

COMPARISON OF NATURAL GAS CERTIFICATION PROGRAMS

Developed on behalf of the Natural Gas Supply Collaborative (NGSC)

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Comparison of Natural Gas Certification Programs

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About this Paper

This summary compares the components of the three primary natural gas certification programs on the market: Equitable Origin's EO100™ Standard, MiQ's Standard for Methane Emissions Performance, and Project Canary's TrustWell™ Standard. The summary compares these standards across six main categories including Topic Areas, Natural Gas Value Chain Segments, Certification Process, Methane and GHG Quantification, Grading and Public Disclosure, and Certified Credits and Transactions.

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About the Natural Gas Supply Collaborative

The Natural Gas Supply Collaborative (NGSC) is a voluntary collaborative of natural gas purchasers advancing the national discussion related to the environmental and social performance of natural gas production. Natural gas plays a vital role in the U.S. energy mix. This abundant domestic resource currently provides significant economic and environmental benefits to customers in the electric power, residential, industrial, and commercial sectors and across the U.S. economy. At the same time, electric generators and natural gas utilities face questions from the public, regulators, investors, and other stakeholders concerning natural gas production. NGSC provides members a platform to engage with natural gas producers and marketers, technology vendors, third-party certification frameworks, environmental organizations, and other key stakeholders around these key issues. As such, NGSC has established a leadership position in advancing market opportunities to recognize the environmental and social attributes of natural gas supply.

Members of NGSC in 2023 are as follows: Calpine Corporation, Consolidated Edison Company of New York, CPS Energy, DTE Energy, Enbridge Gas, Énergir, New York Power Authority, NRG Energy, NW Natural, Pacific Gas and Electric Company, Southern Company Gas, and Vermont Gas.

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This report is available at www.erm.com/coalitions/natural-gas-supply-collaborative/.

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Background

Certified natural gas, sometimes also known as Responsibly Sourced Gas (RSG), is natural gas that has been produced using industry best practices to mitigate emissions and limit environmental and social impacts. Certified natural gas and RSG are frameworks created to validate various environmental components throughout the natural gas value chain, approaching methane and greenhouse gas (GHG) emissions as an area of specific focus. Certified natural gas goes through a third-party verification process to create consistent reporting, transparency from operator to operator, and to verify the quality of the reported data. This transparency can build stakeholder trust and allows for informed decision-making. Certification also allows operators to differentiate their performance and can help natural gas consumers better understand the impacts of their natural gas supply chain, including the upstream GHG emissions associated with the gas that they purchase.

Interest in purchasing certified natural gas has grown recently due to increased pressures, specifically on the oil and gas sector, to reduce their methane emissions. Investor pressure for faster decarbonization is also leading producers to adopt higher environmental, social, and governance (ESG) standards and reduce their carbon footprint. Midstream natural gas developers and end users like utilities, liquified natural gas (LNG) exporters, and blue hydrogen developers are also moving towards net-zero emission targets.

The natural gas sector is a significant contributor to GHG emissions in North America, with around 23 percent of methane emissions being contributed from the natural gas system, according to the U.S. Environmental Protection Agency (USEPA). While methane has a shorter lifespan in the atmosphere compared to carbon dioxide, it is 28 times more efficient at trapping radiation over a 100-year period. These attributes point to the need for accurate and consistent verification of methane emissions from the natural gas sector. There are three primary natural gas certification bodies in the North American market today: Equitable Origin, MiQ, and Project Canary. Each certifying body has their own set of standards against which natural gas production is assessed to receive a respective rating. Ratings given by the certification bodies are tied to specific operations within the natural gas value chain and they assign attributes to those operations that are traceable and verifiable.

The purpose of this document is to provide an informational comparison across the scope and criteria of each of the three primary natural gas certification standards at the time of publication. This document may be used to inform purchasers and producers of natural gas of the certification options on the market, and how they may utilize this certified natural gas to meet company climate goals, comply with regulatory requirements, or satisfy stakeholder requests.

