



# “What’s Anaerobic Digestion and How Can I Get Involved?”

## AN OVERVIEW

### *Anaerobic Digestion and Environmental Justice for Communities*

Anaerobic digestion (AD) is a process in which microorganisms naturally break down organic materials, such as food scraps, fats, oils and greases, or animal manure. If the materials processed in AD contain potentially harmful contaminants, the products will also contain those contaminants.

The process of anaerobic digestion through a digester facility can help keep organic materials out of landfills, therefore reducing methane emissions, a greenhouse gas, which contributes to climate change. It is important to find solutions to promote the diversion of food waste from landfills as landfill capacity decreases and the need to reduce greenhouse gas emissions increases.

The number of AD facilities has been increasing in the northeast region of the United States. Recent expansion in AD food waste capacity is in part due to efforts by state environmental agencies to support renewable energy development and promote increased diversion of food waste by large generators. However, additional AD facilities can be useful to fill gaps in the infrastructure that prevent additional large generators from diverting their food waste due to travel distances. Even with efforts to divert food items before they become waste, there will be a need for disposal.

## WHAT PRODUCTS ARE PRODUCED THROUGH ANAEROBIC DIGESTION?

AD generates two primary products: biogas and digestate. AD generates biogas through the capture of methane gas and reduction of carbon dioxide (CO<sub>2</sub>) and other gases. Methane is the primary gas in biogas and other natural gases. Biogas is a renewable energy source that can be used like natural gas to power engines, produce heat, generate

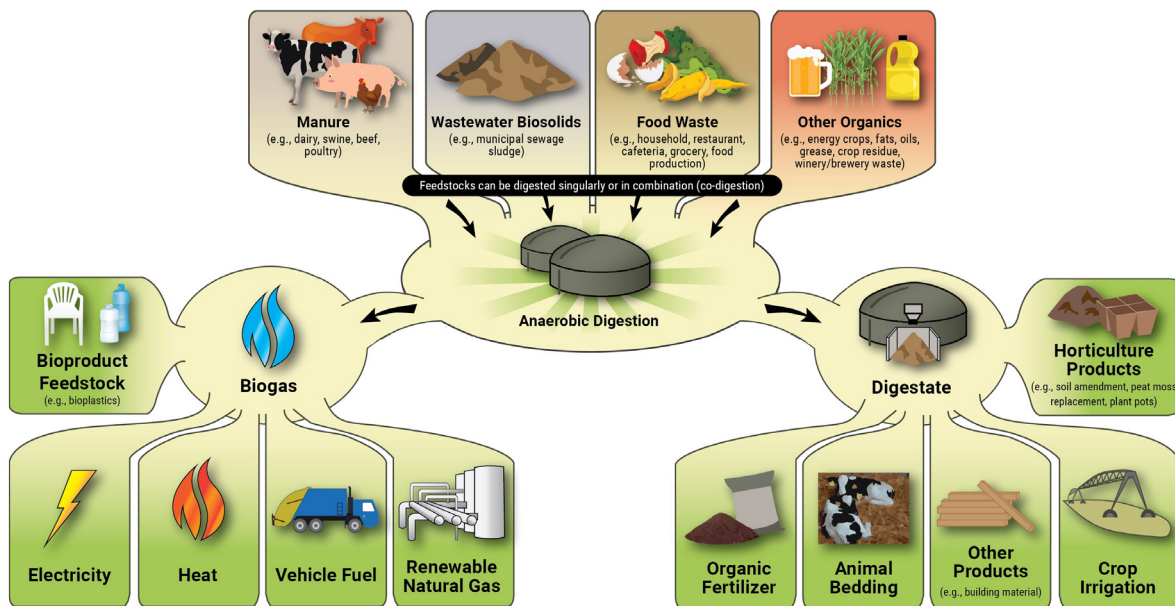
electricity, fuel boilers and furnaces, and run alternative-fuel vehicles, among others. Biogas, when upgraded to a renewable natural gas, can help reduce the demand for natural gas from underground sources of fossil fuels.

The second product created is digestate, which is a mixture of liquid and solid materials, that is often referred to as wet material. When organic materials decay, or breakdown, there is also a loss of valuable nutrients from our ecosystem. The digestate produced in AD is rich in many nutrients and is a good source for crop fertilizer, which promotes nutrient-rich soil, water retention and infiltration, aeration, and overall health of the soil.

## HOW IS ENVIRONMENTAL JUSTICE CONSIDERED WHEN STATES APPROVE PERMITS FOR AD?

Many state and local entities are enacting regulations, policies, and initiatives to advance environmental justice (EJ) and are increasingly focused on engaging with EJ communities that have been identified as experiencing disproportionate and adverse human health, environmental, climate-related, and other cumulative impacts resulting from waste management and other industrial or commercial





activities. EJ communities often have significant numbers of low income, people of color, indigenous, and vulnerable populations, such as the elderly, children, and those with pre-existing medical conditions. It is possible for AD facilities, like any waste handling, processing, and recycling operation, to be sited in these communities.

### **MANY STATES ENCOURAGE AND/OR REQUIRE THAT AD DEVELOPERS:**

- Submit an environmental impact statement (EIS) as a part of their permit application. EIS typically includes information on how communities may be affected by the proposed facility and what steps the facility will take to prevent human health and environmental risk exposure.
- Develop a public participation plan to engage with community members and residents during the permitting process.
- The facility may also host listening sessions to further explain AD, its benefits, potential risks and challenges.

### **HOW CAN I GET INVOLVED?**

Understanding state laws for public participation and environmental justice are important to helping residents get involved and learn more about a proposed AD facility and share concerns about the proposal. In addition to what AD Developers are required to do by law, residents can:

- Advocate for additional listening sessions to better understand how a new facility will impact your community.
- Ask Questions!
  - How can AD reduce food waste and help mitigate climate impacts?

- What efforts are made to reduce carbon emissions from AD infrastructure?
- What efforts are made to minimize contamination of toxic chemicals, like PFAS, from digestate?
- Would AD infrastructure increase or require special maintenance of existing natural gas infrastructure?
- What emergency plans are in place to ensure the safety of the community?
- What are the benefits from AD in the community?



The Northeast Waste Management Officials' Association (NEWMOA) & the Northeast Recycling Council (NERC) have created additional materials outlining the requirements for air, solid waste, and water permits, and any EJ requirements when AD Developers are proposing new construction of an AD facility.

NEWMOA & NERC have also developed a Best Practices for Community Engagement Guide based on Federal and State EJ regulations and considerations to provide resources for AD facility workers and managers to best engage with communities and residents of areas an AD facility is proposed to be located in.

The materials cover state regulations in the Northeast States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

**Community Engagement Guide**



**Regulatory Guide**



**What's AD & How Can I Get Involved?**

*Spanish*

