

## Path forward for certified gas still unclear



Natural gas producers are scrambling to find a home for a new wave of output that meets tougher emissions standards and could help secure the industry’s place in a lower-carbon future.

Gas producers are hoping to find buyers willing to pay a premium for what is known as “certified” or “responsibly sourced” natural gas, essentially gas with lower carbon emissions associated with the production process. A third party certifies or otherwise guarantees that the means of production meets certain carbon emission targets.

Some producers already have struck deals to provide this differentiated gas to end users. But those deals are far from uniform. And questions remain about how a market for certified gas will evolve. What is clear is that a large amount of certified US gas is awaiting a home.

“The whole industry is looking for a framework” that allows the US gas market to buy and sell certified gas, said Orlando Alvarez, chief executive of BP Energy, the largest marketer of US gas. The framework for that market “is starting to build.”

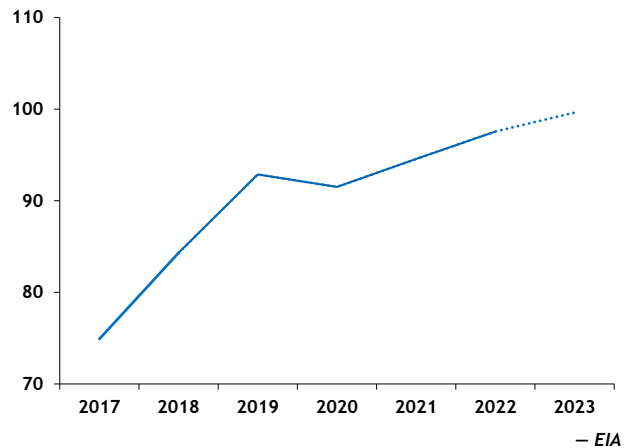
The US boasts the world’s biggest natural gas market. US gas production, which is approaching 100 Bcf/d (2.8bn m<sup>3</sup>), is collected from oil- and gas-rich fields across the country. Those supplies are mingled in a vast web of interstate pipelines, placed into storage sites, ferried to power plants, industrial users and homes. It is also put on ships and dispatched to overseas markets as LNG.

The complexity of the pipeline network makes it difficult to establish a physical pricing point or to distinguish certified gas from more conventional gas production. The network of long-distance transmission lines and the local markets they serve are designed to handle gas that meets certain industry standards.

Certifying gas output also comes at a cost. Companies

US dry natural gas production

Bcf/d

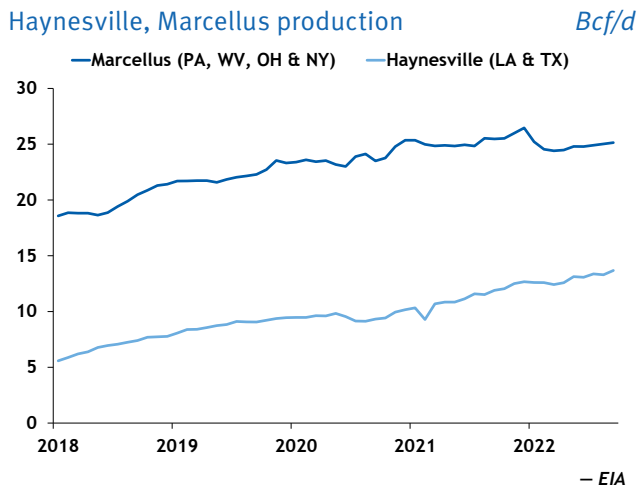


may commit to monitoring devices or retrofitting wells with emission-reducing equipment. But it is unclear whether that gas will be able to command a premium or will just offer an advantage to buyers trying to mitigate emissions.

US independent Chesapeake Energy has earmarked \$30mn this year to cut methane and other greenhouse gas emissions from its operations. The company has already received third-party certification for its output from the Haynesville shale, a prolific gas field in east Texas and northern Louisiana and plans to do the same in its other key operating area - the Marcellus shale, in Pennsylvania and surrounding states.