Overview

This document examines prominent natural gas certification programs and the differences between these programs. Certification programs are continuing to evolve, and this review is based on information available at the time of publication. There are currently three primary certification programs, which are reviewed and compared throughout this document: Equitable Origin, MiQ, and Project Canary. Program elements are summarized across six categories:

- **Topic areas:** Categories of policies and metrics covered by certification standards
- **Natural gas value chain segments:** Natural gas asset classes covered by certification standards
- **Certification process:** How companies are evaluated against certification standards
- **Methane and GHG quantification:** How methane emissions are calculated under the certification standard
- **Grading and public disclosure:** How certification programs score operations and what information is made publicly available
- **Certified credits and transactions:** Systems used to track and apply certified natural gas attributes

Topic Areas

The standards developed by each certification program evaluate operator performance against a range of criteria. Stakeholders have focused on environmental metrics, particularly methane emissions, but performance related to other topics such as safety and community engagement are also assessed by some standards. While each certification program has its own unique terminology for the subject areas captured by their standards, Table 1 summarizes the main categories included in the standards. Note that certain categories and individual metrics within categories may vary across segments of the supply chain for an individual certification program, as some may not be applicable to all segments of the supply chain.

Table 1: Topic Areas Covered by Certification Programs

| Category | Equitable Origin | MiQ | Project Canary |
|------------------------------|------------------|-----|----------------|
| Methane Emissions | ✓ | ✓ | ✓ |
| Methane Mitigation Practices | ✓ | ✓ | ✓ |
| Methane Monitoring | ✓ | ✓ | ✓ |
| Total GHG Emissions | ✓ | ✓ | ✓ |
| Air Quality | ✓ | | ✓ |
| Water Management | ✓ | | ✓ |
| Chemical Management | ✓ | | ✓ |
| Land Use | ✓ | | ✓ |
| Community Impacts | ✓ | | ✓ |
| Safety | ✓ | | ✓ |
| Corporate Governance | ✓ | | |
| Indigenous Peoples' Rights | ✓ | | |

Equitable Origin

Equitable Origin's EO100™ Standard for Responsible Energy Development provides the foundation for the organization's certification program. The standard includes five principles, each of which have underlying

“objectives,” or metrics, against which operators are evaluated. Each objective may be further broken down into sub metrics (e.g., the safety-related objective has several metrics used to assess safety performance). For the oil and gas sector, Equitable Origin has developed technical supplements to the EO100™ Standard that cover specific criteria most relevant to the oil and gas industry. Equitable Origin’s five principles are:

1. Corporate Governance and Transparency & Ethics
2. Human Rights, Social Impacts, and Community Development
3. Indigenous Peoples’ Rights
4. Fair Labor & Working Conditions
5. Climate Change and Biodiversity & Environment

Equitable Origin’s standards currently cover the greatest breadth of topic areas, and the majority of metrics are related to environmental performance. Equitable Origin is also the only program to focus on corporate governance and specifically addresses the rights of Indigenous People.¹ The organization’s initial focus was on energy development in South America and more recent work has covered operations in the United States and Western Canada, currently certifying over 13 and 14 percent of domestic production, respectively.

MiQ

The MiQ Methane Emissions Performance standard consists of three core elements: methane emissions intensity, methane mitigation best practices, and methane emissions monitoring. MiQ’s approach and requirements for each element vary across supply chain segments based on relevance and applicability. MiQ has also developed a Carbon Intensity Standard that allows for the calculation of carbon intensity from all segments of the natural gas supply chain represented by the MiQ Methane Standard.

Project Canary

Project Canary’s assessment program is referred to as the TrustWell™ Standard. The TrustWell™ Standard evaluates operator performance on specific environmental, safety, and community-impact related metrics. The metrics in the TrustWell™ Standard are grouped into four primary categories:

- Environmental Performance
- Well Integrity
- Safety
- Community

While the TrustWell™ Standard covers a range of topics, it is especially focused on methane and GHG emissions monitoring and quantification. Project Canary also has a separate, but integrated, component of their assessment called the Low Methane Rating (LMR). Components of the LMR program include:

- Pad-specific methane intensity values
- Basin-level methane intensity
- Monitoring technology requirements
- Disclosure of carbon intensity
- Disclosure of public emissions targets and goals

TrustWell™ works in conjunction with Project Canary’s SENSE methane measurement platform to provide an emissions data management and analytics software to clients. This supplies operators with both a holistic environmental rating and a carbon accounting dashboard to report, track, and manage carbon emissions.

¹ Project Canary considers community impacts and risk factors in their TrustWell™ Standard but does not explicitly address rights to Indigenous Peoples.

Natural Gas Value Chain Segments

Natural gas certification standards initially focused on the production segment. Programs have expanded over the last year and developed standards for midstream segments of the supply chain (i.e., gathering and boosting, processing, and transmission and storage) as well as LNG terminals. Certification of multiple segments can improve visibility of performance across the supply chain and could allow gas purchasers to string together certified operations from production to delivery for portions of their natural gas supply. Note that while the categories listed for each certification program are consistent across standards for different segments of the value chain, the individual metrics and performance indicators within each category that are used to evaluate operator performance vary across supply chain segments for each certification program. See Table 2 below for a summary of natural gas value chain segments covered by each certification program.

