

Green Tariffs & Differentiated / Certified Lower Methane Gas

Summary and Tracker

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What is Green, Certified or Differentiated Gas?

There are many terms being used, but in essence, we are talking about a methane fuel that has environmental advantages, such as a lower greenhouse gas impact, that differentiate it from the regular geologic natural gas commodity. Renewable natural gas (RNG) can be net zero carbon or even net negative carbon, depending on the feedstock. Geologic natural gas can be produced and transported in a manner that minimizes methane emissions. Various entities are now interested in establishing standards and/or certification programs for differentiated gas.

I. Differentiated Gas Producers, Offerings and Contracts

A. Methods for Calculating Low Methane Emissions Intensity

ONE Future

Participating companies in ONE Future report their estimated methane emissions confidentially to ONE Future using the ONE Future Protocol. The organization then aggregates the confidential company data with that of other member companies to produce a public report on the average methane intensity of its members' operations in each segment of the natural gas value chain other than liquefied natural gas (LNG). There are plans to add LNG when ongoing scientific studies produce more rigorous emission factors for the segment. ONE Future's Protocol includes not only the emissions and sources reported to U.S. EPA under the GHG Reporting Rules for the oil and natural gas industry under 40 C.F.R. Part 98, Subpart W, but also emission estimates for sources not included in Subpart W but for which EPA emission factors are available under EPA's annual Inventory of GHG Emissions and Sinks (GHGI).

EPA has provided a ONE Future track in its voluntary Methane Challenge program in addition to the methane best management practices (BMP).

Natural Gas Sustainability Initiative (NGSI)

AGA and the Edison Electric Institute (EEI) built on ONE Future to create a technical NGSI Methane Intensity Protocol announced in February 2021 that allows company-specific public reporting of methane intensity. NGSI is a voluntary, industry-wide approach for companies to calculate methane emissions intensity from their natural gas operations by segment, including production, gathering and boosting, processing, transmission and storage, and distribution.

GTI's Veritas

On Sept. 24, 2021, the Gas Technology Institute (GTI) <u>announced</u> its Veritas initiative to develop more accurate, transparent tools for calculating "measurement-informed methane emissions intensities" for natural gas operations. The initiative aims to work with input from a broad array of stakeholders to build consensus and create standard technical protocols based on a widely-accepted methodology for company-specific emissions measurements. This work will build on ONE Future and NGSI, with the goal of improving the accuracy and acceptance of methane intensity reporting.

B. Spot Market Low Methane Offerings

S&P Global Platts & Expansiv – Spot Market Tradeable Credits: On Oct. 4, 2021, Platts <u>announced</u> it has teamed up with Expansiv to offer tradeable low methane credits on the spot market. According to their website description:

"Platts publishes a daily assessment of Methane Performance Certificates (MPCs), which is a certificate traded on the spot market that represents avoided methane emissions from the production of a specific volume of natural gas. Platts is publishing its daily assessment as both dollars per MPC (\$/MPC) and dollars per metric ton equivalent (\$/mtCO2e).

"The Methane Performance Certificate™ (MPC™) is traded separately from the physical natural gas, and will provide an additional way to generate capital through lower methane intensity in natural gas production. Natural gas produced with a methane emissions intensity at or below the Platts threshold of 0.10% will be eligible to be issued MPCs. Platts will review the methane intensity threshold annually, as new Subpart W data typically becomes available around the month of September and may modify the threshold at its discretion.

Xpansiv acts as both the issuer of MPCs and a platform on which they can be traded between market participants. Applying established third-party standards, protocols, and certifications to continuously metered data, Digital Natural Gas[®] (DNG[™]) units are registered to provide an immutable record to the source of production.

Each MPC is issued based on the methane performance of the DNGs, with participating gas producers able to transact their awarded MPCs on Xpansiv market CBL or bilaterally. MPCs are registered, issued, transacted, and retired in accordance with Xpansiv's Digital Fuels Program."

C. Low-Methane Geologic Natural Gas Bilateral Contracts and Offerings

The following provide examples of bi-lateral contracts and offerings AGA is aware of (in chronological order from oldest to newest), but there may be more.

First known trade: Southwestern Energy (SWN) and NJ Natural Gas in 2018: Southwestern Energy (SWN) entered into a <u>bilateral contract in 2018</u> with NJNG for natural gas produced at selected wells in the company's Marcellus play certified by IES' TrustWell[™] as complying with best practices for reducing methane emissions as well as some other environmental parameters. NJNG paid a slight premium. Prior regulatory approval was not sought as the volume was small and had no effect on the utility's overall fuel costs.

<u>Virginia Natural Gas-SWN IES TrustWell[™] Responsibly Sourced Gas (RSG)</u>: Virginia Natural Gas <u>announced</u> in Oct. 2019 that it entered into a similar bilateral contract with SWN for "Responsibly Sourced Gas" (RSG) certified by IES TrustWell[™].

