

Economic Circularity

Creating Energy with Waste: The RNG Story

BY STEVE BACCINO

A CIRCULAR ECONOMY (often referred to simply as circularity) is an economic system aimed at the continual new use of resources and the elimination of waste. This regenerative approach is in contrast to the traditional economy, which has a linear model of production.

Chesapeake Utilities Corporation, working together with local governments and industry, has been looking for a good solution that would create a sustainable, environmentally-friendly supply of renewable natural gas (RNG) while also finding a sustainable solution to local waste management.

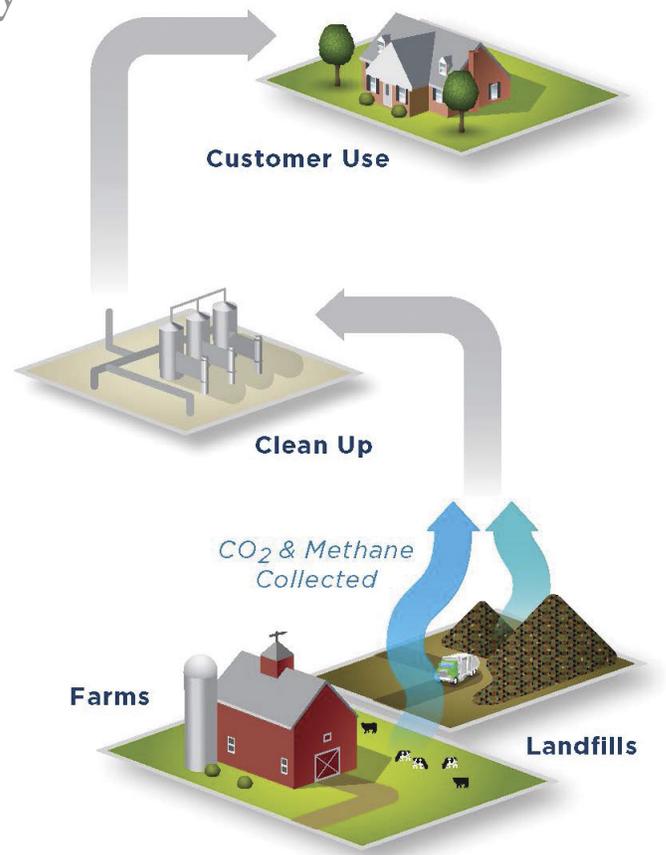
Across the globe and in several U.S. states, turning organic waste, like agricultural waste from farms; excess organics from animal processing industries; and landfills into a carbon-negative energy source, known as RNG, is a reality. The process, anaerobic digesting, uses naturally occurring microbes to break down organic waste into two products: methane and an organic fertilizer product. The fertilizer product, which contains much less phosphate and sulfur than other fertilizers, can be used by farmers or sold to external consumers. Once the methane is cleaned, it can be utilized seamlessly in natural gas utility systems as RNG, creating a circular economic system here on the Delmarva Peninsula.

Waste streams, such as food waste from casinos and restaurants can also be used in the process. Landfill gas that would otherwise be flared into the atmosphere is another source of methane to be treated. Instead of the gas being released or flared, it is processed and reused.

Earlier this summer, Chesapeake Utilities Corporation's affiliates, Eastern Shore Natural Gas Company, Chesapeake Utilities and Marlin Gas Services, entered into agreements to bring an anaerobic digester system to Delaware and an additional one to Somerset County, Maryland. Beyond the environmental and energy benefits, these projects will also support the economy by producing jobs in the Delmarva region. Chesapeake Utilities Corporation is working across the organization to support and promote the emergence of the renewable fuels market and is doing its part to assist with repurposing agricultural and other organic wastes.

These projects represent sustainable growth investments across the Corporation's value chain – natural gas transmission (Eastern Shore Natural Gas Company); natural gas distribution (Chesapeake Utilities); and mobile natural gas transportation (Marlin Gas Services).

Through this collaboration, Chesapeake Utilities Corporation has an immediate and scalable opportunity to further reduce the impact current



wastes have on our surface waters and mitigate climate change forces in our region. The process of transforming organic waste into RNG is a sustainable and environmentally beneficial way to positively influence our region's agricultural ecosystem.

In addition, these projects will reduce greenhouse gas emissions. The Company is supporting the economy of the Delmarva region by reusing and converting organic waste into a sustainable, renewable energy source.

Applying circularity by supporting RNG is an ecological solution for our region. Turning organic waste, such as excess poultry organics, into RNG provides an alternative to applying that waste directly onto farm fields as fertilizer, which contains high phosphate and sulfur contents that eventually run off into the local water supply.

Through the RNG process, gas is extracted, and then purified to be delivered and used as clean-burning RNG in many homes and businesses on the Delmarva Peninsula and the organic fertilizers are less harmful to our water supply.

It is an innovative idea, an energy resource from waste: clean-burning, renewable natural gas. ■



Steve Baccino is director of government affairs at Chesapeake Utilities Corporation and directs the legislative and governmental strategy for state and local initiatives, as well as provides support for the Company's business unit strategies and projects. He also serves on the Board of Governors for the Delaware State Chamber of Commerce.