



**Friends of
the Earth**

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**Department of Environment, Climate and
Communications
Consultation on the proposed revision to the Gas
Directive and the Gas Regulation and proposals for a
Regulation on Methane Emissions**

April, 2022

1.Introduction

1.1 Friends of the Earth Ireland is a community at the heart of the growing movement for a just world with zero pollution. We are part of the world's largest grassroots environmental network, which celebrates its 50th anniversary in 2021. We campaign and build movement power to bring about the system change that is needed for a just world where people and nature thrive. We promote education and action for environmental sustainability and justice and focus on Ireland's response to the big environmental challenges of our time, including the climate emergency and the achievement of the Sustainable Development Goals. We support people and groups working autonomously to connect their local work to the bigger national and international picture. We have particular experience in participatory education, campaign strategy, shaping public debate and driving policy change

1.2 Friends of the Earth welcomes the opportunity to respond to the Department of Climate, Environment and Communication's Consultation on the proposed revision to the Gas Directive and the Gas Regulation and proposals for a Regulation on Methane Emissions. We support the Department's pro-active public consultation and welcome the opportunity to discuss these issues directly with you.

1.3 The central message of this submission is that the gas package in its current form does not address the effects of the current energy crisis. It should therefore be withdrawn or re-drafted in light of an up to date impact assessment by the Commission. Assumptions included in this package are now out of date, including that the price of gas in an LNG-dependent diversification strategy will be higher than that provided by Russia during the last decade. ¹

1.4 In order for Ireland and the EU to act in line with the Paris Climate Agreement and limit temperature rise to 1.5°C, fossil gas use must end by the mid-2030s at the latest. The Russian invasion of Ukraine further highlights the need to decrease Ireland's dependence on fossil gas. The Climate Change Advisory Council this week emphasised the need for Ireland to reduce our reliance on fossil fuel imports in order to shield consumers from volatile energy prices, increase our security of energy supply and support the achievement of our climate objectives.²

1.5 As part of the Climate Change Advisory Council's carbon budget analysis they underline that 'Across all scenarios modelled, it is clear that the short time-horizon to 2030 requires a faster energy system transition than the natural renewal of many technologies, so early retirement will be needed in some cases. Overall, use of fossil fuel falls from 90% of primary energy demand in 2018 to 49-54% in 2030'. The Council note in their analysis of measures to 2030 that 'ambitious mitigation aiming towards net zero by 2050 entails a significant shift away from fossil fuels towards renewable energy. This brings significant reduction in fuel costs.'³

¹ See <https://caneurope.org/ngo-and-stakeholder-briefing-on-the-eu-gas-package/>

²<https://www.climatecouncil.ie/media/climatechangeadvisorycouncil/contentassets/documents/news/CCA%20Letter%20to%20Government.pdf>

³www.climatecouncil.ie/media/climatechangeadvisorycouncil/Technical%20report%20on%20carbon%20budgets%2025.10.2021.pdf

1.6 Demand for gas can be reduced significantly by fully implementing policies that maximise energy efficiency in buildings, energy systems, transport and industrial processes. In addition to savings, the full deployment of various renewable energy sources, including solar and community-owned, distributed generation, and sector integration are important pillars to move to a net zero emission society.⁴

1.7 The proposals under the EU's Fit for 55 package focusing on clean solutions are key levers to decreasing this dependence. Delivering the EU Fit for 55 package and accelerating the deployment of renewable electricity, energy efficiency, and electrification would cut 101 billion cubic metres(bcm) of gas consumption, or 66% of the yearly Russian imports by 2025.⁵

1.8 Unless significant changes are made to the Commission's proposals on the gas package, this crucial piece of legislation risks creating further fossil gas lock-in, endangering Ireland & the EU's climate and energy targets and will fail to resolve the conflicts of interest established in the current legislation and exacerbate energy poverty.

