



The Pennsylvania Waste Industries Association
Testimony before the Senate Consumer Protection and Professional Licensure and Senate
Environmental Resources and Energy Committee Joint Hearing on
the Alternative Energy Portfolio Standards (AEPS) Act
May 1, 2019

Good afternoon Chairmen Tomlinson, Yaw, Yudichak, Chairwoman Boscola and members of both Committees. It is my honor to be able to testify before the Senate Consumer Protection and Professional Licensure and Senate Environmental Resources and Energy Committee joint hearing on the Alternative Energy Portfolio Standards (AEPS) Act. My name is Mark Hammond, and I testify today in my role as counsel to the Pennsylvania Waste Industries Association (“PWIA”). Since its initial drafting and passage in 2004¹, I have been involved for PWIA and its members on a variety of matters—legislative, regulatory, and project development—relating to the Alternative Energy Portfolio Standards Act (“AEPS Act”).

PWIA is a non-profit organization and is the Pennsylvania chapter of the National Waste & Recycling Association, and our mission is to promote efficient, environmentally safe management of recycling and solid waste and to advocate for sound public policy affecting the management of recycling and solid waste. PWIA members include both privately held and publicly traded companies, all of whom own and operate recycling and/or solid waste facilities within the Commonwealth, as well as provide solid waste and recyclable material collection and transport services throughout the Commonwealth.

Municipal solid waste disposed of in landfills decomposes through a natural two-step process. Initially, aerobic degradation occurs, and after a short period typically lasting less than 9 months, the degradation becomes anaerobic and that generates landfill gas, which consists of approximately 50% methane. The anaerobic waste decomposition cycle is generally completed in 30 years.

Landfill gas is a biogas that is collected in a series of underground pipes that crisscross the waste mass in three dimensions. Historically, the collected landfill gas was combusted in flares, which provided no economic benefit or energy production. Over the last two decades, it has become increasingly common for the collected landfill gas to be used to make electricity and/or renewable fuel. In the industry, we generally refer to these projects as “beneficial use projects”

¹ I am currently the Chairman of the Department of Environmental Protection’s Climate Change Advisory Committee (“CCAC”) but please note that my appearance and testimony before you today is unrelated to my membership on the CCAC. The views expressed in this testimony are presented on behalf of PWIA and are not necessarily reflective of the views of the CCAC.

and or “landfill gas-to-energy projects”. At the most basic level, use of landfill gas turns a waste gas into a useful product.

When landfill gas is used to make electricity, it is classified as a Tier I resource under the AEPS as “Biologically derived methane gas”. When landfill gas is converted into a fuel, that conversion does not qualify it as a Tier I resource but it is classified as a renewable fuel under the federal Renewable Fuel Standard (RFS) program that was created under the Energy Policy Act of 2005 and further expanded by the Energy Independence and Security Act of 2007. The classification of landfill gas as a Tier I resource under the AEPS is critical to the continued use of landfill gas to make renewable energy.

Pennsylvania currently ranks third in the nation for the number of operating Landfill Gas to Energy projects operating, with 39 projects currently operating. Most of these projects combust landfill gas to generate baseload electricity and qualify for Tier I AEPS credits. The vast majority of the other projects produce a renewable fuel, as defined under Federal law, for supply to pipelines, manufacturing and other off-site end-users as a direct substitute for traditional fossil fuels. The Climate Change Action Plan Update published by PA DEP in August 2016 indicated that landfills had 275.5 MW of electric generating nameplate capacity, in addition to producing significant quantities of fuel.²

According to US EPA, 56% of landfills across the nation use landfill gas beneficially, whereas that rate jumps to over 80% in PA.³ The *White House’s 2014 Climate Action Plan, Strategy to Reduce Methane Emissions* specifically cited a PWIA member landfill as the national case study on how to reduce GHG emissions from landfills through a beneficial use project.⁴ The federal Environmental Protection Agency (“US EPA”) considers the beneficial use of landfill gas to be of such importance that it operates a fully staffed Landfill Methane Outreach Program (“LMOP”) to encourage and assist with development of these projects. Numerous projects at PWIA landfills, as well as the Commonwealth of Pennsylvania itself, have won national awards from US EPA’s LMOP program.