Those two gas fields will play an important role in the future of the evolving market because producers there are taking the lead in certifying output. The Marcellus and the Haynesville combined represent more than half of total US gas output. The Marcellus is the country’s largest single field. The Haynesville is close to LNG export terminals and industrial users and likely will be the engine of growth for US gas production in the coming years.

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In August, Chesapeake said it reached a three-year agreement to supply 300mn cf/d of certified gas from the Haynesville to the 18.1mn t/yr Golden Pass LNG terminal in Texas. The contract was a first for Chesapeake.

The supply agreement was a “good step” toward recognizing what certified gas means to international buyers of LNG and helped establish Chesapeake as a preferred seller into the international market, Chesapeake’s chief executive Nick Dell’Osso said on 3 August. Those sellers can demonstrate low emissions, access to long-term supplies and the connections to critical infrastructure that allow gas to reach export terminals.

The financial details of the deal were scant. The company said it could not go into the pricing details. It did say that it sold the gas at a discount to a Nymex price and received a better price than putting it on a pipeline and selling it into the spot market.

French utility Engie ended talks in 2020 for LNG supplied from the planned Rio Grande export terminal in Texas amid regulatory scrutiny related to upstream emissions. The company earlier this year agreed to a 15-year deal for 1.75mn t/yr, or about 230mn cf/d, from the terminal after Rio Grande pledged to capture 90pc of its CO<sub>2</sub> emissions through carbon capture and storage and said the acquired gas would have a certified low-emissions profile.

EQT, the largest producer of US gas by volume, reached a deal with Bloom Energy to provide certified gas to the company’s operations for use in Bloom’s fleet of gas fuel cells. Southwestern Energy, another big producer, has agreed to sell certified supplies to a subsidiary of German utility Uniper to meet customer needs in the US and demand for LNG in international markets.

### Push to clean up and certify

Large gas producers such as Chesapeake, EQT and Southwestern Energy have long hailed natural gas as offering a cleaner-burning alternative to other fossil fuels, because gas produces about half of the heat-trapping gasses blamed for climate change as coal. Producers are now facing more scrutiny from investors over the methods used to extract gas from

shale formations, as well as how their operations affect the surrounding communities.

At the same time, producers, pipeline companies and end users are creating environmental, social and governance goals aimed at showing measurable improvements in operations.

Producers have turned to third party, independent firms such as MiQ and Project Canary to certify the results. MiQ uses auditors to assess producer assets, evaluating and grading the emissions. MiQ assigns a grade under its standards. A grade of “A” indicates low emissions. A producer that meets quarterly audits and that has emissions that represent .05pc or less of its production receives an “A.” An “F” indicates emissions of 2pc.

Project Canary uses continuous monitoring to track emissions along the natural gas value chain, as well as assessing the effect that company operations have on the water, land and surrounding community. Equitable Origin, another certifier, provides independent, peer-reviewed assessments of a company’s ability to meet certain environmental and social standards.

Jonah Energy, a privately held producer with operations in Wyoming, submits emissions information to the Oil and Gas Methane Partnership, a UN-sponsored group. The data are collected by drones, satellites and other monitoring equipment.

“Our market, which is California and the West Coast, is demanding cleaner energy. We strongly feel that natural gas can be part of the solution and felt that a robust certification process could demonstrate, validate and provide credibility,” Jonah vice president of government and regulatory affairs Paul Ulrich said.

Even with certifications covering about 500mn cf/d that Jonah produces from Wyoming, the company still has ongoing talks with utilities, regulators and midstream companies to explain how the gas it produces is different from conventional production.

“I firmly believe that a market is going to develop that rewards good operators for providing truly differentiated natural gas. We’re not quite there yet,” Ulrich said.

### Premium versus Advantage

Pipeline company Williams has said that certified gas may not attract a premium price, but it may provide a competitive advantage to its customers. Customers that reach agreements for long-term supply will also want to know the environmental risk associated with that gas.

Williams last year purchased Sequent Energy for \$50mn, boosting the size of its gas marketing business to about 8 Bcf/d. Williams and Sequent are building a portfolio of lower-emissions gas to sell to utilities, LNG exporters and other end users.