MiQ/NGSI Certified Gas: In December 2020, Rocky Mountain Institute (RMI), <u>released</u> a certified low methane gas standard called MiQ (Methane Intelligence) that incorporates the AGA-EEI Natural Gas Sustainability Initiative (NGSI) methane intensity metric for production. MiQ also requires participating producers to deploy top-down monitoring (e.g. satellite, airplane, drone) paired with bottom-up ground-level monitoring on a semi-annual or quarterly basis to detect and fix any super emitting sources. A qualified independent third-party assessor would audit and certify that the producer's operations in a certain basin or sub-basin comply with the standard and monitoring requirements. The gas coming from a producer would then be graded A to F, depending on its methane intensity percentage and the frequency of monitoring. A few producers are piloting the MiQ standard in the first half of 2021, and the plan is to offer MiQ certified gas beginning in mid-2021.

As noted below, on July 14, 2021, Chesapeake Energy <u>announced</u> that it is the first producer to obtain MiQ certification in collaboration with Equitable Origin for all its natural gas production in two major shale basins – in the Gulf Coast and Appalachian regions.

MiQ will eventually expand to the full natural gas value chain, using the relevant NGSI segment methane intensity metric. RMI is working with operators now to determine what monitoring is appropriate for gathering and for transmission pipelines. Given that NGSI aligns with ONE Future, it seems likely that several producers participating in ONE Future might be interested in offering MiQ certified gas. An independent body, Green Certification Co. (GCC) will hold and track certificates. A buyer could purchase certificates and use them toward e.g. net zero goals as long as they can demonstrate a transmission pathway for natural gas to flow from the producer to the purchaser. MiQ has indicated it is talking to Expansiv about using data solutions to allow purchasing certificates on gas markets rather than only through bilateral contracts.

Énegir Agreement to Purchase Certified RSG from Seven Generations Energy Ltd.: <u>Énegir</u> <u>announced</u> Feb. 10, 2020 that it entered an agreement to purchase TrustWell[™] Equitable Origins-certified Responsibly Sourced Gas (RSG) from producer Seven Generations Energy Ltd.

<u>Vermont Gas Agreement to Purchase Certified RSG from Seven Generations Energy Ltd</u>.: On Nov. 10, 2020, <u>VGS announced</u> it had entered into an agreement to purchase RSG from Seven Generations Energy Ltd.

EQT – TrustWellI[™] - IES Canary: Pittsburgh-based EQT <u>announced</u> on January 28, 2021 that it has committed to a pilot project to demonstrate the production of TrustWellI[™] RSG in the Marcellus working with IES Canary.

<u>UP Energy – TrustWelll[™] - IES Canary RSG:</u> UP Energy, based in Denver, <u>announced</u> March 4, 2021 it will offer certified "responsibly sourced gas (RSG)" to be certified by TrustWell[™] as coming from selected wells in the Green River Basin in Southwestern Wyoming using best practices. UP Energy will also pilot new methane continuous monitoring equipment and data solutions by Project Canary, a Denver-based company, now merged with International

Environmental Standards (IES) which developed TrustWell[™]. Canary's technology and data solutions are intended to allow tracking the RSG from wellhead to customer. UP Energy announced it plans to produce TrustWelll[™] RSG on 68% of its production during the first of three phases, and to certify 100% of their production by the end of 2022. The RSG presumably would be available for bilateral contracts initially.

<u>Colorado Springs Utilities – TrustWell[™] - IES Canary</u>: On March 11, 2021, Project Canary announced a <u>pilot project</u> to deliver TrustWelll[™] RSG that extends across the value chain, from wellhead to burner tip. The project will use geologic natural gas gathered and processed by Rimrock Energy Partners in the Denver-Jules Basin, which will be transported by Colorado Interstate Gas Company, a Kinder Morgan subsidiary, and delivered by Colorado Springs Utilities to residential and commercial distribution customers.

Xcel Energy – Crestone Peak Resources - TrustWell[™] - IES Canary:

On May 19, 2021, Xcel Energy <u>announced</u> it agreed to buy **TrustWellI[™] certified** RSG natural gas for delivery to its customers in Colorado from Crestone Peak Resources. The RPG will be certified by Denver-based Project Canary, which will use its continuous monitoring equipment. According to news reports, Crestone is the first producer in the state to use Project Canary's TrustWell certification on 100 percent of its current production volumes.

<u>SWN – Seeks FSG Certification for All SWN's Appalachian Production</u>: On June 23, 2021, SWN <u>announced</u> it is seeking to have all its natural gas production certified as "responsibly sourced gas"(RSG) by Project Canary and IES TrustWell[™].

PureWest Energy Seeking RSG Certification for All It's Production: In a <u>July 9, 2021 interview</u>, Christopher Valdez, CEO of PureWest Energy, said the company is seeking certification of all the company's production as "Responsibly Sourced Gas" (RSG) from TrustWell[™] – IES-Project Canary.