Table 2: Natural Gas Value Chain Segment Coverage by Certification Program

| Segment | Equitable Origin | MiQ | Project Canary |
|------------------------|------------------|-----|----------------|
| Offshore Production | | ✓ | |
| Onshore Production | ✓ | ✓ | ✓ |
| Gathering & Boosting | ✓ | ✓ | ✓ |
| Processing | ✓ | ✓ | ✓ |
| Transmission & Storage | ✓ | ✓ | ✓ |
| LNG Import/Export | | ✓ | |
| Distribution | | | |

Equitable Origin

Equitable Origin has developed segment-specific technical supplements to its [EO100™ Standard](#). The supplements cover [Onshore Natural Gas and Light Oil Production](#) (Version 2.0 October 2022), [Natural Gas Gathering/Boosting and Processing](#) (Version 1.0 February 2022), and [Natural Gas Transmission & Storage](#) (Draft Version 1.0 August 2022). Operations with gathering/boosting or processing that also have production should apply the production standard. Similarly, transmission and storage operations with production or gathering/boosting or processing activities would apply one of the other standards, as applicable.

The value chain segments shown in Table 2 follow the industry breakdown commonly used in the United States. Operations in Western Canada often involve centralized facilities with combined production, gathering, and processing activities. Much of Equitable Origin's work has focused on Canadian operators, and the organization has aimed to develop standards that align with Canadian operations while also being applicable to operations in the United States and other parts of the world.

MiQ

MiQ has developed certification standards that cover all segments of the natural gas supply chain except for distribution. The organization has publicly released standards for [Offshore Production](#) (v1.0 November 2022), [Onshore Production](#) (v1.0 November 2022), [Gathering & Boosting and Processing](#) (v1.1 November 2022), [Transmission & Storage](#) (v1.0 November 2022) and [LNG](#) (v1.0 November 2022). MiQ applies the same standard to gathering and boosting and processing segments, but facility boundaries are generally drawn according to supply chain segments. MiQ has also [announced](#) a Certified Supply

Chain offering that allows for the assessment of methane emissions across the natural gas supply chain, which is done by combining certificates from each segment, all the way through regasification. Certificates for each segment of the supply chain are accompanied by a methane intensity in grams per one million British Thermal Units (g/MMBtu), allowing for the summation of these methane intensities to represent the total methane intensity of the operator’s natural gas value chain.

Project Canary

Project Canary offers the assessment of upstream and midstream natural gas operations. The company’s [TrustWell™ Standard](#) (v1.0 July 2023) and [Low Methane Rating](#) protocol (v1.2 July 2023) provide assessment of upstream producers and are focused on onshore production. The company also offers a midstream standard that covers gathering and boosting, processing, and transmission and storage segments. However, the midstream standard has not been made publicly available yet.

Certification Process

Each certification program has developed its own process for evaluating natural gas operator performance against their standards. Equitable Origin and MiQ have established a [partnership](#) to jointly certify operations, and several facilities have received dual certification under both the Equitable Origin and MiQ standards. A primary driver of dual certification has been stakeholder focus on methane emissions (covered in detail by MiQ’s methane-specific standard) with desire to ensure performance along other key ESG metrics (covered by the broader EO100™ Standard).

A key element of certification is the geographic scale of assets covered. Certification programs have released information on the boundaries for certification of production-segment operations, but less information is available on the scope of certification for midstream assets. See Table 3 below for an overview of elements that are part of each certification process.

Table 3: Elements of Certification Process

| Category | Equitable Origin | MiQ | Project Canary |
|----------------------------------|---|--------------------------|--------------------------------------|
| Public Standard | ✓ | ✓ | ✓ |
| Third-Party Assessment | ✓ | ✓ | |
| Certification Scope (production) | Site to basin level | Basin or sub basin level | Well to basin level |
| Certification Period | 3 years, annual verification assessment | Annual | Annual, dynamic for certain elements |

Equitable Origin

Equitable Origin publishes each of its certification standards and discloses the [process](#) used to develop and revise its standards. Equitable Origin requires a minimum of a C grade (or 70 percent overall) in each of the five principles as a prerequisite for EO100™ certification. The EO100™ certification process requires producers to undertake a preliminary "self-assessment" where they self-assess their policies and practices against the minimum criteria required to achieve certification. Equitable Origin requests that companies provide extensive supporting documentation of their self-assessed performance to ensure producers are fully prepared for independent third-party assessment and verification by two outside parties. The first is a third-party audit of company operations and policies against the Equitable Origin standards. Equitable Origin requires that the third parties that conduct certification audits, or assessors, go through an approval process that conforms with the International Social and Environmental Accreditation and Labelling Alliance (ISEAL) Assurance Code. The assessor then develops a report

evaluating operator performance against the EO100™ Standard. This report is reviewed by a separate, independent expert. Equitable Origin ultimately decides whether the entity achieved certification based on the assessment and recommendations of both the assessor and independent reviewer.