1.9 The Commission's proposal to decarbonise the gas system hinges on the idea that fossil gas can be replaced by renewable and so-called 'decarbonised' (non-renewable) gases. While renewable gas (hydrogen, biogas and biomethane) will play a small role, there is a risk that such fuels are merely used to extend gas assets and lock-in gas usage. The proposal fails to provide the much broader framework to reduce fossil gas consumption across the EU by 2030 significantly and reach a complete phase-out of fossil gas by 2035 at the latest.

1.10 Friends of the Earth's submission sets out recommendations on how the gas package must contribute to emission reductions in line with the Paris Agreement and specifically addresses distribution network, governance and ENTSO-G, biomethane and energy communities

2. Enabling DSOs to Prepare for Decommissioning

2.1 The large-scale electrification, energy efficiency, and demand reduction required to meet Ireland's climate targets will have significant ramifications for gas Distribution System Operators (DSOs). The SEAI's recent Heat Study decarbonisation scenarios show the limited role for the gas distribution grid as well as the necessity for a decision to be made in this decade for the gas distribution grid to be decommissioned.⁶ The main heat decarbonisation scenario which

⁴ CAN Europe Position on the Use of Gas in the Future Energy System
<https://caneurope.org/content/uploads/2020/01/2020-CAN-gas-PP.pdf>

⁵ E3G (2022) "EU Can Stop Russian Gas Imports by 2025"
<https://www.e3g.org/publications/eu-can-stop-russian-gas-imports-by-2025/>

⁶ SEAI Heat Study Summary Report
<https://www.seai.ie/publications/National-Heat-Study-Summary-Report.pdf>

supports achievement of our carbon budgets essentially shows fossil gas use halving this decade and halving again in the 2030s, such that it is almost entirely phased out by the 2040s.⁷

2.2 As gas use for space heating declines due to deployment of district heating and heat pumps, it leaves fewer consumers to cover the fixed costs of the network, so they increasingly pay higher prices.⁸

2.3 The gas package must ensure that regulators, local governments and communities are empowered to fully and independently examine the future role of gas distribution networks in order to prepare DSOs to adapt to these changing realities without imposing unnecessary costs on consumers, particularly those living in energy poverty.

2.4 The current proposal does not acknowledge the inevitable disruption of the status-quo for DSOs, it does not place an obligation on gas DSOs to evaluate a need for decommissioning, nor does it provide DSOs with guidance or regulatory tools to allow them to better prepare for the shift to a decarbonised and electrified renewable energy future.

2.5 It will be necessary to ensure there are no incentives for gas DSOs to maintain or build new unnecessary grid infrastructure. The revision of the EU's Energy Efficiency Directive provides new provisions regarding proposed heating and cooling assessment and planning. This includes that Member States must prepare local heating and cooling plans for areas with populations higher than 50,000. Urban centres will therefore have greater input and a clear stake in how heating in their localities should be planned and delivered. It is important that gas distribution plans do not preclude or prevent such local planning.

2.6 It is important to note that several EU Members State are already providing for the phase out of gas boilers through policy and legislation.

- In Denmark, a ban on the installation of fossil oil and gas boilers in new buildings was implemented already in 2013
- Austria's Government program contains plans for regulations concerning the phase-out of fossil oil and gas boilers. The Government also plans to introduce a new Renewable Heating Act and a Phase out of Gas Strategy.
- In France a regulation is planned to enter into force in 2022, containing rules on carbon efficiency for new buildings with a maximum threshold for the CO2 emissions per square meter and year with different levels depending on the building type. This will factually exclude systems relying on fossil fuels only.
- In the Netherlands, the connection of new buildings to the gas grid has been banned through legislation. Furthermore, the Netherlands have introduced a local planning approach to phase-out the use of gas for heating at district level (gas-free districts). The

⁷ See Figure 10 rapid progress scenario in SEAI National Heat Study Summary Report, page 19 www.seai.ie/data-and-insights/national-heat-study/key-insights/

⁸ ibid

Dutch Coalition Government Agreement also includes plans for standards to phase out mono-gas boilers.⁹

Recommendations

- Include explicit transparency obligations for DSOs in the context of energy infrastructure planning and ensure network plans are in line with EU and national climate and energy targets.
- Start planning for the decommissioning of parts of the DSO network.
- Open network planning by DSOs to participation from stakeholders, including communities, civil society and local governments, and link it with local heating and cooling planning.

