Workshop 1 Comments

Anaergia is a global leader in recovering organics from landfill-bound waste and converting them into renewable energy and soil amendments. Based in Carlsbad, CA, Anaergia is actively expanding capacity to divert organics from landfill into carbon-negative fuels by developing multiple facilities that are capable of processing over 300,000 tons per year of diverted organics. This infrastructure is expected to produce approximately 2,000,000 MMBtu/yr of biomethane. Our Rialto Bioenergy Facility (RBF) – the largest landfill diverted organics to renewable fuel facility in California – alone can process over 175,000 tons per year of diverted organics and produce 1,000,000 MMBTU/yr of biomethane. After 4 years of planning and construction with over $180M invested, RBF is now operational and has created 30 new jobs along with 500,000hr of construction work. Anaergia, in partnership with the Victorville Wastewater Reclamation Authority, just opened a new facility leveraging existing wastewater treatment infrastructure to convert organic waste and sewage sludge into biomethane and is capable of producing 300,000 MMBTU/yr.

We wish to write and express our support for the foundational work being done to evaluate RNG production potential in Michigan. This study will help to support the development and deployment of this critical climate change mitigation resource in Michigan.

<u>Feedstock</u>

- Organic fraction of municipal solid waste (OFMSW) is a critical feedstock for generation of renewable natural gas, as well as a key tool in prevention of methane emissions, a greenhouse gas that is more than 25 times more potent in the short term than carbon dioxide. Methane has been identified as the most critical greenhouse gas for emissions reductions in order to mitigate the impacts of climate change in the next decade (as exemplified by the Global Methane Pledge launched at COP 26 and joined by more than 100 countries). Food waste represents a large portion of landfilled waste, often around 30% or more. Therefore, diversion of food waste from landfills not only represents a significant opportunity to prevent fugitive methane emissions from landfills, it also offers an opportunity to be significant feedstock source to produce a carbon negative renewable fuel.
- Anaergia's Organics Extrusion (OREX) line can recover ~90% of putrescible organics from municipal solid waste, accessing feedstock in even the most challenging waste streams. Importantly, this waste separation technology can recover organics from residential, multi-family, and commercial municipal solid waste streams in addition to typical institutional and industrial sources. The availability of this commercial technology should be considered in assessing feasible and achievable resource potential. The OREX technology can also process higher throughputs of waste, which enables increased organics recovery compared to traditional organics separation methods. By providing organics recovery for expanded MSW streams, MSW feedstock potential for gasification (as identified in the study outline) may also be increased.

<u>Cost Benefit Analysis / Cost Effectiveness</u>

- Cost-effectiveness as evaluated by the proposed study is important for any climate change mitigation effort. However, it is important to conduct a holistic cost-benefit analysis of RNG, and that cost-effectiveness not be the only metric used in evaluating RNG potential within the State. Analysis should reflect greenhouse gas reductions, carbon intensity, job creation, and social

benefit. California's SB1440 recommends a similarly holistic approach in evaluating RNG procurement, including accounting for a social cost of methane emissions. CA SB1440 proposes RNG value to reflect the social cost of methane, beginning at $26/MMBtu. (From SB1440, "the proposed value is based on the most recent 2021 federal Interagency Working Group (IWG) estimate, and meaning the monetary value of the net harm to society associated with adding a small amount of methane to the atmosphere, including the value of all climate change impacts such as changes in net agricultural productivity, health effects, property damage from natural disaster, energy system disruption, risk of conflict, migration, and the value of ecosystem services.") Meanwhile, British Columbia's 2021 update to its Greenhouse Gas Reduction Regulation (GGRR) set the RNG price cap for purchasing utilities at $30/GJ, with allowable increases for inflation.

Greenhouse Gas Accounting Methodology

- The proposed lifecycle accounting framework most accurately captures the potential of various feedstocks, including food waste, to prevent methane emissions. RNG derived from anaerobic digestion of food waste results in a negative CI score, per the CA GREET model. Accurately quantifying the negative carbon intensity of RNG will support appropriate monetization of the environmental benefits and therefore bolster RNG development and deployment.

Opportunities

- Long-term (i.e., 20-year) fixed price offtake of RNG are essential to development and deployment of RNG, and support investment for RNG in Michigan. Key opportunities include mechanisms for utilities to procure RNG, including expanded voluntary RNG procurement programs and renewable gas procurement standards (such as California's SB1440). While DTE currently offers voluntary RNG program, increasing RNG caps will expand opportunity.
- Interconnection costs often represent the largest barrier to RNG deployment and can make all but the largest-scale RNG projects infeasible. However, it is important to support decentralized small- to medium-scale RNG projects. Such an approach will support increased RNG production throughout the State and maximize achievable use of feedstock in Michigan by cost-effectively accessing sources throughout the Prosperity Regions. Incentives for interconnection, grants, and streamlined interconnection processes will reduce the barrier for entry for smaller facilities to enable a greater number and overall volume of RNG deployments.
- Existing anaerobic digestion (AD) infrastructure at wastewater treatment plants (WWTP) provide capacity for RNG generation and can enable a circular economy within local communities. WWTP AD of municipal sludge generates biogas which can be upgraded to RNG eligible for D3 RINs (currently trading ~$2.50/RIN and ~$30/MMBTU). Further, food waste is suitable for co-digestion at municipal WWTP, and such programs can provide numerous operational and economic benefits to wastewater authorities. While co-digestion of organic waste feedstock for RNG production require requires relatively less investment than greenfield development, costs often remain prohibitive. Incentives for co-digestion of food waste at WWTP should be provided to support cost-effective use of feedstock in Michigan and expanded RNG deployment. Such incentives may include financing and grant programs for required infrastructure upgrades (e.g., Michigan HB 6036 to expand state PACE financing to include anaerobic digestion as a qualifying energy program) or procurement targets for RNG generated

at WWTPs. Overall, WWTP provide a great opportunity to improve cost-effectiveness of RNG as a climate change mitigation resource.