amount in minus amount WTE ash)	354,957
MSW incinerator ash landfilled in state	121,213
MSW disposed of out-of-state	39,849
Subtotal Maine MSW (exclusive of CDD) disposed	753,562
Paper, cardboard, plastics and glass recycled - (voluntarily reported by materials processors and brokers)	183,557
Single Stream Recycling (not included above)	25,892
Other MSW recycled (computers and monitors, white goods, metals, tires, vehicle batteries, asphalt shingles, sheetrock, and textiles)	307,725
Reported MSW composted (includes leaf & yard waste, food scraps)	37,051
Subtotal Maine MSW recycled & composted	554,225
Total Maine MSW (exclusive of CDD)	1,307,787
Maine's MSW Recycling Rate (exclusive of CDD)	42.38%
Mixed CDD landfilled in state	289,497
Mixed CDD processed/disposed of out of-state	7,190
Landclearing debris landfilled	3,573
Beneficial use of processed CDD and landclearing debris	137,873
Total CDD and landclearing debris	438,133
Maine's CDD & Landclearing Debris Recycling Rate	31.5%
Total MSW, CDD & landclearing debris	1,745,920
Total MSW, CDD and landclearing debris recycled (including wood waste used as fuel chips)	692,098
Maine's Combined MSW, CDD & Landclearing Debris Recycling Rate	39.6%

C. Additional Waste Diversion

Maine generated more than 800,000 tons of wastes other than MSW and CDD in 2012. **One third of this material was diverted from disposal to composting, agronomic utilization or other beneficial uses.** Examining the various types of materials and the amounts utilized or disposed of as shown in Table 4 may provide insights into additional opportunities to increase diversion of some of these materials from disposal.

Table 4 - 2012 Disposition of Maine Solid Wastes other than MSW & CDD

Waste type	Beneficial use	Compost /N-Viro ²	Land applied	Exported from Maine	Landfilled	Total
Asbestos/Asbestos Containing Waste	0	0	0	0	3,415	3,415
Ash - Boiler	2,912	0	0	0	123,843	126,755
Ash - Coal, oil and multifuel boiler	4,660	3,731	11,727	5,594	6,233	31,945
Ash - MSW Incinerator	0	0	0	0	121,213	121,213
Ash - Wood	40,807	0	0	0	352	41,159
Ash- Burn pile/hot loads	0	0	0	0	2,332	2,332
Ash/Liming Agent - Other	0	0	15,606	0	0	15,606
Catch basin grit and street sweepings	1,570	0	0	0	4,602	6,172
Contaminated Soils - non-petroleum	0	0	0	0	5,504	5,504
Contaminated soils - Oil	UD	0	UD	0	2,873	2,873
Dredge Spoils	7,390	0	0	0	55	7,445
Fish/Food Process Residue	0	2,840	38,232	581	0	41,653
Industrial/Industrial Process Waste	0	0	0	0	44,554	44,554
Other Special Wastes	0	0	0	9	15,403	15,412
Pulp/Papermill Sludge	20,162	4,202	0	0	38,973	63,337
Sandblast Grit	0	0	0	0	367	367
Short-Paper Fiber	29,789	0	0	0	4,884	34,673
Shredder Residue	0	0	0	4,871	32,103	36,974
WWTP Sludge - industrial	0	0	39	0	96,746	96,784
WWTP Sludge - municipal	0	79,068	10,655	0	40,310	130,033
Total	107,290	89,841	76,258	11,055	543,760	828,184

² N-Viro Soil is a trademarked product

Table 4 does not include all materials that could have become wastes, since many materials never enter the waste stream (e.g. recycled asphalt pavement). The 2012 data for the use of these materials, and some shown in Table 4, are compiled from a variety of sources and remain under development (UD) at the time of this report issuance.

Recent developments in conversion technologies that process organic wastes to create fuels are creating new opportunities to significantly increase the diversion of additional solid wastes from disposal in Maine. Appendix D describes these technologies and the types of materials they may use.

V. Plan for State Action to Move toward Sustainable Materials Management – 2014 - 2018

The priorities for Maine DEP's work on sustainable materials management for the next 5 years are to:

- Encourage the development of new infrastructure for separation from the waste stream and utilization of organics, including composting and technologies such as anaerobic digestion.
- Encourage increased beneficial use and recycling of materials, including identification of incentives and removal of unnecessary barriers.
- Provide tools and assistance to municipalities and businesses to support waste reduction and diversion efforts.
- Continue refinement of data sources and data management systems to more accurately and consistently assess progress toward statewide reduction and recycling goals, and to evaluate the effectiveness of programs and strategies.