3. Improving Governance

3.1 Decisions relating to the gas system should be made based on science, avoiding conflicts of interest, ensuring early and effective public participation open to all stakeholders, requiring the publication of all relevant information, and complying with an adequate level of transparency.

3.2 However the current gas package continues to provide the European Network of Transmission System Operators for Gas (ENTSO-G) a disproportionate role in decision-making, including developing Ten-Year Network Development Plans, writing draft network codes at the European level, and in overseeing hydrogen network planning until 2024.¹⁰ The concern is that without significant amendments, ENTSO-G members will remain largely responsible for determining EU infrastructure needs and selecting priority energy projects without regard to Paris Agreement objectives or EU climate and energy targets.

3.3 ACER (Agency for the Cooperation of Energy Regulators) and CEER (Council of European Energy Regulators) noted in a joint position paper on the TEN-E in June 2020 that “most of the problems that arose during the past implementation of the Regulation could be ascribed to the regulatory role inappropriately attributed to the ENTSOs, despite their conflict of interest”.¹¹

3.4 We would note for example that GNI network plans to date do not align with Ireland’s decarbonisation objectives nor do they properly take account of wider energy system decarbonisation and longer-term reductions in gas supplies through electrification and demand-side measures. GNI’s role in both putting forward network development plans while at the same time promoting expansion of the gas network raises conflict of interest risks. GNI has

⁹ https://www.oeko.de/fileadmin/oekodoc/Phase-out_fossil_heating.pdf

¹⁰ Gas Reg. proposal, Art. 23, 41, 53

¹¹ See <https://www.ceer.eu/documents/104400/-/-/c4f763dd-27e7-7113-9809-1ec50f530576>

previously noted a 'best case' scenario of a 29% increase in powergen gas demand, 18% increase industrial and commercial and 6% increase in the residential over the next 10 years¹², none of which is aligned with Ireland's climate or decarbonisation objectives. GNI is continuing to seek connections of domestic customers to the gas network. Notwithstanding climate policy developments and Government commitments regarding significant investment in energy efficiency and electrification of the heating sector, GNI/Ervia have continued to advocate for fossil gas investment at EU level and for new connections to the network.¹³

3.5 The creation of a new body dedicated to the hydrogen market and infrastructure development, the European Network of Network Operators for Hydrogen (ENNOH)¹⁴, could be a step in the right direction to decrease the influence of ENTSOG over any future hydrogen networks. However, in the absence of strong horizontal unbundling provisions, the membership of ENNOH will include many active ENTSOG members.¹⁵

3.6 As currently proposed, fossil gas entities are enabled to freely engage in hydrogen-related activities, so long as they maintain separate legal forms, accounts, and regulatory asset bases. These horizontal unbundling provisions must be significantly strengthened to avoid obvious conflicts of interest (for example, a fossil gas operator using guarantees of "hydrogen readiness" to expand their networks or impede the development of new, renewable hydrogen networks). Such conflicts may be prevented by requiring a complete separation between the ownership, control, and operation of fossil gas and hydrogen assets.

3.7 This strong presence of fossil gas interests hinders the implementation of fully independent and transparent planning processes and significantly risks the expansion and lock-in of unnecessary fossil gas infrastructure for decades. It incentivizes a hydrogen network that suits the interests of the incumbent gas transmission industry in maintaining uneconomic assets, rather than a network that is fit-for-purpose; namely, one that is isolated, organised in regional clusters, transporting renewable gases only to priority end-users.

3.8 The planning of fossil gas and hydrogen networks at national level is also a key feature of the gas package. Given the importance of piping hydrogen to priority end-uses, the future hydrogen network is likely to look very different to the existing gas network: if hydrogen is deployed in clusters to target priority end uses, a sizable portion of the existing fossil gas infrastructure will need to be downsized, phased-out or decommissioned.