In August, Williams added differentiated gas from 378 Marcellus wells to its marketing portfolio through a partnership

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with US independent PennEnergy Resources. Williams has also joined with Context Labs, a provider of decarbonization technology, and LNG exporter Cheniere Energy to monitor emissions on natural gas pipeline and storage systems.

In addition, Williams reached a final investment decision to develop the 1.8 Bcf/d (51mn m<sup>3</sup>/d) Louisiana Energy Gateway pipeline project that will ferry gas from the Haynesville shale in Louisiana to LNG export terminals and premium markets along the US Gulf coast. The company plans to install monitoring equipment along the Louisiana system to account for and reduce emissions associated with Haynesville gas, the company said.

Certified natural gas provides the “best bang for the buck” for gas utilities looking to cut emissions, Kevin Greiner, chief executive of gas marketer Gas South, told attendees at an energy conference earlier this year. But the process can be confusing, and more standardization will be needed over time, he noted. Gas South still plans to prioritize purchases of certified gas output over other gas production.

### An evolving market

Some companies are offering a way for like-minded buyers and sellers to exchange certified gas. Xpansiv operates CBL, touted as the world’s largest spot carbon exchange. The exchange is a digital marketplace that allows companies to buy and sell gas certificates. That gas certificate can then offset the gas that is actually burned by the consumer. The company plans to offer other sorts of certificates as well that could certify best practices for water, which is a key component of gas production.

“The low-hanging fruit” is cleaning up fugitive emissions, Xpansiv vice president of market development Fletcher Sturm said.

It remains to be seen if the market will broadly accept a certificate that offsets emissions. Those certificates may serve some buyers, but others may want physical receipt of the lower-emission gas.

Energy infrastructure company Kinder Morgan in July received approval from the Federal Energy Regulatory Commission (FERC) to offer a free pooling service on its Tennessee Natural Gas pipeline (TGP), because the proposed change did not interfere with existing services. The tariff change was perhaps the biggest move yet to establish a market for certified gas.

The pipeline, a mammoth 11,800-mile (18,990km) gas system connecting the US Gulf coast with the northeast, will allow customers to buy and sell gas at non-physical locations, or

pooling points where supply is gathered or dispersed through the system. The voluntary service allows shippers to trade gas that has received a third-party certification.

Kinder Morgan’s service has come under fire from some producers and the Environmental Defense Fund (EDF). Those parties said that TGP would gain too much power over the way the market for certified gas developed, because the pipeline could set the appropriate levels for emissions or other criteria for the gas.

In addition, EDF argued that if the certified gas on TGP sells at a premium to other gas on the system that consumers would pay a higher price without any assurances that the actual product received reduces emissions.

FERC initially denied TGP’s proposal because it included a standard for the certified gas in its tariff. FERC found that those changes were neither just nor reasonable. The agency said that market standards for certified gas were still evolving and that the market for certified gas should be allowed to develop organically.

TGP later resubmitted its proposal with revisions, shifting the standards for certified gas to the pipeline’s electronic bulletin board, where changes could occur expeditiously, alleviating FERC’s concerns. The agency said the service presents shippers with an option rather than a requirement to designate certified gas, while not interfering with services on the line. Pipelines are obligated to give all shippers the opportunity to move gas at the same rate for the same level of service.

Aggregators of certified gas must have an acceptable rating for its gas supply from certifiers Project Canary, SYSTEMIQ or Xpansiv. That supply must have a methane emissions intensity threshold — or the ratio of methane emissions relative to gas throughput — of no more than 0.2pc.

The gas producer-led push to move away from a homogenized market, where all gas has the same attributes and meets the same standards, may face future challenges to broad acceptance.

Without a public market and concrete standards, it will be difficult for certified gas to demand a premium price, said Matt Haggerty, an analyst with BTU Analytics. Absent that premium or pressure from investors, “you cannot expect the entire industry to move in that direction.”

Ultimately, the market will be the final arbiter of what price advantage certified natural gas should have, what standards that gas will meet and whether that gas will displace supplies with a higher-emissions footprint.

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