What is RSG? A Definitive Guide to Differentiating Gas and the Certification Process

As ESG becomes essential and energy companies elevate their operations in line with new, lower emission targets and climate goals, we've seen an increased focus on differentiating forms of gas. The pressure for 'clean molecule' verification comes from both the buy-side and the sell-side as the global energy marketplace grapples with the energy transition. In fact, the new paradigm in energy is being driven by investors, buyers, and progressive utilities--and differentiated gas is a keen strategy.

There are several ways of referring to this differentiated gas and a seemingly endless supply of acronyms. One term, though, has risen to prominence: Responsibly Sourced Gas, or RSG for short. But what is RSG, actually? And how is it produced? In this post, we'll explain the ins and outs of RSG from concept to production.

What is Responsibly Sourced Gas?

Responsibly-Sourced Gas and Certified Responsibly Sourced Gas has undergone an independent, third-party certification assessing qualitative and quantitative environmental performance based on amalgamating standards for responsible operations. Some certification schemas simply look at already-existing EPA, SASB, NORSOK, AGA, ONE Future, ISO, and API standards. The Project Canary schema goes further than that. We add granularity and real-time data fidelity to our certification standards. This multi-dimensional assessment includes localized geographic, hydrologic, and other customized factors inherent with varying conditions across production basins. This way, Canary criteria are specific and meaningful.

Generally, environmental performance means a granular review of assets (e.g. well-by-well) of engineering, localized factors, operational procedures, safety records, in addition to air, water, land, and community inputs.

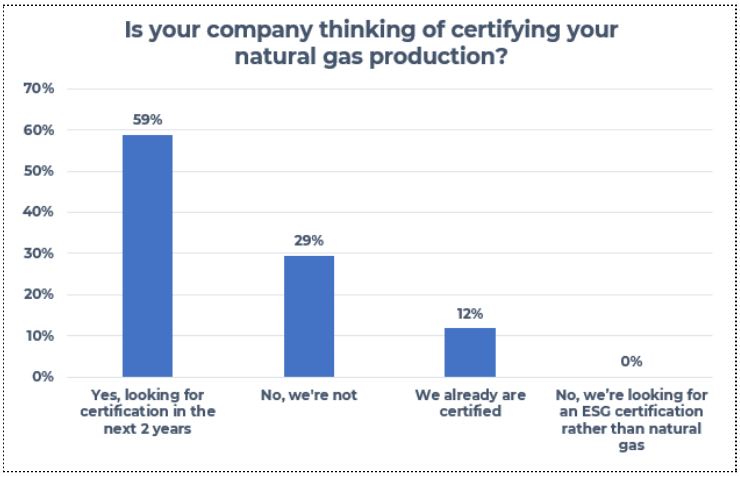
A fundamental and critical focus of RSG is the importance of engineering throughout the production and transport processes. Environmental stewardship doesn't begin when the well starts producing, it begins in the design phase of a wellbore and encompasses all stages of development and operations.

Operators producing RSG and midstream companies transporting RSG demonstrate their commitment to sustainable operations by mitigating, monitoring, and measuring their emissions, tracking and reducing operational stress on local water resources, and limiting the effects of operations on the local land and community. All of which has been assessed and validated by an independent, third-party.

"RSG differs from normally produced natural gas in that producers take extra steps to reduce their carbon footprint, mitigate emissions, and minimize environmental and social impacts," explains a recent report from Wood Mackenzie.

The Rise of RSG

Investors, governments, and the general public have been pressuring energy companies to increase their focus on environmental impact. And that pressure isn't going away any time soon. As an article from RBN Energy notes, "It seems that hardly a week goes by without another announcement on responsibly sourced natural gas (RSG). Either in response to rising interest among electricity generators, gas-distribution utilities, and gas-consuming industrials in procuring RSG or as proactive moves to boost their own ESG cred."



Source: Darcy Partners October 2021

Indeed, RSG has been gaining traction across the country as companies at all stages of the energy value chain have moved to produce and transport a differentiated, environmentally-certified form of natural gas. This chart from Darcy Partners throws the focus on RSG into sharp relief.

Almost 60% of producers are thinking about certifying natural gas production in the next two years. That's a big number, and one we only expect to grow in the coming years. But how is RSG certified? In the following sections, we'll unpack the process behind the certification.

Environmental Certification

There are four current protocols to address environmental performance scrutiny. The differentiating factors focus on estimates vs. actual emissions readings and varying levels of engineering-based protocols and social concerns.