Equitable Origin's complete [certification process](#) is broken out into the following steps:

- Operator self-assessment against standard
- On-site third-party assessor evaluation and report
- Operator development of continuous improvement plan for operations/policies that meet minimum standard requirements
- Independent review of assessor report
- Equitable Origin certification decision

The scope of assets covered by Equitable Origin certification can range from the site-level to basin-level. For the production segment, site-level evaluation captures multiple well pads and associated facilities within a set geographic region. Operators can also seek certification of all assets within a hydrocarbon production basin, or subset of a production basin (e.g., Pennsylvania portion of Appalachian operations).

EO100™ certification also incorporates an ongoing emphasis on continuous improvement, through a Continuous Improvement Plan. This plan details areas where a producer can improve their performance over the upcoming year, prior to the next assessment, to facilitate continued EO100™ certification.

Equitable Origin's initial certification period is three years. Verification assessments are conducted each year, which may include on-site or desktop evaluations. Several third-party assessors have been approved by both Equitable Origin and MiQ and are able to conduct concurrent evaluation of operations for both standards.

MiQ

MiQ's certification process uses third-party auditors that evaluate operator policies and performance against the MiQ standard. The assessment includes both on-site visits and desktop reviews of methane emissions calculations, mitigation strategies, and monitoring programs. Similar to Equitable Origin, the independent auditors develop a report and a recommended grade that is then reviewed by MiQ for approval. The auditor conducts an annual audit to confirm, and if necessary, adjust the operator's certification status and performance grade for the upcoming certification period. MiQ's standard requires that operators provide a reconciled inventory as part of the certification.

The asset boundary for MiQ certification of onshore production is all production-related operations within a single hydrocarbon production basin. MiQ will also certify a portion of company operations in a basin (e.g., the New Mexico assets of Permian operations) with the understanding that all assets with the basin will eventually be certified.

MiQ certification is valid for one year. Annual recertification audits occur at the end of the current certification period and are typically finalized within one month of the new certification period starting.

Project Canary

Project Canary assesses operator performance against its TrustWell™ Standard using in-house evaluators. The assessment process involves an initial review of operator documentation followed by a supplemental data request to ensure completeness. Project Canary staff then conduct field visits and subject matter interviews with each subset of operations before reviewing a preliminary report with the operator. The report is then finalized by Project Canary and the rating is issued.

Project Canary differs from Equitable Origin and MiQ in that it uses internal assessors (i.e., internal engineers with relevant work experience) rather than third-party groups to evaluate operator performance against its standard. The company does engage with one of the big four auditing firms to audit its internal standards, controls, procedures, and IT security. Project Canary has also announced that the Payne Institute at the Colorado School of Mines will conduct third-party validation of Canary sensor data.

Project Canary evaluates operations at the most granular level, allowing operators to certify natural gas production from individual wells. Although Project Canary allows for operators to self-select which well pads go through the certification process, they do not allow for self-selection of wells on the selected well pad. Producers can also be certified across larger geographic areas, like Equitable Origin and MiQ.

The rating is valid for one year, at which time operator performance is reevaluated. However, certain components of Project Canary's assessment are dynamic and may be reviewed monthly or multiple times a year. For example, if an operator has installed continuous methane emissions monitoring technology, data from these systems can provide frequent updates on emissions performance. This information can be used to inform and update the rating (e.g., grade) at shorter intervals such that attributes associated with certified gas volumes better reflect operational performance at the time those volumes were produced.

Methane and GHG Quantification

Methane emissions have been an area of focus for stakeholders across the natural gas value chain, and the methane emissions intensity of upstream gas supply is a key metric for natural gas purchasers. Total GHG emissions and emissions intensity are also increasingly important metrics for gas purchasers. Methane emissions generally account for about half of total upstream natural gas supply chain GHGs, and the inclusion of carbon dioxide and nitrous oxide emissions is necessary to provide the full picture of the natural gas supply chain's carbon footprint. GHG intensity can be used to calculate the upstream GHG emissions associated with portions of a natural gas purchaser's gas supply.

