Reducing GHG Emissions from Plastics Combustion

Policy summary: Solid waste is generated by residences and businesses across Massachusetts. Diverting high-carbon-content materials, such as plastics, from the waste stream can reduce emissions released after materials are discarded, and, for some part of the waste stream, incinerated. These diverted materials can then be recycled into other products. Diverting plastics from the waste stream under this CECP Update will result in materials with a lower carbon content being combusted at Massachusetts municipal waste–to-energy facilities, reducing emissions of CO_2.

	Savings from full policy implementation	% of 1990 level
Economy-wide GHG reductions in 2020	0.3 $MMTCO_2e$	0.3%
Annual $ savings statewide in 2020	$8 to $11 million	
Cumulative $ savings statewide 2009-2020[60]	$69 to $92 million	

Clean energy economy impacts: Recycling yields greater local employment than does waste combustion. Currently, industries associated with recycling support 14,000 jobs in Massachusetts. Increased recycling of plastics would spur growth.

Rationale: The Commonwealth periodically prepares a Solid Waste Master Plan in accordance with Massachusetts General Law Chapter 16 Section 21. The solid waste sector includes sources of GHG emissions, such as landfills and municipal waste combustors, and plastics constitute a significant portion of the emissions. The Solid Waste Master Plan states, “diverting more material from disposal is:

- An *environmental opportunity* that will help Massachusetts reduce greenhouse gas emissions, conserve natural resources, and supplement energy conservation;
- An *economic development opportunity* that can spur the expansion of businesses and jobs in the Commonwealth, using materials diverted from waste to make new products and competing the global marketplace; and
- An *opportunity to reduce disposal costs* for waste generators and municipalities.”

GHG impact: Looking only at in-state emissions reductions, the Massachusetts Department of Environmental Protection (MassDEP) conservatively estimates the reduction potential from diverting a portion of plastics from solid waste disposal in 2020 at 0.3$MMTCO_2e$.

Costs: According to the Solid Waste Master Plan, diverting material from disposal, whether through upfront waste reduction, reuse, recycling, or composting, can save significant disposal costs. Current disposal fees in Massachusetts typically range from $60 to $80 per ton. If the goal of reducing disposal by 2 million tons per year by 2020 is achieved, that would result in

[60] Based only on reduced disposal costs.

annual avoided disposal costs of $120–$160 million. Plastics diversion alone constitutes some $8 million to $11 million of the total $120 million to $160 million in annual avoided disposal costs.

Implementation issues: The "Massachusetts 2010-2020 Solid Waste Master Plan: A Pathway to Zero Waste" was published in April 2013.[61] MassDEP is currently implementing the strategies in that plan, including a number of action items to reduce the disposal of plastic materials in combustion facilities.

[61] http://www.mass.gov/eea/docs/dep/recycle/priorities/swmp13f.pdf