

PROTECT AND GROW

The future of natural gas is renewable

By Robert Friedman, managing director of adsorbed natural gas (ANG) at Ingevity



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As the focus on achieving environmental and sustainability goals tightens across the globe, natural gas is uniquely suited to add value. Known as a low-cost, reliable, cleaner energy alternative for commercial, residential, and transportation industries, renewable natural gas is a readily available solution to drive long-term growth for the natural gas industry.

The evolution of public policy to mitigate the effects of greenhouse gas (GHG) emissions has posed significant challenges to the traditional natural gas utility infrastructure, impacting transportation and non-transportation industries served by municipally owned natural gas utilities. As cities such as Berkeley, California, and Seattle, Washington, impose increasing restrictions on the installation of natural gas in new commercial and apartment

buildings in an effort to transition away from gas, the industry has an opportunity to reposition itself as a viable player in the sustainable energy market.¹

Significant opportunity exists to respond to changes in public policy by embracing a “protect and grow” orientation with renewables, especially with renewable natural gas (RNG). RNG has one of the most impactful sustainability profiles by capturing and processing naturally occurring methane

from agricultural, wastewater, and landfill facilities. RNG is one of the few viable zero- or negative-carbon intensity fuels that is cost effective, and its use is well-suited to be leveraged by the distribution of the natural gas utility infrastructure.

RNG is relevant for transportation and non-transportation sectors. As a transportation fuel, RNG can reduce GHG emissions by 85 percent to 130 percent compared to gasoline, which outperforms other technologies, offering fleets a pathway to carbon neutrality with natural gas vehicles (NGVs). Both fleets and natural gas utilities can easily implement RNG as an alternative fuel by working together to source RNG from providers or third-party marketers.

Businesses, institutions and organizations – and potentially residences – can reduce their carbon footprint by purchasing directly from RNG suppliers. For example, Duke University recently announced they are

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purchasing RNG through a voluntary offtake agreement. Over the longer term, these initiatives can provide the industry with an opportunity to support the inclusion of RNG within the rate base.

Today, RNG provides fleets with a cost-effective and impactful alternative

and accounts for over 50 percent of the fuel consumed by NGVs in the U.S. in 2020.² This opportunity is relevant to compressed natural gas (CNG) vehicles, as well as even lower-pressure NGVs equipped with adsorbed natural gas (ANG) technology. These CNG and ANG

vehicle platforms can seamlessly use RNG.

The use of RNG within CNG fueling facilities is well-suited for fleets with a larger number of vehicles and fuel consumption (e.g., heavy-duty vehicles) to help offset the capital costs of the fueling infrastructure.

Opportunities for light-duty truck fleets (e.g., pickup trucks and vans) to use RNG as a transportation fuel have historically been limited due to fleet size and configuration and the resulting lower consumption of fuel. The introduction of ANG to the light-duty fleet market has created new opportunities to use RNG on a cost-effective basis. ANG technology allows fleets of any size to utilize ultra-clean RNG at almost no incremental cost: by using a low-cost private fueling appliance, ANG fleet vehicles can use low-cost fuel sourced directly from their utility line.

NGVs are popular throughout the world with approximately 30 million in use today and growing.³ While there are only about 200,000 NGVs in the United States, there is a significant opportunity for NGV growth particularly when coupled with RNG use.

Depending on fleet size, both CNG and ANG vehicles provide sustainable and commercially viable options for fleets today. Leveraging the use of RNG as a sustainable fuel source as part of CNG and ANG platforms, the natural gas community can take a leading role in positively impacting the world's shift to lower GHG emissions, while also fostering long-term growth in natural gas as a transportation fuel. 

Fleets interested in exploring the benefits of adsorbed natural gas can visit www.ingeivity.com/markets/adsorbed-natural-gas/ or contact robert.friedman@ingeivity.com to learn more about RNG and ANG strategies.

¹NJ gas utility unveils 'clean energy plan' to counter anti-fossil fuel sentiment (msn.com)

²Renewable Natural Gas Achieves Majority NGV Motor Fuel - NGV America

³NGV Global - CNG, LNG, Natural Gas Vehicles, Alternative Fuel, Marine LNG | Information about natural gas vehicles (iangv.org)



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