Studies over the last decade have consistently shown that current approaches for calculating methane emissions, which often use average emissions factors, underestimate total emissions from the industry. Understanding how methane emissions and associated methane intensity are calculated is critical, as different quantification methodologies can result in significantly different emissions estimates. While all certification programs allow direct measurement of methane emissions, advanced quantification technologies and the science behind deriving emissions estimates from them are still under development.

In addition to quantifying methane emissions intensity, all three certification programs also include requirements for implementing policies and practices to reduce emissions and the implementation of methane monitoring programs. Table 4 below summarizes the methane and greenhouse gas quantification included in each standard.

Table 4: Certification Program Methane and GHG Quantification

| Category | Equitable Origin | MiQ | Project Canary |
|--|------------------|---------------------------|---|
| Methane Intensity | ✓ | ✓ | ✓ ¹ |
| Methane Intensity Methodology ² | NGSI | MiQ Standard ³ | Project Canary's Low Methane Rating (LMR) |
| Requires Direct Measurement | | ✓ ⁴ | |
| Allows Direct Measurement | ✓ | ✓ | ✓ |
| GHG Intensity | ✓ | ✓ ¹ | ✓ |

¹ Voluntary add-on to the certification program.

² The [Natural Gas Sustainability Initiative](#) (NGSI) methane intensity protocol was developed to calculate intensity for each segment of the natural gas supply chain. NGSI calculates methane intensity as methane emissions associated with natural gas divided by methane throughput. [ONE Future](#) uses a similar calculation for methane intensity as NGSI, although the specific sources, emissions factors, and emissions allocation approach varies for certain segments. While both the NGSI and ONE Future protocols include quantification procedures, emissions estimates from direct measurement can be incorporated into the identical intensity equation used by both approaches. The [Low Methane Rating](#) (LMR) was developed to capture methane intensity at the basin and site level. LMR also uses a similar calculation for methane intensity as NGSI. Methane emissions calculations may also incorporate estimates from direct measurements, USEPA emission factors, emissions modelling, and other data sources for a higher level of data integrity.

³ MiQ's methane intensity methodology is most closely aligned with the ONE Future protocol where certain emissions from sources are energy-allocated while others are allocated to an individual product. However, the allocation methodology for each source does not exactly align with the latest ONE Future protocol.

⁴ Most MiQ-certified operators employ a direct measurement technology to meet their facility-scale monitoring requirements, and as such, most operators are required to directly measure emissions and amend their methane emission inventories.

Equitable Origin

The EO100™ standard requires companies to, at a minimum, report methane intensity using the NGSI protocol, which relies primarily on emissions factors and engineering calculations to estimate methane emissions. Equitable Origin's point-based grading system allows operators to increase their score by implementing certain actions and policies. For methane emissions, operators can achieve the highest possible score if they quantify emissions using the Oil and Gas Methane Partnership (OGMP) 2.0's Level 4 or Level 5 methodologies, both of which require direct measurement of methane emissions. Equitable Origin, therefore, does not currently require direct measurement of methane emissions but allows for it within the standard.

MiQ

The MiQ onshore production standard uses a methane intensity methodology most closely aligned with ONE Future's Methane Emissions Estimation Protocol but also includes additional requirements for calculating the operator's methane emissions inventory. MiQ requires quantification using facility-scale surveys during the operator's annual audit, which are almost always completed using direct measurement technologies such as continuous monitoring, fixed-wing aircraft, or drones. The organization encourages operators to submit a measurement-informed inventory in compliance with published measurement and

reconciliation protocols such as GTI Energy's Veritas Protocols² or OGMP 2.0³ Level 4/5, to be confirmed by the auditor.

Project Canary

Project Canary does require measurement technology to be deployed for validation; however, operators are not required to use Project Canary sensors or other continuous emissions monitoring systems. Rather, this requirement is technology-agnostic and can be met with flyover, drones, or other similar technologies, so long as they meet the prescribed technical standards such as frequency of monitoring. Additional points are granted for use of technology with increased frequency and higher precision. The TrustWell™ [summary document](#) that is publicly available states that methane emissions are to be quantified using USEPA Greenhouse Gas Reporting Program methodologies, which are the emission factor- and engineering calculation-based approaches also used by the LMR. Project Canary allows operators to use either the ONE Future or NGSi approach for calculating methane intensity. These methodologies cover different scopes of operations, use different approaches for allocating methane emissions to the gas and petroleum supply chains, and use a different metric in the denominator of the intensity equation. The methane intensity performance of operations certified by Project Canary may therefore not be directly comparable. Project Canary's methane intensity calculation methodology is an energy-based calculation that accounts for all hydrocarbons produced, therefore, accounting for more than just pure gas production.

