

GHG Protocol update raises the question: Is biomethane grid injection just a lot of hot air?

For over a year, there have been rumblings in the biomethane sector about the GHG Protocol, and these have been getting louder in recent months, with over 50 biomethane trade bodies and companies [writing](#) to the WRI – the administrators of the GHG Protocol – expressing concerns about proposed guidance and urging them to take action.

What is the GHG Protocol?

The Greenhouse Gas (GHG) Protocol provides the world's most widely used GHG accounting standards, adopted by governments and businesses to report GHG emissions and monitor progress on mitigation strategies. The GHG Protocol defines the concept of Scope 1, Scope 2 and Scope 3 emissions for company reporting, and provides necessary guidance for the GHG accounting world.

- Scope 1: Direct emissions from business operations, including fuel use in factories and logistics.
- Scope 2: Emissions associated with purchased energy for the business, mainly electricity and heat.
- Scope 3: Emissions associated with purchased products and services, as well as downstream emissions.

Typically, GHG targets set by governments and voluntary schemes are linked to Scope 1 emissions, so mitigating actions should apply to Scope 1 activities (e.g. energy efficiency measures and switching to renewable fuel). However, some voluntary schemes also look at Scope 2 and 3, and mitigating actions can also apply there (e.g. changes in supply chain).

What is the issue?

New draft guidance has been [released](#) for the GHG Protocol, clarifying issues around biofuels. The full guidance is set to be issued later this year.

The guidance covers a range of topics that will impact emissions accounting for biomethane, but the most controversial detail – where industry believes there could still be room for change – is on the topic of Scope 1 reporting.

The controversial detail relates to how the CO₂ released from biomethane use [by businesses] is accounted for. In essence, the new guidance does not allow the purchase of gas from the gas grid along with the purchase of green gas certificates to count as renewable gas use under Scope 1 reporting. Instead, this activity must be reported as off scope, i.e. not falling under Scope 1, 2 or 3.

What does this mean in practice?

Take the example of a beverage factory using gas from the gas grid to generate cleaning steam for their process. As part of their emissions-reduction efforts, the factory enters into a gas-purchase

agreement (GPA) with an AD plant producing biomethane. The biomethane is added to the gas grid at the producer's site and removed from the gas grid at the factory, and renewable gas guarantees of origin (RGGOs) are exchanged to verify that the gas used is deemed renewable.

Under the new guidance, this will no longer count towards reducing Scope 1 emissions for the factory; instead, it will be off scope. Using grid gas with RGGOs will therefore not help the factory meet sustainability targets set by government and voluntary schemes.

Why the sudden change?

Although this could have a huge impact on the industry, it is not actually a change in guidance: previously there was simply no guidance on this issue, but there was guidance for Scope 2 emissions that was interpreted by GHG accountants as allowing biomethane evidenced by certificates to offset Scope 1 emissions from gas use. It should be noted that even now, the guidance is open to interpretation by regulatory bodies and auditors.

Where has this come from?

The controversy of using guarantees of origin is better known in the electricity sector, in particular when certificates are separated in time and space from renewable electricity generation. For example, if wind electricity is generated in the middle of the night, and the example company buys renewable electricity guarantees of origin for that electricity, it is not fair to say that this has reduced the company's emissions if their factory is not operating at night. The same argument is being made for renewable gas, although the case is arguably different, as gas is more storable than electricity.

A Nature Climate Change [article](#) written last year by authors from Concordia University, Canada, suggested that companies under the Science-Based Targets initiative (which, like most initiatives, follows GHG Protocol guidelines) that use renewable energy certificates were significantly overestimating the effectiveness of their own mitigation actions. They concluded that changes to the accounting rules were essential to meet climate targets.

What is the impact on the biomethane industry?

The most immediate effect on the biomethane industry is on RGGOs, as these will be of less value and importance if they cannot be used in company emissions reporting, instead only being used in 'off-scope' reporting.

There is still a way to count biomethane use in Scope 1 reporting: if the biomethane is delivered via a direct [off-grid] pipeline or via a 'virtual pipeline' (i.e. delivered by truck). However, it is not always possible to construct biomethane AD sites near where the demand is. Furthermore, it can be costly to set up a direct pipeline and there may be planning permission challenges. Virtual pipelines with trucks are also more expensive and complex than gas grid injection, and would typically lead to higher emissions than using gas grid injection owing to the fuel used in distribution. Overall, this would lead to biomethane use being more expensive and more polluting than previously. There is therefore a fear that the updated GHG Protocol guidance could significantly hamper the growth of the biomethane sector in the future.

The bigger picture

Biomethane production is likely to remain a good solution for a long time: on the production side, anaerobic digestion is a reliable and sensible use of organic waste, in particular manures and wet organic wastes. On the demand side, biomethane is likely to remain a good solution for providing renewable high-temperature heat to industry in so-called 'difficult to decarbonise' sectors. Biomethane use, particularly in factories, can also be combined with carbon capture and storage, something that the IPCC sees as [essential](#) to reaching Paris targets. Currently, the gas grid is the cheapest, greenest and most convenient way to transport biomethane to its point of use. While a push for more closed-loop, local solutions would be ideal, biomethane grid injection gives much-needed flexibility and security for producers and customers of biomethane.

However, as less than 1% of the UK gas grid is currently made up of renewable gas¹, and most estimates of bioresource availability put UK biomethane capacity at less than 5% of current natural gas demand, it could be argued that using biomethane from the gas grid promotes the continued use of fossil-derived gas.

Nonetheless, National Grid ESO's [Future Energy Scenarios](#) (2022) show significant methane volumes still being used in 2035 in all their scenarios, but no methane use in 3 out of their 4 scenarios by 2050. This implies that the gas grid is expected to convert to 100% hydrogen; however, the transitional actions and specific timeframe for this are yet to be determined. It is clear that a methane-filled gas grid will continue to exist for a significant amount of time, so growth and investment in biomethane development must continue!

NNFCC is available to discuss the potential impact these changes could have on your business. Contact I.montgomery@nnfcc.co.uk for more information.

(The GHG Protocol is currently running [surveys](#) related to all aspects of their guidance. Some organisations, notably REA and GGCS, are calling for members to complete the survey. If you are a member of these organisations, see their recent e-mails for suggested answers to the survey questions.)

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¹ DUKES 2022 shows net gas in 2021 at 855.9 TWh, with 6.5 TWh coming from biomethane injection, representing 0.76% of net gas in the grid to be biomethane.

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