

**To: Agriculture Chesapeake and Natural Resources - Agriculture Subcommittee meeting.**  
**From: Bioenergy Devco**  
**Subject: House Bill 831, Composting; definition of anaerobic digestion.**  
**Position: Favorable**  
**Date: January 26, 2022**

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Bioenergy Devco supports House Bill 831, Composting, definition of anaerobic digestion.

This testimony is offered on behalf of Bioenergy Development Company (BDC), the foremost providers of anaerobic digester solutions and is a pioneer in this sector. The core expertise of our company lies in planning, producing and constructing the plants. For over 20 years and more than 250 biogas plants, our qualified team of engineers, biologists, chemists, agronomists, designers and marketing experts has significant experience in the design, construction and operation of anaerobic digester power plants and thus offers expertise in service, consultation and biological support.

Bill Summary: House Bill 831 would clarify the use of anaerobic digestion and define digestate produced from the process. Anaerobic digestion would be defined in section 3.2-3600 with an added definition of “digestate”. Digestate, as a soil amendment, would also be added to the definition of “regulated product”, and inserted after compost in 3.2-3611.3(d) to ensure that it is labeled correctly with the source of the material.

What is anaerobic digestion? Anaerobic digestion (AD) is a natural process in which bacteria break down organic waste (e.g. food waste, fats, oils and greases, food processing materials manures, etc.) in the absence of oxygen. The purpose of AD is three-fold:

- Produce biogas, which can be used locally to generate heat and / or electricity in a combined heat and power plant or processed into renewable natural gas, compressed natural gas for transportation and integrated into our energy grid.
- Divert organic waste from our municipal solid waste stream and prevent environmental and social impacts associated with landfills and incinerators, and
- Produce digestate, as an organic soil amendment that increases soil fertility and crop yields by returning carbon and nutrients back to farmland, gardens, and landscapes.

Why is AD important? Anaerobic digestion is a completely natural process designed to break down organic matter in an environmentally sound manner with its

byproducts put toward sustainable use. Digesters enlist the help of anaerobic bacteria, which exist in environments deprived of oxygen. As the bacteria feed on organic matter, they release methane gas. When this process occurs in an open system, like a landfill or a manure slurry pit, the methane is released into the atmosphere as a greenhouse gas. **Digesters allow this biological process to unfold in a closed system where methane is captured and used as an alternative to fossil fuels in the form of renewable natural gas, compressed natural gas for vehicle use and a healthy soil amendment.**

Biogas from AD: Biogas can be used to power boilers, fuel vehicles or generate electricity, reducing reliance on fossil fuels, improving our energy independence. Biogas can also be refined into renewable natural gas (RNG), which is fully interchangeable with conventional, fossil fuel-based natural gas and has the potential to displace over 40% of conventional fossil fuel based natural gas usage in transportation. Fueling vehicles with CNG could prevent approximately 54 million tons of GHG emissions annually, the equivalent of taking 11 million passenger cars off the road.

Why define AD in State Code? AD is an emerging solution managing organic wastes in an environmentally sound manner while reducing greenhouse gas emissions. Defining anaerobic digestion in Code, like Florida, Maryland, North Carolina, South Carolina and Tennessee allows Virginia to:

- acknowledge and encourage this growing industry
- begin a process of evaluating the industry
- provide education on surrounding organic recycling options, beyond traditional disposal methods such as land application, landfill use or incineration.
- provide affordable and large scale organics recycling options for Virginia's vital agricultural industry as well as counties and municipalities

Environmental Benefit of AD: AD prevents organic waste from rotting in landfills and emitting harmful methane into the atmosphere. Unlike open-air landfills and even composting facilities, AD processes organic waste in a sustainable closed environment, capturing and containing all emissions in the end-products of biogas and digestate and, preventing those emissions from being released into the atmosphere. A typical 115,000 ton per year digester both provides closed capacity, but 30,000 ton equivalent of CO<sub>2</sub> per year.

Economic Benefit of AD: By embracing solutions that simultaneously serve environmental and market/business interests, Virginia can engage a broad coalition of stakeholders to create new green skilled jobs, address the challenges of waste management and address environmental justice issues, all while providing a local renewable energy solution. In fact, the American Biogas Council estimates that constructing anaerobic digestion facilities to meet Virginia's clean energy potential would generate as much as \$699 million in capital investments, 5,822 new construction jobs, and 387 permanent jobs.



For these reasons, Bioenergy Devco respectfully requests a favorable report on House Bill 831.

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