Methane Performance Certificates and Digital Natural Gas

In October 2021, S&P Global Platts and Xpansiv announced the launch of Methane Performance Certificates (MPCs). Each MPC is characterized as representing 1 MMBtu of gas produced with zero methane emissions. MPCs are generated based on the differential between operator methane intensity and an average calculated using USEPA Greenhouse Gas Reporting Program data. For example, an operator producing 1,000 MMBtu of gas with an intensity 50 percent below the industry average would generate 500 MPCs. To qualify for MPC generation, producers must have a methane intensity below 0.10 percent. S&P states that MPCs can only be generated by facilities with measured methane emissions that are verified by third parties. Details on the MPC methodology are not publicly available; the current stated approach of comparing measured emissions with a baseline derived from USEPA data does not compare like numbers. MPCs can be purchased on S&P's exchange, which includes a daily MPC price benchmark.

Xpansiv has also developed a Digital Natural Gas (DNG) offering. DNG units are digital representations of the attributes associated with individual units (in MMBtu) of gas production. Various attributes, including third-party certification, can be included in DNG. While DNG attributes are recorded, tracked, and retired in Xpansiv's own registry, it is not clear based on public information how these attributes are linked to the originating registries for each certification program to ensure there is no double counting.

² The Veritas technical protocols cover six segments of the natural gas supply chain, ranging from upstream to down-stream (production, gathering and boosting, processing, transmission and storage, distribution, and LNG). [Veritas: Protocols \(gti.energy\)](#)

³ The Oil & Gas Methane Partnership 2.0 (OGMP 2.0) is the flagship oil and gas reporting and mitigation programme of the United Nations Environment Programme (UNEP). [OGMP 2.0 – The Oil & Gas Methane Partnership 2.0 \(ogmpartnership.com\)](#)

Grading and Public Disclosure

Each certification program has its own unique approach to grading natural gas operations against their standards. All three have a sliding grade scale that designates different levels of performance within the minimum requirements of each standard. Equitable Origin is currently the only program that publicly reports information related to certified operations.

Equitable Origin

Equitable Origin's [scoring rubric](#) is linked to the metrics and sub metrics it has developed for each topic area addressed in the EO100™ Standard. Metrics and sub metrics have up to three "Performance Targets" (PT), which can be either quantitative or qualitative indicators. PT1 represents the lowest level of performance under the standard, while PT3 represents the highest level of performance. Operators are evaluated and given a percent-based score for each PT level, calculated as the total number of PT met for each PT level divided by the total number of PT for each level (i.e., total PT divided by potential PT). Operators are then given a letter grade based on their percentage score for each PT level. Equitable Origin's grade level descriptions can be found in Table 5 below.

Table 5: Equitable Origin Grade Levels

| Grade | Performance Target (PT) Level |
|-------|-------------------------------|
| A+ | 100% PT1, 75% PT2, 50% PT3 |
| A | 98% PT1, 50% PT2, 25% PT3 |
| A- | 95% PT1, 25% PT2, 10% PT3 |
| B+ | 90% PT1 |
| B | 85% PT1 |
| B- | 80% PT1 |
| C+ | 75% PT1 |
| C | 70% PT1 |

Equitable Origin is currently the only certification program that [publishes](#) summary information on each site that has received EO100™ certification. The summaries include information on the site, production volume, and overall PT scores across the five Equitable Origin principles. Equitable Origin has also released [performance indicators](#) that will be added to the summary certification reports and made publicly available for all certified sites. Data on certification results is also available on digital registries that track attributes associated with Equitable Origin certification. Table 6 summarizes Equitable Origin's publicly available performance indicators below.

