Forget The Noise

Biomethane, A Global Tool To Cut Emissions And Boost Energy Security

By **ESG Review Contributor** - April 19, 2023

Biogas is injected into the natural gas pipeline network as renewable natural gas (RNG). (Image Courtesy Of US Grain)

This article was written by David Cox

Over the last 40-plus years, the United States and Canada have positioned themselves as world leaders in renewable natural gas (RNG) — a sustainable and reliable gaseous fuel derived from the captured emissions of biological waste. The North American RNG portfolio has grown considerably from the first commercial RNG facility at a landfill in Staten Island, New York, in 1982, to more than 300 facilities operating at year-end 2022 at landfills, dairies, and nearly anywhere else biological waste is found.

According to a small and noisy band of political advocacy groups, RNG is a brand-new marketing pitch cooked up by US energy interests. If you've recently paid attention to RNG-conducive policy progress occurring in several US states, you've likely heard some spurious claims of "greenwashing" lobbed at RNG operators and utilities supporting the safe and responsible use of renewable gas as a means of addressing societal waste and emissions.

To those working in RNG, these claims are head-scratching. While RNG may be newly popular — and urgently necessary — it is far from new, or mere marketing fodder. Looking from a global perspective, we know that climate-smart governments around the world, not just in North America, are embracing

methane capture and utilization as one way to achieve the net-zero goals outlined in the Paris Agreement.

Global Movement

Support for RNG — known as biomethane in many global markets — is growing across Europe, a region long-regarded as a careful steward of environmental protectionism. In the spring of 2022, the European Union unveiled its REPowerEU action plan outlining targets and methodologies required to help wean the region off Russian energy. Alongside ambitious new targets for renewable power deployment and hydrogen**,** the plan established a goal to raise biomethane production within its 27 member states to 1.2 Tscf/year (35×10^9 m^3/year) by 2030, a roughly 12-fold increase from current levels, in part by expanding biomethane's use beyond transportation markets and by speeding up permitting.

In pursuit of these goals, 22 partners from nine countries recently joined an EU-funded program called Biomethaverse which will kickstart five projects in Ukraine, France, Greece, Italy, and Sweden. The projects will demonstrate innovative biomethane pathways using renewable hydrogen and renewable electricity. The program hopes to develop biomethane technologies that would help capture around 113 MT of carbon dioxide (CO_2)-equivalent greenhouse gas (GHG) emissions across Europe by 2030 — roughly the annualized GHG emissions of Belgium.

Energy Security Enhancer

Biomethane initiatives, undertaken amid the threat of Russian aggression in Ukraine, represent actionable steps European stakeholders can take to balance medium- and long-term sustainability goals with short-term energy security concerns. War and conflict have a funny way of forcing leaders to embrace practical, pragmatic approaches toward change, rather than blue-sky proposals that might take decades to get off the ground.

Then again, European leaders only had to look at prevailing research to understand the impact biomethane could have on the region's energy transformation. In a 2021 report titled "Net Zero by 2050: A Roadmap for the Global Energy Sector," the International Energy Agency factored increased biomethane use in utility gas networks, industrial corridors, and the building and transport sectors into a base case scenario required to reach global net-zero emissions by 2050. In Europe, specifically, a July 2022 comment paper from the Oxford Institute for Energy Studies concluded that using biomethane "more widely as a substitute for natural gas in the grid" represents one way to reduce European reliance on Russian gas; the same paper found that sustainably sourced biomethane could soon grow at a compound annual growth rate of more than 30% in Europe, with potential for sustainable biogas and biomethane output to reach 2.3 Tscf/year (65×10^9 m^3/year) in the region by 2050.

Political and corporate leaders here in North America might look to our allies across the Atlantic for inspiration on how RNG might fit into comprehensive, sustainable emissions reductions plans. US and Canadian governments have historically supported RNG through siloed public policies aimed at growing renewable and low-carbon clean fuels, decarbonizing gas supply, and, most recently, in the tax code through the Inflation Reduction Act. With 500 more RNG facilities in development stages and a host of state-level policy supports in various stages of development, North America's domestic deployment of biomethane is off to a strong start. Still, these numbers are just scratching the surface of the need and opportunity presented by societal waste — an unavoidable and constant burden to which all communities contribute.

The urgency of war in Ukraine helped bring biomethane to the fore for European leaders as they searched for effective, affordable tools to buttress energy security and cut emissions. While the harsh reality of armed conflict may be thousands of miles away for North America, make no mistake: the urgency of climate change is similarly calling on us to set aside entrenched dogmas in favor of common sense and

readily available solutions. Although at times the noisy few can seem to drown out the call — RNG is gaining momentum as one solution to decarbonize our societies as we pursue more just, equitable, and secure outcomes for future generations.

About The Author

David Cox serves the RNG Coalition and its members as CFO. He co-founded the Coalition for Renewable Natural Gas in July 2011. Cox is an attorney specializing in the laws and markets that impact the RNG industry, including the renewable fuel standard, low-carbon fuel standard, and pipeline injection standards. He has extensive experience advising companies and elected officials on regulatory, political, and public policy matters. A graduate of Westmont College and University of the Pacific's McGeorge School of Law, Cox is a member of the Texas, Oklahoma, and California state bars in good standing.