The following strategies and actions are identified as ways for the State to focus its resources on the priorities identified as achievable and likely to have the greatest impact in improving waste reduction and diversion in Maine during the next five years.

A. Strategies and Actions to Promote Organics Management and New Technologies

- Provide technical and regulatory assistance to support development of regional and/or co-located processing facilities, including collection, sorting, composting, and biological and chemical conversion technologies.
- 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, including on-farm operations and expansion of leaf and yard

waste facilities to include food scraps. Engage agricultural community to identify and address needs to increase participation in food scrap composting.

- Assist food scrap generators to identify and work with facilities that offer alternatives to disposal, such as compost facilities and anaerobic digesters.
- 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 such as odors, staff training, and additional resource needs.

B. Strategies and Actions to Increase Beneficial Use and Recycling

- 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.

C. Strategies and Actions to Support Municipalities and Businesses

- Develop and distribute waste diversion measurement tool for municipalities.
- Identify measurement tools for municipal and business entities to evaluate the environmental impacts of materials management 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 including municipalities, regions, and businesses that have made changes in their processes and systems that result in significant diversion of materials from disposal.

D. Strategies and Actions to Provide Reliable Data to Support Sustainable Materials Management

- Collect, utilize and disseminate reliable data to calculate statewide recycling and diversion rates for MSW and other solid wastes:
 - Develop and implement standardized data collection and management procedures and requirements for reporting of marketed recyclables by materials processors and 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 and distributing a model methodology to calculate municipal generation, diversion and disposal rates for MSW.
- Collect, utilize and disseminate reliable data on annual waste diversion through beneficial use, agronomic utilization, anaerobic digestion, and waste conversion practices.

VI. Conclusion

Many opportunities remain in Maine to further divert materials from disposal. Organic materials such as food scraps can be separated from the waste stream and composted or processed by conversion technologies such as anaerobic digesters. Other types of conversion technologies can process a variety of materials to produce synthetic gas or liquid fuel. Additionally, improvements in data quality can assist the Department, municipalities and regions to better evaluate the performance and effectiveness of waste management and diversion programs in Maine.

The Department has identified a number of strategies to increase diversion rates, reduce disposal volumes, and to further utilize materials in Maine. The Department will evaluate and implement programs to encourage food scrap separation by industrial, commercial and institutional entities. The Department will also revise its regulations to clarify and specify licensing requirements for facilities utilizing conversion technologies. The Department recommends that facilities currently producing large volumes of or managing waste materials explore opportunities to establish co-located conversion technologies to achieve the greatest efficiencies through fuel generation and minimization of transportation costs.

These strategies can provide domestic, renewable energy sources, contribute to local economies, reduce greenhouse gas emissions, and extend the lifespan of Maine's existing landfill capacity.