Table 6: Equitable Origin Performance Indicators for Public Disclosure

| Performance Indicator | Disclosure Metric | Methodology |
|------------------------------|-----------------------|---|
| Methane Intensity by Segment | Percentage | NGSI intensity with description of methane quantification methodology |
| GHG Intensity by Segment | gCO ₂ e/MJ | EO100™ intensity with description of GHG quantification methodology |

| Performance Indicator | Disclosure Metric | Methodology |
|-------------------------------|-------------------|--|
| Zero Routine Flaring | Yes/No | No routine flaring within the asset during the full calendar year preceding certification date |
| Net-Zero Corporate Commitment | Yes/No | Publicly announced corporate commitment to achieving net-zero emissions by 2050 |
| Water Recycle Rate | Percentage | Water recycled / total water usage |
| Freshwater Use Intensity | Percentage | Freshwater usage / total water usage |

Notes: gCO_{2e}/MJ = grams of carbon dioxide equivalent per megajoule; GHG = greenhouse gas; NGSI = Natural Gas Sustainability Institute

MiQ

MiQ grades are based on combined scores across the three categories included in the MiQ standard: methane intensity, company best practices, and methane monitoring practices. Companies must achieve a minimum score across all three categories to achieve a specific letter grade. The grading tiers for methane intensity are based on ranges of assessed methane intensity, while the company practices and methane monitoring elements use a point-based system. Operators can increase their best practices scores by implementing practices that achieve higher levels of methane mitigation. Certain best practices are mandatory, and a company receiving a score of zero is still required to implement specific policies and technologies to receive MiQ certification. Methane monitoring scores are based on a combination of survey frequency, the percentage of a facility surveyed, and the detection capability of the survey technology.

MiQ currently does not require public disclosure of certification results in the same manner as Equitable Origin, but MiQ documents state that the organization may publish summary information on certified facilities. Certain information (e.g., grade, methane intensity, volumes) on MiQ-certified sites is available on the [MiQ Digital Registry](#) which tracks MiQ certificates. Note that MiQ methane intensities are presented using the grading thresholds rather than the specific estimated intensities (e.g., an operator with an intensity of 0.04 percent would appear as “A” grade with an intensity of ≤ 0.05 percent). MiQ’s grade levels are summarized in Table 7 below.

Table 7: MiQ Grade Levels

| Grade | Methane Intensity | Company Practices ¹ | Monitoring Technology Deployment |
|-------|-------------------|--------------------------------|----------------------------------|
| A | ≤ 0.05% | ≥ 12 | 12 |
| B | ≤ 0.10% | ≥ 8 | 8 |
| C | ≤ 0.20% | ≥ 4 | 4 |
| D | ≤ 0.50% | 0 | 0 |
| E | ≤ 1.00% | 0 | 0 |
| F | ≤ 2.00% | 0 | 0 |

¹ Point thresholds are based on the individual segment standard.

Project Canary

Project Canary ratings are based on a relative scoring scale that evaluates performance based on the unique nature of individual operations. The first step in Project Canary's assessment is the development of an inherent risk profile based on factors such as type of operations and location. This risk profile generates a baseline score. From this risk profile, companies are assessed at what control measures are implemented, how effective those measures are, and how the company works to continue improving performance. Companies can increase their score based on their performance across these factors.

Project Canary does not require publication of results and any disclosures are at the discretion of the company being certified. An overview of Project Canary's grade levels can be found in Table 8.

Table 8: Project Canary Grade Levels

| Grade | Score | Meaning |
|----------|---------|-------------------------------------|
| Platinum | > 125 | Top 10% of peers |
| Gold | 100-125 | First quartile performance |
| Silver | 75-100 | Second quartile performance |
| Rated | < 75 | Dedicated to continuous improvement |

Project Canary's LMR program provides additional certification around methane intensity. To be eligible for LMR, Project Canary requires a site-level methane intensity of 0.2 percent or lower. Table 9 provides an overview of Project Canary's Low Methane Rating criteria.

Table 9: Project Canary Low Methane Rating (LMR) Criteria

| Rating | Methane Intensity | Company Practices | Scoring Requirements |
|---------------------------|-------------------|---|----------------------|
| LMR Minimum Qualification | ≤ 0.20% | Minimum Requirements | ≥ 0 |
| LMR A | ≤ 0.20% | Minimum Requirements + Further Differentiated Practices | ≥ 5 |
| LMR AA | ≤ 0.10% | Minimum Requirements + Further Differentiated Practices | ≥ 10 |
| LMR AAA | ≤ 0.05% | Minimum Requirements + Further Differentiated Practices | ≥ 15 |

Certified Credits and Transactions

An essential element of the certified gas market is the ability to track and claim the attributes (e.g., methane intensity) associated with certified gas. In addition to supporting transparency and transactions, mechanisms for tracking certificates help prevent against double counting of certified gas. Certification programs have established digital ledgers or registries that create certificates for each unit of certified gas, record changes in ownership, and retire certificates. These registries are the sole source of certificate status, but transactions for certified gas attributes may still occur on third-party trading

platforms. Trading platforms bring buyers and sellers together and serve as the marketplace for certified gas credits. Registries and trading platforms facilitate transactions of unbundled certified gas attributes, where the certified attributes can be sold separately from the physical natural gas commodity.