3.9 Integrated gas and electricity network planning is key in fostering energy system integration to achieve climate neutrality. A quick reduction in emissions requires that gas, electricity and hydrogen networks are underpinned by the energy efficiency first principle.

¹² <https://www.cru.ie/wp-content/uploads/2021/09/CRU21104b-GNI-TYNDP-2020.pdf>

¹³ Ervia's response to Ireland's Draft National Energy & Climate Plan (NECP) 2021-2030, February 2019 <https://assets.gov.ie/76009/cd2cd4e4-0639-40ae-aa25-e3cf5a87f4c4.pdf>

¹⁴ Gas Reg. proposal, Art. 40, 42

¹⁵ Gas Reg. proposal, Art. 4; Gas Dir. Art. 63, 64

3.10 Integrated planning and operation facilitates the swift integration of high shares of variable renewables into energy networks, enabling variable energy sources to be transported more easily to final consumers while making fossil backup capacities redundant.

Recommendations:

- Ensure independent oversight and remove conflicts of interest in network planning.
- Establish processes that facilitate the integration of gas, electricity and hydrogen network planning at EU and national level.
- Involve the European Scientific Advisory Board on Climate Change - established under the European Climate Law and included in the revised regulation for TEN-E - in integrated hydrogen infrastructure planning.
- Guarantee a complete separation between the ownership, control, and operation of fossil gas and hydrogen assets.

4. Hydrogen

4.1 The Gas Package introduces Hydrogen blending ie. mixing hydrogen with fossil gas in the gas grid, touting it as a way to decarbonise the gas grid. However, substituting 20 Vol-% of fossil gas with renewables-based hydrogen would only result in 6% to 7% greenhouse gas savings, but would also drastically increase the technical effort needed for the system adoption, with EU end-users having to pay on average 24% more for their gas bill.¹⁶

4.2 Green hydrogen will not be a one-for-one replacement for fossil gas given it is highly unlikely to be produced in sufficient volumes and given challenges associated with its development and transportation. It must not be put forward as a means of propping up or furthering expansion of gas network assets. Green hydrogen should be prioritised in those sectors where no alternative exists (e.g. shipping, fertilisers, steel). Analysis of renewable hydrogen demand in those priority sectors as well as a supply potential assessment should be a prerequisite for future renewable hydrogen production and infrastructure support.

4.3 It is essential that the gas package does not support any use of hydrogen in home heating and transport. There is no credible evidence to support hydrogen readiness at domestic level.

¹⁶The Limitations Of Hydrogen Blending In The European Gas Grid
https://www.iee.fraunhofer.de/content/dam/iee/energiesystemtechnik/en/documents/Studies-Reports/FINAL_FraunhoferIEE_ShortStudy_H2_Blending_EU_ECF_Jan22.pdf

The Potsdam Institute for Climate Impact Research, the Fraunhofer Institute, and the Regulatory Assistance Project have all rejected the suitability of hydrogen in heating.

4.4 Any proposed blending and associated costs should be carefully scrutinised. Blending does not deliver sufficient gas quality and also does not contribute significantly to greenhouse gas emissions reductions. Blending is also not aligned with the energy efficiency first principle as it represents a dilution of hydrogen with large amounts of methane, making it useless for certain industries while replacing only very limited amounts of fossil gas in the blend.

4.5 The Fraunhofer Institute analysis notes that “Hydrogen blending is not a no-regrets option towards 2030. It is suboptimal because it does not specifically target end-uses for which hydrogen is generally agreed to be needed and imposes additional costs for lower greenhouse gas savings compared to using hydrogen directly. Therefore, H2 usage should be limited to areas where it is needed and cannot be substituted by electricity.” The report further notes that hydrogen blending “represents a lock-in effect as area-wide adaptation measures would have to be financed that are neither necessary nor sustainable in the long term”.¹⁷

