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Subject: BCSE Submission in response to the Open Comment Period for the Green-e Renewable Fuels Standard for Canada and the United States

The [Business Council for Sustainable Energy](#) (BCSE) is pleased to submit the following comments in response to the *Open Comment Period for the Green-e Renewable Fuels Standard for Canada and the United States*.

Founded in 1992, the Council is a coalition of energy efficiency, natural gas and renewable energy companies and associations. Its membership includes investor-owned and public utilities, independent power producers, manufacturers, technology providers, energy services companies, and sector-specific trade organizations.

BCSE is pleased to have an independent small business division under its banner, the Clean Energy Business Network (CEBN). Together, BCSE and CEBN represent a broad range of the clean energy economy, from Fortune 100 companies to small businesses working in all 50 states. Together, these industries support over 3 million U.S. jobs.

BCSE members have a strong understanding of the key policy, regulatory and market drivers that are necessary to help deploy technology. Market transparency is a critical component. Many BCSE members have experience with Green-e standards and certification programs and seek to serve as a resource as a standard is being developed for renewable fuels in North America.

Further, several BCSE members are directly engaged in Renewable Natural Gas (RNG) markets – as producers, as end users, and as utilities that seek to offer RNG to customers. As such, a number of these companies and associations intend to submit their own comments to CRS on this standard, including: the American Biogas Council, the America Gas Association, the American Public Gas Association, the Coalition for Renewable Natural Gas, and Gas Technology Institute, among others.

Through this submission, the Council offers its perspectives on the important and growing role that renewable fuels can play in achieving sustainability and greenhouse gas emission reduction goals, especially in buildings and industrial applications. BCSE also wishes to express its recognition of the value of Green-e standards and certification programs overall, as a benchmark of environmental quality.

### ***The Value of a Green-e Standard for Renewable Thermal Technologies***

RNG is a critical thermal renewable energy resource and an important pathway to meet sustainability and greenhouse gas emission reduction goals. Used primarily in the transportation sector today, RNG is poised to grow as commercial and industrial customers seek to reduce the carbon footprints of their buildings and operations. RNG can also be

offered to residential customers for direct use applications including space heating, hot water, cooking, clothes drying, and other end-uses.

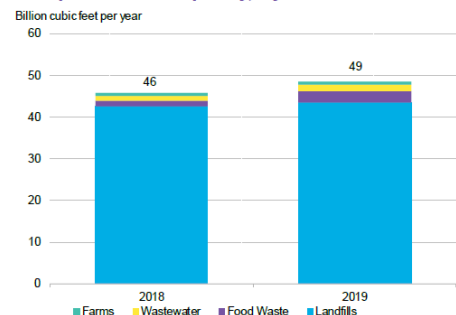
A Green-e standard and certification process for renewable fuels would provide transparent accounting and clear environmental disclosure. This Standard will give purchasers of the certificates confidence that they are buying a renewable product with greenhouse gas reduction benefits.

The Council, in partnership with BloombergNEF, released the eighth edition of the [Sustainable Energy in America Factbook](#) in February 2020. The 2020 issue includes new data on RNG and hydrogen, demonstrating the increased commercial interest in these resources by customers and investors.

Looking at the data sets below, RNG use in the transportation sector is growing. Further, it has new expansion opportunities in the industrial, commercial and residential sectors as a replacement to – *or when blended with* – geologic natural gas.

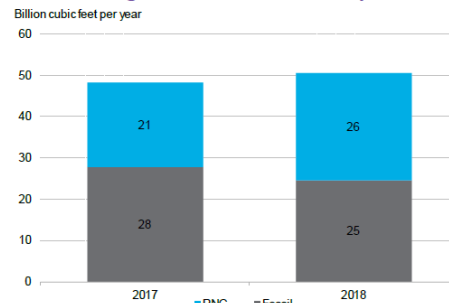
## Renewable natural gas (RNG) deployment: Production and use in transportation

**RNG production capacity, by source**



Source: The Coalition For Renewable Natural Gas, Argonne National Laboratory (As of June 2019)

**U.S. natural gas vehicle fuel consumption**



Source: RNG - EPA - Moderated Transaction System; Fossil - EIA Natural Gas Consumption

- The vast majority of U.S. RNG is produced through biological decomposition of waste in landfills. In 2017, RNG met 43% of natural gas demand from the transportation sector, according to the EPA and EIA. In 2018 (the last year for which complete data exist), that rose to 51%.
- Key drivers of consumption have been the California Low Carbon Fuel Standard and the national Renewable Fuels Standard. Under the latter, credits known as renewable identification numbers (RINs) are critical to making RNG competitive, specifically "D3" RINs. In 2019, prices for RINs collapsed 57% from approximately \$2.04/RIN in January, to \$0.87 in October, according to the EPA. This drastic drop in price was triggered by small refinery exemptions granted by the EPA that diminished demand for D3 RINs.
- There were also an estimated 5.24 million gallons, 5.9 million gallons and 5-6.5 million gallons of U.S. renewable propane production in 2017, 2018 and 2019, respectively.