MiQ has developed its own [registry](#) for certificate creation and tracking. Certified attributes from other programs can also use the MiQ Registry with approval; Equitable Origin is currently the only other certification program that is issuing certificates on MiQ's registry. MiQ has also worked with TruMarx Data Partners to establish the [Certified Gas Hub](#), an online trading platform for bids and offers, that provides key market data (e.g., volumes, certification level, methane intensity, price premium) on certified gas. The Certified Gas Hub is open to all gas that is certified by methane emissions performance at the production stage; gas from multiple certification programs can be transacted but information on attributes other than methane intensity is not available.

Project Canary has [announced](#) that it will allow operators to upload attributes directly to digital registries on EarnDLT's blockchain-based accounting system.⁴ The EarnDLT registry will provide a similar function as MiQ's registry, generating unique certificates for Project Canary certified gas that can be tracked across transactions and eventually retired. Project Canary has [partnered](#) with a natural gas company to transform environmental attributes tied to low-methane emissions to digital tokens on EarnDLT's blockchain system; however, no other information on when other Project Canary certificates will be available on the system is publicly available. Project Canary's LMR Program, which certifies to a methane intensity, allows for operators to upload their certificates to a registry.

Xpansiv's [Digital Natural Gas](#) is in many ways similar to a registry, in that it creates a digital commodity to which various attributes can be attached. These certificates can be sold, tracked, and retired in the same way they are in the MiQ and Project Canary registries. The attributes associated with Project Canary and Equitable Origin certification can currently be incorporated into Digital Natural Gas. However, because certified gas attributes are inherently linked to the registries in which they were created, systems developed by Xpansiv and other third parties will need to be linked to the certification program registries to prevent double counting and verify retirement of certificates (i.e., ensure an Equitable Origin certificate traded on Xpansiv's platform has not been retired on MiQ's platform).

⁴ EarnDLT is a blockchain-based emissions accounting system that transforms verified environmental attributes into digital tokens that can be bought, sold, or traded. [Home - Earn DLT](#)

Oil & Gas Methane Partnership 2.0 and GTI Veritas

Direct measurement of methane emissions from oil and gas infrastructure has shown the current approaches to estimating methane emissions from oil and gas infrastructure, which often use average emission factors, underestimate total emissions from the industry. The industry is working to develop and deploy technologies that can directly measure methane emissions and improve emissions inventories. The Oil & Gas Methane Partnership (OGMP) 2.0 and the GTI Veritas program are two frameworks that have been developed to incorporate direct measurement into methane emissions inventories.

[OGMP 2.0](#) is a multi-stakeholder initiative launched by the UN Environment Program and the Clean Air Coalition. Companies that sign up commit to achieving OGMP 2.0's "Gold Standard" of methane quantification are required to develop both equipment-level and site-level emissions estimates using direct measurement and then reconcile these numbers into a single estimate. This reconciliation must occur for all operated assets within three years of commitment and within five years for non-operated assets. OGMP 2.0 signatories must also commit to a methane emissions intensity reduction target. OGMP 2.0 provides guidance on what approaches qualify as direct measurement or equivalent for major source categories but does not provide detailed technical guidance on quantification or reconciliation methodologies.

GTI Energy's [Veritas](#) initiative contains a framework for how methane emissions are to be quantified using direct measurement approaches at different scales (equipment level vs. site level) and how different technologies can be reconciled with current emissions inventories derived largely from average emission factors. The Veritas protocol includes detailed technical methodologies designed to allow for companies to develop credible, comparable, and consistently assessed estimates of methane emissions using different approaches and technologies.

OGMP 2.0, Veritas, and the certified gas programs are all closely related. Equitable Origin incentivizes companies to implement OGMP 2.0's measurement levels and MiQ allows operators to submit a measurement-informed inventory in alignment with protocols such as OGMP 2.0 or GTI Veritas as part of their audit program. All three certification programs already allow or require direct quantification of methane emissions and are expected to move further in this direction as natural gas purchasers and other stakeholders increasingly demand differentiation based on direct measurement. OGMP 2.0 and Veritas are also working to ensure alignment, and Veritas' detailed reconciliation protocol could be used by companies aiming to meet OGMP 2.0's measurement requirements.