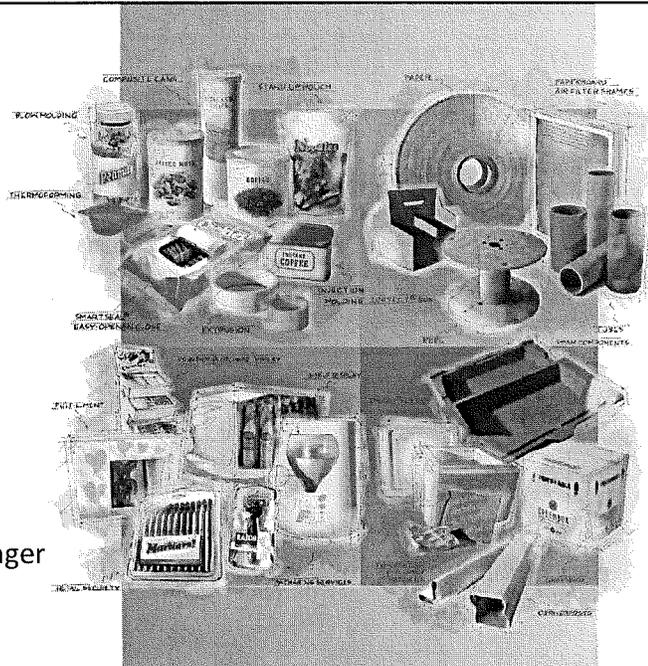


Grow & Optimize

Changing for the Better

EPR - A Packaging Manufacturer's View

Laura Rowell, Global Sustainability Manager



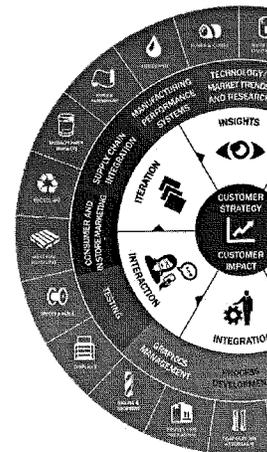
Overview

- Few words about Sonoco
- A bit of perspective
- What is EPR supposed to do?
- Conclusion
- Questions

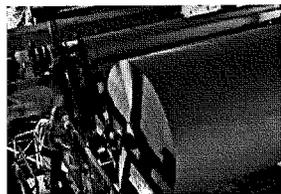


A few words about Sonoco

- 115-year old company built around source reduction
- Currently \$6 billion in revenue; global presence
 - Industrial products – 100% recycled paper, cores & tubes, reels & pallets, protective packaging
 - Consumer packaging – rigid paper, rigid plastics, flexible films
 - Other – shelf ready and floor displays, blisters/clamshells, artwork management
 - Recycling and recycling services
- Member of AMERIPEN, Sustainable Packaging Council and Association of Post Consumer Plastics Recyclers



Sonoco recycles the equivalent, by weight, of over 60% of what we put into the marketplace.



Normalized water usage by our global paper mills reduced by 40% since 2009.



Normalized GHG emissions reduced nearly 24% since 2009, exceeding our 15% reduction goal by the end of 2014.

Sonoco Alcore partnered with ACE to establish the UK's first drink carton recycling program.



- ✓ Listed in the Dow Jones Sustainability World Index for 2015/16, our seventh consecutive listing
- ✓ Named one of the Top 25 Most Sustainable Companies, and listed as #1 in South Carolina, by the Southeastern Corporate Sustainability Rankings developed by Green Business Works
- ✓ Named one of 100 Best Corporate Citizens for 2015 by Corporate Responsibility Magazine
- ✓ Named one of America's 100 Most Trustworthy Companies by Forbes Magazine



A bit of perspective

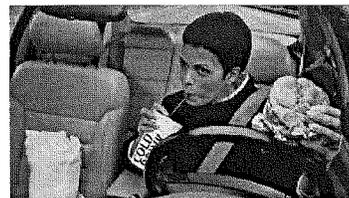
- EPR introduced in Europe as a result of 1994 Packaging & Packaging Waste Directive
 - Essential Requirements
 - Established recycling and recovery targets
- The Directive recognized the role of WTE in recovery and the role of packaging, stating:
 - 3. The Commission shall, as appropriate, present proposals for measures to strengthen and complement the enforcement of the essential requirements and to ensure that new packaging is put on the market only if the producer has taken all necessary measures to **minimise its environmental impact without compromising the essential functions of the packaging.**



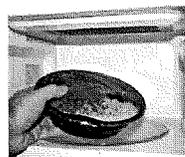
5

What do we expect packaging to do?

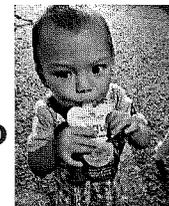
- Preserve and protect; but be optimized
- Inform and market; in multiple languages
- Be recoverable at end of use
- Serve our needs
 - On the go
 - Convenience