1. The existing status quo for reporting emissions in the oil and gas industry is Subpart W reporting through the EPA's Greenhouse Gas Reporting Program (GHGRP).
    a. Subpart W utilizes component-based emissions factors and duration estimates.
    b. Federal law requires the majority of operators to report emissions via Subpart W.
2. RMI's MiQ Standard is a voluntary program that utilizes Subpart W emissions reporting practices.
    a. Utilizes the NGSI's methane intensity protocol
        i. Reliant on emissions factors and estimates
    b. There is no consideration of water, land, or community impacts.
3. Equitable Origins EO100 is an environmental certification utilizing qualitative data and focusing on Indigenous People's rights, corporate governance, and fair labor.
    a. This standard does not have a methane-specific component, nor does it evaluate the engineering elements of oil and gas operations, including casing, cement, wellhead, and wellbore integrity.
4. Project Canary's TrustWell certification is an engineering-based assessment emphasizing operational excellence, environmental stewardship, and accurate continuous monitoring data.
    a. Additional points awarded for Continuous Monitoring implemented for emissions performance utilizing real-time data.
    b. Establishes the highest bar for validating ESG commitments for air, water, land, and community.
    c. Customers own their high-fidelity data.

A vital component of the leading certification programs is using an external, independent, third party to conduct the certification. Allowing independent organizations to review, collect, and manage data avoids the risk of potential conflicts of interest or charges of "greenwashing."

Project Canary Certified Responsibly Sourced Gas: Tip-to-Tip

As you might have noticed above, the certification standards for RSG vary from protocol to protocol and from certification agency to certification agency. As Darcy Partners notes, "Although the industry has an intuitive understanding of what RSG means, ultimately, a technical definition is needed for the concept to

be practically useful. Producers, governments, and regulators have to collaborate to set standards for questions with no clear answers, such as, what is an acceptable methane leakage intensity to be considered RSG?" Indeed, differentiation between standards has created some market confusion.

At Project Canary, we're working to drive a transparent, open approach to RSG certification. Our standards include and build upon the standards set forth by ONE Future, the American Gas Association, NORSOK, ISO, and the American Petroleum Institute.

Project Canary's TrustWell certification is recognized as the most comprehensive certification in the market. TrustWell is rooted in fundamental engineering principles and involves unmatched granularity, We use 600 distinct data points from upstream—Project Canary Engineers review policy, plan, and execution practices across 27 different categories and operational phases. Additionally, our verified attribute suite, including Low Methane and Freshwater attributes, incorporates qualitative and quantitative dynamic components to complement the TrustWell certification further. Additionally, the accreditation encourages companies to deploy high-fidelity Continuous Monitoring devices at a scale that records emissions in real-time to measure operational performance, ongoing mitigation, and risk management. For operators concerned about methane emissions, our sensors and real-time dashboard put ESG performance data at your fingertips.

Project Canary certifications are the only program capable of incorporating midstream operations. Like TrustWell, our program focuses on engineering principles and operational best practices to evaluate comprehensive ESG performance. We believe responsible transport of gas is a crucial element to tip-to-tip RSG.

	Focuses on methane emissions?	Deployment of emissions monitoring technology?	Qualitative ESG criteria?
Project Canary's TrustWell Standard	✓	✓	✓
Equitable Origin's EO100 Standard	✗	✗	✓
The MiQ Standard	✓	✓	✗

Source: S&P Global Platts, company websites

We believe our standards go above and beyond, but you don't have to take our word for it. This chart from S&P outlines some of the main differences between our certification process and our competitors.

For those interested in more detail, the following chart takes a more granular look at these differences:

	gti	MiQ	Equitable Origin	Project Canary
HOLISTIC CERTIFICATION EMPHASIZING AIR, WATER, LAND, & COMMUNITY METRICS			X	X
DYNAMIC CERTIFICATION COMPONENTS				X
EMISSIONS QUANTIFICATION BASED ON REAL-TIME, HIGH-FIDELITY, MONITORING				X
UPSTREAM E&P CUSTOMERS				X
MIDSTREAM CUSTOMERS				X
UTILITIES & COMMERCIAL/INDUSTRIAL CUSTOMERS				X
INCLUDES EPA METRICS	TBD	X	X	X
INCORPORATES NGSI METHANE INTENSITY PROTOCOL	TBD	X		X
INCORPORATES ONE FUTURE METHANE INTENSITY PROTOCOL	TBD			X
ENGINEERING-BASED OIL & GAS PRINCIPLES				X
LOCALIZED RISK FACTORS				X
PAD LEVEL GRANULARITY				X
BASIN LEVEL (EPA FACILITY)		X	X	
CERTIFICATIONS CONDUCTED BY EXPERIENCED ENGINEERS				X
ESG QUANTIFIED AND VERIFIED DATA			X	X

Project Canary is committed to raising the bar on emissions standards. Our favorite saying is, "Give emissions the bird." Clever but deeply meaningful for our team. We care about metrics, actual measurements, and methane -- a lot. Project Canary is both a movement and an environmental climate-tech company supporting energy-intensive companies with the ESG data they need.

We believe that every molecule counts and applaud companies across the value chain for the work they're doing to reduce emissions, no matter what approach they choose to take. Selecting a third-party partner to prove the viability of your operations in an ESG world is an important decision. Investors, the general public, and regulators are all looking for external validation of companies' climate pledges and goals. Who will you choose as your partner in the mission of a lifetime?