There are a number of factors to why Pennsylvania has been a leader in the beneficial use of landfill gas. Clearly, one of the biggest factors was the passage of the AEPS Act. Many of the landfill gas projects operating today were developed in reliance on the AEPS; these investments by both municipalities and private enterprise occurred based on the incremental income that they generate under the AEPS as a Tier I resource. Without participation as a Tier I resource, many of these projects would have never been built, and the landfill gas would have continued to have been flared with no energy or economic benefit. In addition, without the AEPS Tier I qualification, the continued viability of these projects would be questionable, and the development of future projects would be chilled. As a result, Pennsylvania would potentially lose the environmental and economic benefits from these projects. Continued support through

² PA DEP, *2015 Climate Change Action Plan Update*, p. 121 (Aug. 2016), <http://www.depgreenport.state.pa.us/elibrary/GetDocument?docId=5342&DocName=2015%20CLIMATE%20CHANGE%20ACTION%20PLAN%20UPDATE.PDF%20>.

³ US EPA lists 619 operational and 480 candidate landfills nationally for LFGTE projects, with 39 operational and 9 candidate landfills in PA. *LMOP, Project and Landfill Data by State*, U.S. EPA, <https://www.epa.gov/lmop/project-and-landfill-data-state> (last visited Apr. 11, 2019).

⁴ Exec. Order No. 13,624, 3 C.F.R. 299 (2013).

the AEPS is critical to these projects on-going viability, as well as the development and investment in future projects.

The environmental benefits from making electricity from landfill gas are significant. According to calculations performed in 2016 using the United States Environmental Protection Agency's Landfill Methane Outreach Program's (US EPA) Benefits Calculator, PA landfills reduce greenhouse gases by 7.23 million metric tons per year, which is the equivalent to removing from the roads 1,416,000 passenger cars.⁵ US EPA also recognizes use of landfill gas as reducing other air pollutants.

These projects typically generate baseload electricity and have a high annual utilization rate—95% of nameplate capacity. Baseload electricity provides stability to the electric grid. These projects also supply electricity to critical landfill operations and local infrastructure during power outages and other grid emergencies. In fact, the PA Public Utility Commission recognizes landfills producing electricity as “critical infrastructure” under PA law.⁶

Because landfill gas is generated for up to 30 years after waste is disposed, these projects can provide long-term assurance that renewable electricity and the accompanying environmental benefits will accrue in Pennsylvania. These projects are fueled by historic waste disposal, and therefore do not incentivize additional or conflict with waste minimization efforts.

As you consider the future of the AEPS, please keep in mind that our industry has made substantial investments to produce renewable electricity from landfill gas in reliance on the AEPS Tier I classification. We respectfully suggest that heightened consideration must be given to protecting those who have made long-term investments based on the AEPS. Regulatory certainty is important to project developers and financiers. Secondly, please be mindful that landfill gas will continue to be generated, and that the AEPS Act helps to ensure that this biogas is used to benefit the environment through the production of renewable electricity. Protecting the investments made as a result of the AEPS Act will help ensure that any changes to the AEPS Act to encourage additional project development will be effective. Third, our industry responded to the purpose of the AEPS Act—to increase renewable energy production—by developing and operating additional projects. To the extent that changes are made to the AEPS Act, PWIA is confident that you will seek to maximize the production of renewable electricity by protecting investments made as a result of the AEPS Act, and will ensure that those changes incentivize new projects.

It is of critical importance that biologically derived methane gas, including landfill gas, remain a Tier I resource to meet the goals of the AEPS Act.

⁵ Presentation, *Landfill Gas to Energy (LFGTE)*, by Mark C. Hammond, on behalf of PWIA, to PA DEP (Feb. 7, 2013) (on file with author).

⁶ *In re* Pennsylvania Waste Industries Association, Docket No. P-2017-2637800 (Pa. Pub. Util. Comm'n Apr. 5, 2018), www.puc.state.pa.us/pcdocs/1560879.docx.