



June 7, 2019

Mr. John Wassam
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: Draft Regulations Amending 225 CMR 15--Renewable Energy Portfolio Standard – Class II

Dear Mr. Wassam:

On behalf of the Energy Recovery Council (ERC), I am providing the following comments on the proposed changes to 225 CMR 15--Renewable Energy Portfolio Standard – Class II. Waste-to-energy has been recognized around the world as renewable energy and an important tool in reducing greenhouse gas emissions. As such, we support DOER amending the current Waste Energy tier in the Renewable Portfolio Standard to increase the percentage requirement and to increase the Alternative Compliance Payment (ACP). However, we believe the DOER should remove the sunset provision and instead occasionally review the program to ensure it is meeting the Commonwealth's needs.

ERC represents companies and local governments engaged in the nation's waste-to-energy sector. There are 72 waste-to-energy facilities in the United States which produce clean, renewable energy through the combustion of municipal solid waste in specially designed power plants equipped with the most modern pollution control equipment to clean emissions. Trash volume is reduced by 90% and the remaining residue is safely reused or disposed in landfills. The nation's 72 waste-to-energy plants have a baseload electric generation capacity of approximately 2,700 megawatts and process more than 28 million tons of trash per year.

There are seven waste-to-energy facilities operating in Massachusetts. These facilities process more than 3,250,000 tons of trash per year and produce enough baseload renewable electricity to power 212,000 homes. WTE facilities employ 489 people directly and support 1,441 jobs in the Commonwealth for a total economic output of \$591,600,000 a year, while reducing greenhouse gas emissions by more than 2.2 million tons of CO2 equivalent.

Experience shows that WTE is the principal alternative to landfilling post-recycled MSW. Without WTE capacity, jurisdictions across the U.S. and the world have had to rely on landfill disposal of MSW with its associated potent methane emissions. EPA scientists, in a prominent peer reviewed paper, concluded WTE facilities reduce GHG emissions relative to even those landfills equipped with energy recovery systems.¹ In addition, many other governmental and

¹ Kaplan, P.O., J. DeCarolis, S. Thorneloe, Is It Better to Burn or Bury Waste for Clean Electricity Generation? *Environ. Sci. Technol.* 2009, 43, 1711-1717. <http://pubs.acs.org/doi/abs/10.1021/es802395e>

nongovernmental organizations have formally recognized WTE for its role in reducing world-wide GHG emissions including the:

- Intergovernmental Panel on Climate Change (“IPCC”) called WTE a “key GHG mitigation technology”,²
- World Economic Forum (WEF) which identified WTE as one of eight renewable energy sources expected to make a significant contribution to a future low carbon energy system,
- European Union,^{3,4}
- U.S. Conference of Mayors, which adopted a resolution in 2005 endorsing the U.S. Mayors Climate Protection Agreement, which identifies WTE as a clean, alternative energy source which can help reduce GHG emissions. As of today, 1,060 mayors have signed the agreement.
- Clean Development Mechanism of the Kyoto Protocol,⁵
- Voluntary carbon markets,⁶ and
- Center for American Progress, which promotes the use of WTE as an important waste management method that can decrease greenhouse gases by reducing emissions that would otherwise occur from landfills and fossil-fuel power plants.⁷

WTE GHG reductions are quantified using a life cycle assessment (LCA) approach that includes GHG reductions from avoided methane emissions from landfills, WTE electrical generation that offsets or displaces fossil-fuel based electrical generation, and the recovery of metals for recycling. Life cycle emission analysis show that WTE facilities actually reduce the amount of greenhouse gases expressed as CO₂ equivalents (GHGs or CO₂e) in the atmosphere by approximately 1 ton for every ton of municipal solid waste (MSW) combusted.

² WTE identified as a “key mitigation measure” in IPCC, “Climate Change 2007: Synthesis Report. Contribution of Work Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change” [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp. Available at:

http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm

³ EU policies promoting WTE as part of an integrated waste management strategy have been an overwhelming success, reducing GHG emissions over 72 million metric tonnes per year, see European Environment Agency, *Greenhouse gas emission trends and projections in Europe 2009: Tracking progress towards Kyoto targets* http://www.eea.europa.eu/publications/eea_report_2009_9

⁴ European Environmental Agency (2008) Better management of municipal waste will reduce greenhouse gas emissions. Available at:

http://www.eea.europa.eu/publications/briefing_2008_1/EN_Briefing_01-2008.pdf

⁵ Clean Development Mechanism Executive Board: “Approved baseline and monitoring methodology AM0025: Avoided emissions from organic waste through alternative waste treatment processes.” Available at: <http://www.cdm.unfccc.int/methodologies/DB/3STKBX3UY84WXOQWIO9W7J1B40FMD>

⁶ Verified Carbon Standard Project Database, <http://www.vcsprojectdatabase.org/> See Project ID 290, Lee County Waste to Energy Facility 2007 Capital Expansion Project VCU, and Project ID 1036 Hillsborough County Waste to Energy (WtE) Facility 2009 Capital Expansion Unit 4.

⁷ Center for American Progress (2013) *Energy from Waste Can Help Curb Greenhouse Gas Emissions* <http://www.americanprogress.org/wp-content/uploads/2013/04/EnergyFromWaste-PDF1.pdf>

New energy from waste capacity is eligible to generate carbon offsets based on a Clean Development Mechanism offset methodology through the Verified Carbon Standard (VCS). To date, two facilities in North America have progressed through the carbon offset generation process, successfully validating and verifying their projects in accordance with the standard. The Lee County, Florida facility began generating carbon offsets with the 2007 emissions year, and the Hillsborough County, Florida facility has verified carbon offsets beginning with the 2009 emissions year. The credits are associated with the avoidance of landfill methane and displaced grid-connected fossil fuel electricity generation.

In closing, waste-to-energy is a critical tool in the production of renewable energy while reducing greenhouse gases from the solid waste sector. The DOER's proposed regulation will help ensure that WTE and recycling in Massachusetts is supported properly by the Commonwealth. Please contact me if you have any questions regarding our comments and thank you for your consideration.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ted Michaels", with a stylized flourish at the end.

Ted Michaels
President