to



to



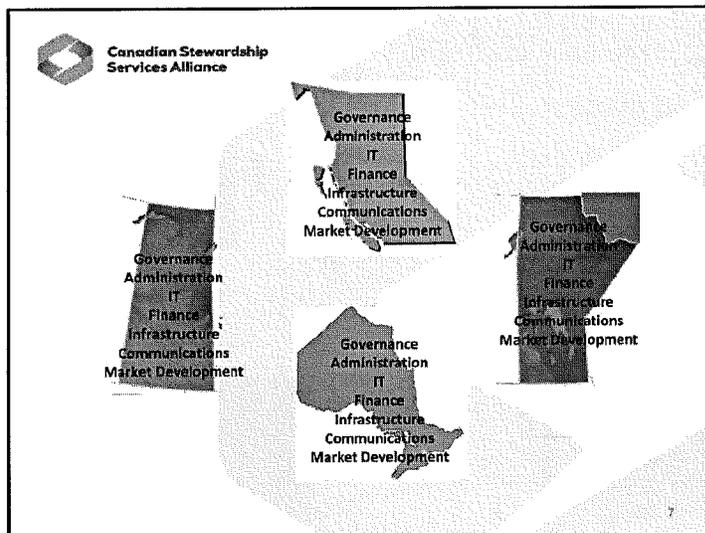
6

What is EPR supposed to do?

- Fund recycling, litter reduction and related education programs
- Reduce packaging and increase use of recyclable and reusable materials by influencing packaging design
- Reach 75% recycling rate for all household packaging
- Grow green jobs



Imagine this times 50 . . .

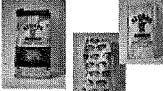


Marine debris

- Current environment of infrequent pick-up and badly designed systems.
- Jambeck study (reported in SCIENCE Magazine February 13, 2015) on sources of marine debris reports that – if considered a country – the EU would rank #8, ahead of #10 US.
 - Given 20-year experience with EPR, this reinforces concept that marine debris is a much greater issue than packaging waste.