4.6 In relation to hydrogen readiness, the European gas distributor group Ready4H2 noted in 2021 that the majority of members would not be ready for hydrogen until 2040. According to the [group’s report, Ready4H2: Europe’s local hydrogen networks](#), only 24% of its members will be “fully ready” for 100% hydrogen by 2035, and only 67% say they will be by 2040.¹⁸

4.7 ACER published a report last year on [repurposing pipelines for hydrogen](#). The report found that it only made sense under three conditions:

1. the presence of loop (parallel) lines in natural gas pipeline systems, so that at least one string could be repurposed to pure hydrogen,
2. security of gas supply to consumers is ensured during the conversion phase to pure hydrogen,
3. sufficient hydrogen market uptake in the area serving a pure hydrogen corridor.

The report goes on to conclude that it is “uncertain when and where these conditions for repurposing would be met across Europe, and whether they will be met at all.”

4.8 The Fraunhofer study also points to many potential technical issues resulting from a 20% H2 blend including potential issues with transport, compressors, meters, and storage.¹⁹ Given the high cost implications, it is important that any funding is assessed in comparison with other

¹⁷ Fraunhofer Institute The Limitations of Hydrogen Blending in the European Gas Grid. https://www.iee.fraunhofer.de/content/dam/iee/energiesystemtechnik/en/documents/Studies-Reports/FINAL_FraunhoferIEE_ShortStudy_H2_Blending_EU_ECF_Jan22.pdf

¹⁸ See also <https://www.rechargenews.com/energy-transition/gas-distributor-group-ready4h2-says-majority-of-members-would-not-be-ready-for-hydrogen-until-2040/2-1-1123484>

¹⁹ Fraunhofer Institute The Limitations of Hydrogen Blending in the European Gas Grid. https://www.iee.fraunhofer.de/content/dam/iee/energiesystemtechnik/en/documents/Studies-Reports/FINAL_FraunhoferIEE_ShortStudy_H2_Blending_EU_ECF_Jan22.pdf

investments in energy efficiency and electrification outside of PC5 which can yield significantly higher emissions reductions for lesser cost.

4.9 The proposed Gas Regulation permits cross-subsidies between energy carriers, which is likely to result in gas or electricity users funding the development of hydrogen infrastructure they will never use.²⁰ The beneficiary-pays principle should be rigorously applied to hydrogen networks in order to prevent cross-subsidies between energy carriers.

Recommendations

- Exclude hydrogen blending to enable a targeted use of hydrogen.
- Ban connection to newly built (or repurposed) hydrogen distribution grids to users that are not identified as priority users.
- Task regulators to examine the cost-effectiveness, including with regard to costly distribution grid upgrades, of supplying buildings with hydrogen.
- Ban financial transfers between regulated services that are separate.

5. Defining “Low-Carbon” Gases

5.1 The proposal defines “low-carbon gases”²¹ as the part of gaseous fuels in recycled carbon fuels, low-carbon hydrogen and synthetic gaseous fuels that meet the greenhouse gas emission reduction threshold of 70%. “Low-carbon” hydrogen, in particular, is defined as hydrogen derived from non-renewable sources if it meets a greenhouse gas emission reduction threshold of 70%. A methodology for assessing greenhouse gas emissions savings from “low-carbon fuels” will be developed by the end of 2024.²²

5.2 The only true “low-carbon” way of producing hydrogen is through renewable electricity. Other production pathways allow the continued use of fossil, non-renewable and non-sustainable energy sources. We do not support any reference to “low-carbon” hydrogen in the gas package.

5.3 The definition of biogas is problematic because while it refers to sustainability criteria in the Renewable Energy Directive (RED), it still would count food and feed crops and all primary woody biomass. Therefore, we recommend that biogas can qualify only if it is

²⁰ Gas Reg. proposal, Art. 4

²¹ Gas Dir. proposal, Art. 2

²² As defined in Annex 9A of the RED

produced from waste and residue feedstocks, except for stemwood, which the majority of scientific literature shows is associated with significant carbon debt over a 30 year period.

