

How Renewable Natural Gas is Driving Major Decarbonization Improvements Across Many Different Sectors of US Economy

This is Part 5 in a series on how renewable natural gas (RNG or biomethane) can help unlock environmental and economic benefits across the US economy. In parts 1-4 we provided deep dives into the use of RNG in the food and beverage sector, the aviation and marine sectors, the life sciences sector and the agricultural sector (with a focus on by-products). In this last installment we focus on major users of RNG for different applications and from different sectors, to highlight the flexibility, applicability and decarbonization impact RNG can have.

Guidehouse, The Coalition for Renewable Natural Gas

Economy-wide Benefits of Renewable Natural Gas: From Intent to Action

A broad and diverse range of organizations are using RNG as part of their decarbonization strategies. Irrespective of sector, these organizations recognize the benefits RNG provides in maintaining and improving energy resiliency, de-risking the achievement of climate targets and, in some cases, supporting the management of organic wastes. For all hard-to-electrify operations (e.g. high-temperature processes), and for applications experiencing rapid technological advances (e.g. low-emission heavy vehicles), RNG is one of the most promising decarbonization levers on offer.

RNG can be a core component of an organizations' shift from intent to action, as demonstrated in the following three case studies spanning leaders in the energy, education and logistics sectors. The implementation of RNG by these organizations has rewarded them with widespread recognition as environmental leaders in their respective sectors.

Fortis BC: Integrated Utility Company Sourcing RNG To Drive Decarbonization Across Network

In Canada, Fortis BC is rapidly expanding its sourcing of RNG, as well as other low-carbon gases and fuels like hydrogen and synthesis gas (from wood waste and lignin).ⁱ FortisBC has set a firm target of supplying at least 15% of its gas from renewable sources by 2030, and expects renewable or low-carbon sources could comprise 75% or more of the energy it delivers by 2050.ⁱⁱ As of 2022, Fortis BC had secured approval for 25 RNG supply agreements which, by 2025, will cover more than 11% of its total annual gas supply.

Fortis BC provides its domestic and business customers with a straightforward way to purchase the emissions reduction credits for RNG in their network.ⁱⁱⁱ Clear pricing and an online calculator of the greenhouse gas emission reductions associated with selecting different blend amounts supports customers' decision-making around their fuel decarbonization options.

Fortis BC is an example of a company in a highly regulated sector, innovating and working with its key stakeholders to provide RNG-based decarbonization solutions to benefit the communities and economies they serve.^{iv}

University of California: Early Adopter Using RNG as Bridge Until Processes Can Be Electrified or Switched to Green Hydrogen

The University of California (UC) school system began procuring renewable energy credits associated with RNG production in 2015, when the market for RNG was relatively immature. Towards meeting its 2025 target for net zero direct emissions, UC financed the development of RNG capture at one landfill in Louisiana and entered a 20-year, fixed price offtake agreement for the RNG from an anaerobic digestion facility in Wisconsin. Although both these facilities are out-of-state, the renewable energy certificates they generate can be used by UC, as set out in California's Cap and Trade regulations, to count towards its net zero targets.^v

UC will sell renewable energy certificates associated with the output of both RNG facilities into the transportation market until 2025. This effectively reduces the overall costs of the RNG procurement for the university system's 10 campuses, whilst allowing it to meet its decarbonization targets.

The University is also active in procuring RNG from inside California, including through a partnership with Archaea Energy to capture and clean methane from a landfill in San Bernardino.^{vi} This facility, which will be operational in 2024, will supply sufficient RNG to meet the needs of UC Santa Barbara — a campus attended by more than 25,000 students.

UPS: Transportation Company Using RNG To Source 40% of Ground Fuel From Renewable Sources by 2025

RNG is a major component of UPS' strategy to replace 40% of the fuels used in its ubiquitous delivery fleet with low-carbon alternatives. The shipping and logistics giant has been investing in alternative fuels for over two decades, with \$1 billion invested in the last 10 years alone. While it recognizes that electrification will play a big role in decarbonizing its fleet in the future, alternative fuels—and RNG specifically—provide a solution that can be implemented now and at scale.^{vii} As part of this, UPS has been building RNG momentum to expand its procurement by 250 million gallons, making it the largest consumer of RNG in the transportation sector.^{viii}

UPS employs a rolling laboratory approach in which they trial low-emission vehicles of varying technologies and specifications across all the different types of delivery routes they operate globally.^{ix} This has helped them match the right technologies with the right geographies and market conditions: in 2021, UPS invested in an additional 6,000 natural gas powered trucks, which provided them the flexibility to switch between renewable and fossil-derived natural gas depending on availability.

Last Words

Organizations across economic sectors are using flexible, multi-application RNG to drive large-scale decarbonization of their facilities and services as they pursue — and help customers pursue — ambitious emission reduction goals. These organizations recognize RNG as an effective means of promoting energy resiliency, as well as a strategic tool to support ongoing innovation and economic growth in a way compatible with the pursuit of net zero.

Major users of RNG are leaning on this renewable molecule in different ways, and in light of their unique emissions reduction goals. But regardless of these respective needs, major corporate and institutional buyers understand one key thing: net zero in our lifetime will require a

host of decarbonization solutions, smartly applied, with RNG serving as one lynchpin in the transition to a more sustainable economy and future.

ⁱ <https://www.fortisbc.com/about-us/climate-leadership/sustainability/our-progress-towards-reducing-ghg-emissions>

ⁱⁱ <https://www.fortisinc.com/docs/default-source/environment-reports/2022-sustainability-report.pdf>

ⁱⁱⁱ <https://www.fortisbc.com/services/sustainable-energy-options/renewable-natural-gas/how-much-does-renewable-natural-gas-cost>

^{iv}

<https://www.bcuc.com/OurWork/Proceedings?Filter.FilterText=RNG&Filter.FilterCompany=83&Filter.FilterStatus=0&Filter.FilterYear=-1#proceeding-table-result>

^v https://www.renewablethermal.org/wp-content/uploads/2018/06/RTC_University-of-California-RNG_Biomethane-Case-Study.pdf

^{vi} <https://www.universityofcalifornia.edu/press-room/investments-new-california-projects-move-uc-nearly-halfway-its-clean-energy-goals>

^{vii} <https://about.ups.com/us/en/our-impact/sustainability/sustainable-alternative-fuel---about-ups.html>

^{viii} <https://about.ups.com/us/en/newsroom/press-releases/sustainable-services/ups-continues-to-build-on-renewable-natural-gas-momentum.html>

^{ix} <https://about.ups.com/us/en/our-stories/innovation-driven/renewable-natural-gas-is-an-important-part-of-ups-strategy-to-in.html>