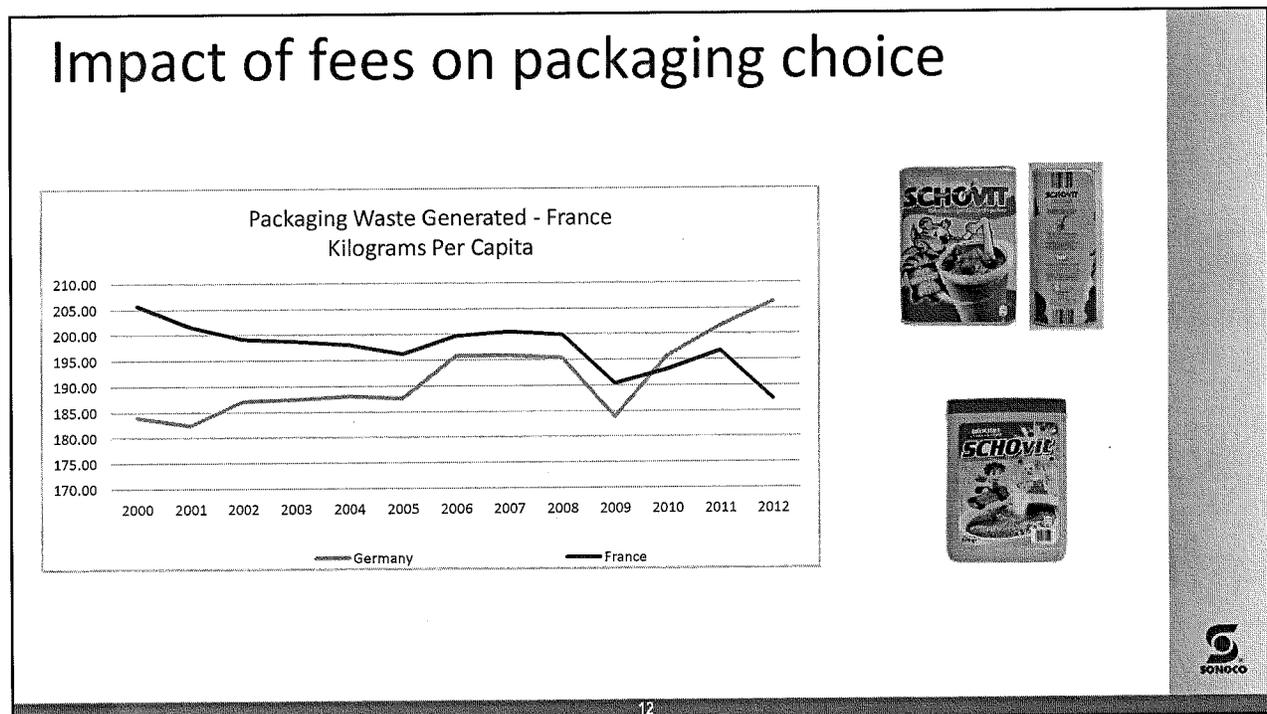
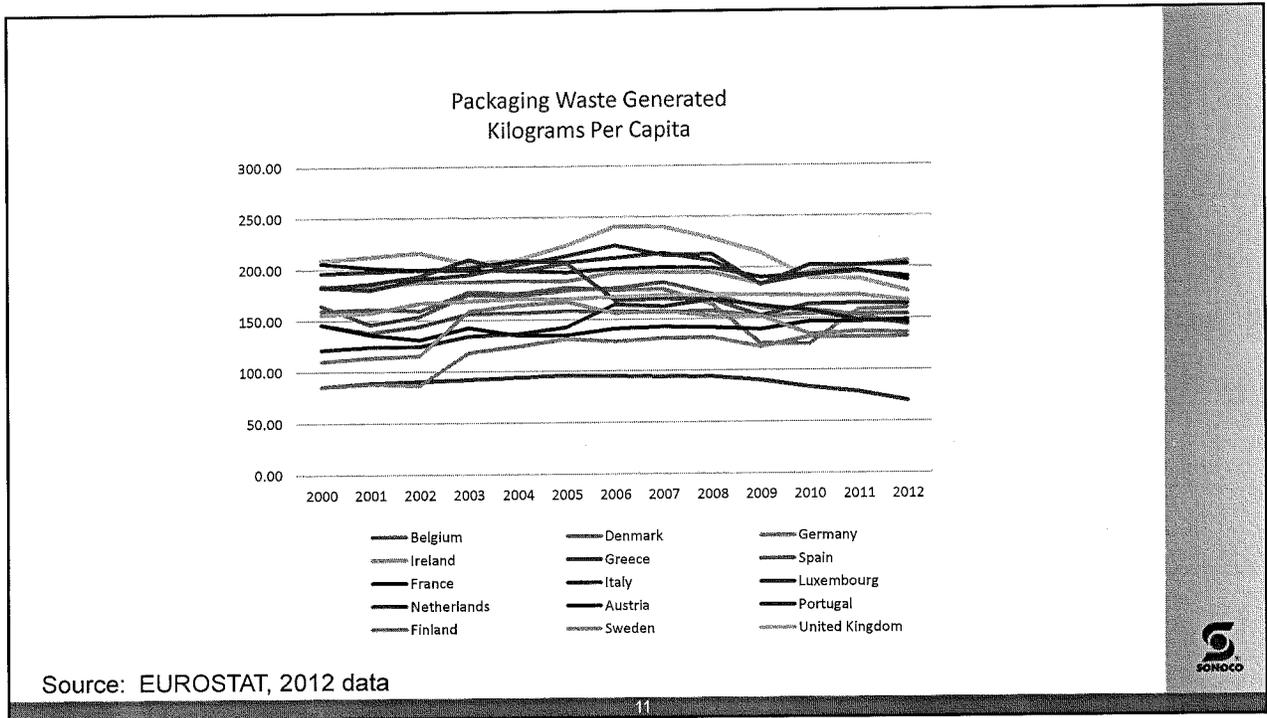


Reduce, reuse, recycle through design

Packaging Name	Packaging System	Component	Material Type	Weight (g)
12 oz PET Sauce Bottle		Bottle	PET	38.80
		Cap	Polypropylene	5.50
				44.30
12 oz Glass Sauce Bottle		Bottle	Glass	241.90
		Cap	Steel	4.00
				245.90
12 oz Paper bag + Plastic pouch + Multilayer pouch Combo*		External Bag	Paper	16.20
		Internal Pouch	PE Film	5.10
		Internal Pouch	Multilayer Film	3.00
				24.30
12 oz Plastic Sauce Pouch		Pouch	PE Film	24.10
				24.10