Source: BloombergNEF, FERC

## The RNG value chain

Process	Waste Collection	RNG Production	On-Road Transport	Heat
Companies Involved				

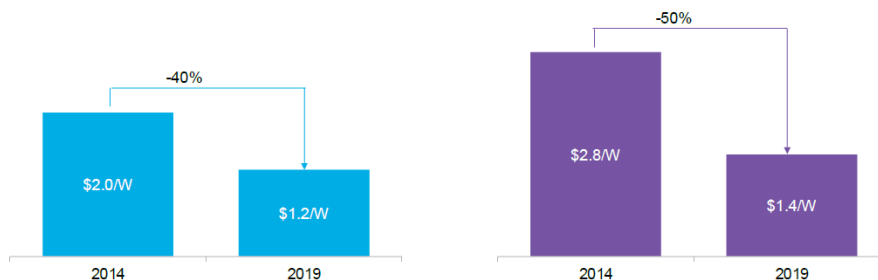
- Traditionally, biogas (the feedstock for RNG) has been converted to electricity for use onsite or sold into the power market. However, thanks to supportive policies and industry growth, an increasing number of biogas systems are converting their biogas to RNG for sale to larger corporations, including oil and gas majors, who want to shrink their corporate carbon footprints.
- Over the last several years, large oil companies have taken a greater interest in this space. In 2017, BP purchased Clean Energy Fuels Corp's upstream RNG business for \$155 million. In 2019, Chevron announced a jointed venture to develop RNG from 18 dairy digesters in California.
- Meanwhile, large investor-owned natural gas utilities either facing or concerned about potential regulations on CO2 emissions plan to green their gas systems by replacing geologic natural gas with RNG. In 2019, for instance, SoCal Gas and VGS (formerly Vermont Gas Systems) committed to displacing 20% of their gas supply with RNG by 2030, Summit Utilities committed to 5% by 2020 and Dominion Energy committed to 4% by 2040. FortisBC committed to 15% of its supply by 2030.
- VGS offers its customers the option to buy RNG instead of geologic natural gas. Other gas utilities, National Grid, Summit Utilities, SoCalGas and CenterPoint Energy are currently working with public utility regulators to establish similar voluntary RNG procurement programs.

Source: BloombergNEF Note: Waste Collection is defined as the processes of landfilling, waste water treatment, animal manure management and food waste gathered from residential or commercial facilities

Hydrogen and power-to-gas are also of increasing interest to end users. A key to scaling up deployment of these technologies is cost reduction. The table below shows the cost reductions over a five-year period based on changes in electrolyzer costs. While not included in the draft Standard, CRS should expand the Standard to include hydrogen and power to gas production pathways.

## Economics: U.S. hydrogen plant capex

Western-made Alkaline electrolyzer system costs      Western-made PEM electrolyzer system costs



- Hydrogen has the potential for much wider use in the U.S. energy system, including as a means for storing what would essentially be dispatchable, zero-carbon energy. Producing hydrogen through electrolysis remains costly, however. To make the fuel viable on a zero-carbon basis will require both lower clean power-generation costs and lower electrolyzer system costs. Fortunately, leveled wind and solar costs have trended sharply down in recent years.
- BNEF has also tracked a sharp decline in the dollar-per-Watt cost of U.S. and European-made electrolyzer systems. The price of an alkaline electrolyzer system has dropped 40%, from \$2/W in 2014 to \$1.2/W in 2019. Polymer electrolyte membrane electrolysis (PEM) electrolyzer systems have fallen by an even sharper 50% over that same period. BNEF has also found that Chinese firms will sell electrolyzer systems for as low as \$0.2/W.
- To date, most demonstration-scale low-carbon hydrogen projects have been in built in Europe though several are under development in California. With hydrogen production costs declining, the fuel has the potential for wider use toward the end of this decade or into the 2030s.

Source: BloombergNEF Note: The values are for MW-scale systems. PEM is short for proton exchange membrane.

BCSE looks forward to finalization and release of this Standard to certify renewable fuel production, sales and consumption. The Green-e standard will demonstrate environmental integrity to customers, increase awareness of renewable thermal resources and expand deployment.

#### **Section 4 – Definitions**

BCSE recommends that an alternative term to EAC be adopted. Suggestions offered by BCSE members include: Environmental Attribute Certificate, Renewable Gas Certificate or Renewable Gas Credit. These terms better reflect the low-carbon and renewable characteristics of the attribute. In addition, these terms would differentiate the renewable fuels certificate with other natural gas related labeling and disclosure terms that are under development.

#### **Section 6 – Production Facility**

Biomass gasification, power-to-gas and hydrogen are important production processes and will increase in demand as commercial and industrial customers seek to reduce the carbon footprint of their buildings and operations. If biomass gasification is not added as a production pathway in this Standard, BCSE urges CRS to indicate its intention to expand the Standard to include these pathways in the future.

#### **Section 9 – Carbon Intensity**

BCSE supports the requirement that an LCA and a CI be provided with each certificate. This will provide purchasers with critical information on the environmental attributes of the certificates.

Clear, consistent and transparent disclosure of RNG emission impacts is critical to strengthening this growing market. Disclosure of project specific or pathway LCA and CI scores is necessary to verify claims from suppliers and consumers about emission reductions. Establishing an industrywide accounting method can help standardize and support market development.

BCSE supports allowing averages or ranges to be disclosed for LCA and CI scores, but should not restrict producers from conducting project specific scoring if they choose. Allowing averages or ranges to be used would broaden compliance options for producers. Whatever accounting method is used by the RNG producer, should be clear and transparent for consumers.

#### **Section 12 – Geographic Location**

RNG from US, Canada and territories should be eligible to generate certificates and certificates should be allowed to be traded in locations where gas is not physically delivered to the same pipeline system. If RNG from an accredited facility is being produced and consumed, the certificates generated from that fuel should be eligible for trading whether or not the buyers and producers are connected to the same pipeline system.

#### **Closing**

The Business Council for Sustainable Energy appreciates the opportunity to provide comments on the *Green-e Renewable Fuels Standard for Canada and the United States*. Please contact [bcse@bcse.org](mailto:bcse@bcse.org) for any questions related to this submission.