Forbes July 25 2021 Article on "Carbon-Neutral LNG" Cites RSG: This <u>article in Forbes</u> may be of interest – "Carbon-Neutral LNG: Another Reason Why Natural Gas Could Win 'The Energy Transition.'"

Chesapeake Energy <u>announced</u> **on July 14, 2021 that it is the first producer to obtain MiQ certification in collaboration with Equitable Origin** for all its natural gas production in two major shale basins – in the Gulf Coast and Appalachian regions.

Northeast Natural Energy (NNE), <u>announced</u> in May 2021 that it is seeking MiQ certification for its entire operating field of 100 wells. NNE is a Charleston, West Virginia-based natural gas producer. According to an <u>August 4, 2021 update</u>, "NNE will <u>use technology from Avitas</u>, a subsidiary of the Houston, Texas-based oilfield services giant Baker Hughes, to monitor methane emissions at its wells. Avitas's <u>LUMEN</u> technology uses ground-based and aerial drone-based systems to create a 'digital mesh' network around oil or gas facilities to detect methane leaks. NNE's MiQ-certified natural gas should be available by the end of the year."

Exxon-Mobil <u>announced</u> Sept. 2, 2021 that it has signed an agreement to begin the process to obtain MiQ certification for natural gas production in its Permian Basin facilities at Poker Lake, New Mexico. They said certified gas could be available on the market by fourth quarter 2021. ExxonMobil's release also said the company is considering expanding certification to include other Permian Basin fields and shale production areas, including Appalachia and Haynesville.

Seneca Resources Company, LLC (Seneca), the Exploration and Production segment of National Fuel Gas Company, <u>announced</u> on Sept. 2, 2021 that it has executed an agreement with Project Canary to seek an independent responsibly sourced gas (RSG) certification for approximately 300 million cubic feet per day of Seneca's Appalachian production. In connection with this certification process, which will cover nearly one-third of the Company's natural gas production, Seneca also intends to install continuous monitoring devices at three well pad locations, which will provide real-time, site-level emissions data.

Tallgrass Rockies Express Pipeline (REX) aims to become the first interstate natural gas transmission pipeline in the U.S. to receive a comprehensive environmental assessment and certification from Project Canary, according to an <u>announcement on Sept. 28, 2021 by Tallgrass</u> <u>Energy</u>. Colorado School of Mines will partner with Project Canary to review and evaluate the emissions data. According to the press release, the "Project Canary Midstream Certification process is expected to begin in Q4 2021 and be completed by mid-2022. REX anticipates engaging shippers, end users of natural gas and the Federal Energy Regulatory Commission (FERC) in discussions to address the benefits of its differentiated level of service."

Comstock Resources, Inc. <u>announced Nov. 3, 2021</u> that it has entered a partnership with MiQ to independently certify natural gas that Comstock Resources produces from the Haynesville Shale in North Louisiana and East Texas. Comstock Resources is to work with MiQ "to differentiate natural gas according to methane intensity." They will use the MiQ Standard, based on NGSI methane intensity metrics. Responsible Energy Solutions, LLC, headed by Roy Hartstein, will act as the third-party auditor for the certification process.

D. Renewable Natural Gas (RNG)

The bilateral contracts for RNG are too numerous to list. Most have been focused on putting pipeline-quality RNG into the pipeline network where a connection can be demonstrated into California for vehicle fueling. This allows the RNG seller to be eligible for both the federal and California state subsidies.

Increasingly, AGA member natural gas distribution companies have been interested in obtaining RNG for decarbonizing throughput and for offering to residential and commercial customers for heating load. See <u>AGA's RNG Tracker</u> on the member-only side of AGA's website.

II. Examples of Green Gas Tariffs

Several AGA member LDCs have sought state utility commission approval to include RNG in throughput to residential and commercial customers. Examples include Dominion, CenterPoint Energy and Vermont Gas. Some have also asked their commission to allow customers the option to pay a premium for RNG. So far, there have been no similar requests for low methane certified gas. See <u>AGA's RNG Tracker</u>.

III. Carbon Offsets – to Offset Scope 3 Customer Emissions

Finally, some companies are now taking steps to address the carbon dioxide emitted by customers when they combust natural gas. Customer emissions are known as "Scope 3" emissions. Here are two examples.

Duke Energy/Piedmont Gas Piedmont – Offsetting Scope 3 Customer Emissions: Piedmont Gas recently <u>offered</u> its customers the option to purchase "green blocks" of the net negative greenhouse gas attributes of RNG and other carbon offsets to offset the customer's carbon emissions from natural gas or other sources. Piedmont is offering the green blocks for \$3 each, and the company estimates that four blocks (\$12) should offset the average household's carbon footprint, resulting in net neutral emissions.

Repsol – Carbon-Compensated LNG for Ship Fuel: Repsol <u>announced</u> in March 2021 that it supplied its first delivery of carbon-compensated liquefied natural gas (LNG) to a tanker ship. Repsol said it purchased credits on the voluntary carbon market to offset CO2 the ship would emit from burning the delivery of 430 cubic meters of LNG as fuel.