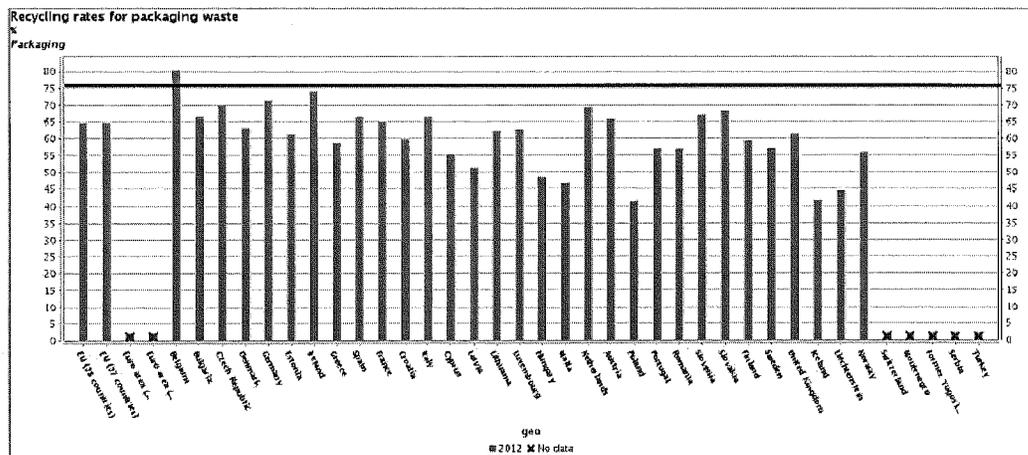
Source: Environmental Packaging International; courtesy of WM





What is EPR supposed to do?

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Source of Data: Eurostat

Last update: 30.07.2015

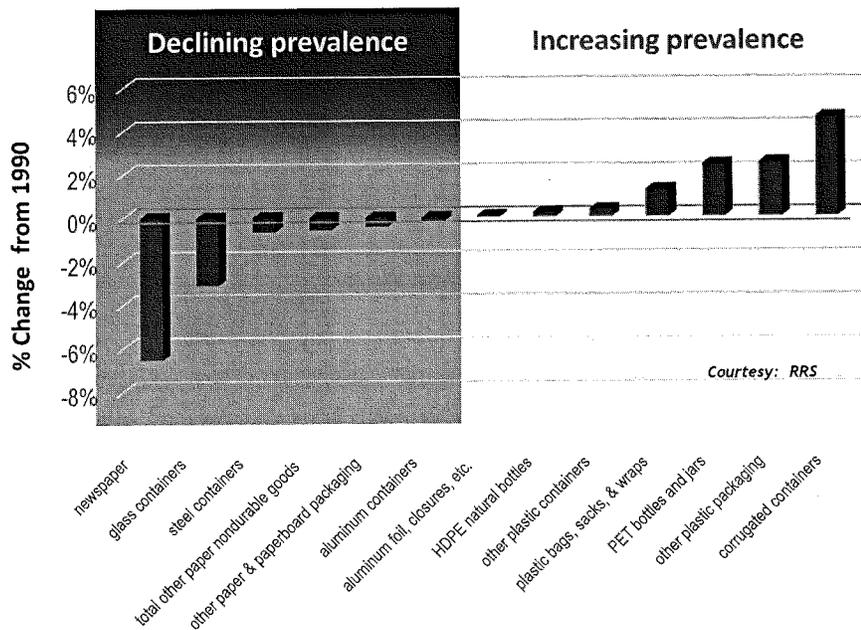


Is recycling really stagnant in the U.S.?

- Landfill discards same as 1980 despite 40% increase in population
- Lightweighting and the evolving ton:
 - According to the recent USEPA data, on a per ton of material collected:
 - We're recycling 34% more 2 liter PET bottles today than in 1980
 - We're recycling 13% more 32 oz. sports bottles and 50% more 500 l water bottles
 - We're recycling 18% more aluminum cans today than in 1992
- Bottom line . . .
 - We are recycling more, but our way of measuring – weight vs. volume – masks this



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EPR's flaws

- **No model EPR system.** All have different geographic, legislative and political elements. All come with an array of other programs – PAYT, landfill fees/taxes, disposal bans, and bottle bills, for example. EU and Canada looking to change – why adopt programs developed in a different time for a different packaging stream?
- **State-by-state approach is inefficient and ineffective.** What's needed is time for the Closed Loop Fund and Recycling Partnership – both targeting infrastructure – to work.
- **Focused solely on recycling.** Insufficient for changing packaging stream. Sustainable Materials Management approach considers life cycle impacts. What about organics?
- **Insufficient results for the money spent.** Reaching a 75% recycling rate for all household packaging only moves the MSW recycling needle from 34 to 41%. Little evidence that it solves marine debris concerns.



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Questions