5.4 To be fit for purpose, the gas package should drop its framing of a one-to-one replacement of fossil gas with renewable and low carbon gases. Instead, it should focus on putting in place tools that enable the scaling down of gas use in the market and on using hydrogen only for the most strategic applications. The role of gaseous fuels in buildings should be re-assessed and compared to electricity-based solutions.

5.5 The SEAI have analysed the impact of the rollout of anaerobic digesters and increasing levels of biomethane. Their 2017 analysis²³ notes a wide range of challenges that would need to be overcome in order to allow for biogas deployment. It is important to consider any long-term linkage between agricultural production (which provides by-products of food waste, slurry waste and crop residue for anaerobic digestion) and the ongoing availability/supply of this new gas source. The SEAI state that “as food waste feedstocks are a by-product or waste from other processes, they are considered a finite resource. This limits how much supply can be increased in relation to increased demand which may lead to price volatility and price increases.” The SEAI also note the notable moral hazard risk (see also section on hydrogen below) that greater gas volumes may be inadvertently locked into the system in the event that biomethane production is insufficient.²⁴

5.6 McMullin et al and the Irish Academy of Engineers have separately raised several risks and obstacles regarding proposed biomethane use to decarbonise a substantial portion of the gas system, including regarding methane leakage and nitrogen fertiliser use. McMullin et al note that the overall mitigation benefit of bioenergy is highly variable. In relation to anaerobic digestion operations, they note the risk of methane leakage means there is a requirement for potentially costly regulation and monitoring of production sites. They also raise adverse environmental

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<https://www.seai.ie/publications/Assessment-of-Cost-and-Benefits-of-Biogas-and-Biomethane-in-Ireland.pdf> SEAI. Assessment of Cost and Benefits of Biogas and Biomethane in Ireland, 2017

²⁴ This SEAI analysis also underlines that “[t]he scenarios implicitly assume that action is taken in the short term to address the challenges of achieving large scale deployment of biogas and biomethane plants.” The challenges assumed to be overcome in order to allow for this deployment include that:

- Additional land is freed from grazing and available for additional silage production;
- Farmers use the released land for the production of grass silage for bioenergy;
- The ability to collect and secure food waste separately, as well as the ongoing availability of food waste feedstocks;
- Costs associated with grass silage, feedstock, transportation;
- Difficulties in upgrading biomethane in order to meet sustainability, safety and regulatory standards;
- Other substantial challenges associated with investment, planning, certification, support mechanisms and available expertise.

effects, as well as impacts on farmland.²⁵ Therefore, it is particularly important that clear sustainability standards are defined for biogas production.

5.6 The Irish Academy of Engineers has also referred to significant challenges, including planning, permitting, timescales, public acceptance, scale and costs of infrastructure, gas quality control etc. While supportive of biomethane development, they conclude that biomethane will account for only a small portion of Ireland's gas supply by 2040.²⁶ In light of these challenges and risks, we would question incentivisation of the biomethane development and injection.

Recommendations

- Exclude any reference to “low-carbon” hydrogen.
- Include biogas produced exclusively from waste and residue feedstocks.

6. Protecting the Integrity of Energy Communities

6.1 The proposal to mirror the concept of ‘citizen energy communities’ from the Electricity Directive is misguided, and does not add value

6.2 By adding a new gas energy community definition, the risk of corporate capture arises. The definition of citizen energy communities in the Commission's proposal contains weak participation, governance, and control provisions. This means that any enterprise (including those active in the gas sector) may participate in a gas energy community.

Recommendations

- Delete the definition and any other references to citizen energy communities in the Gas Directive.

²⁵ McMullin et al, 2018. Is Natural Gas “Essential for Ireland's Future Energy Security”? Independent academic review commissioned on behalf of Stop Climate Chaos Ireland. tinyurl.com/sjutvfm McMullin et al also point to the need to account for additional use of nitrogen fertiliser at AD sites which would result in increases in Nitrogen Oxide emissions. In the event that on-farm biogas production through AD is strongly incentivised, it may have the perverse effect of locking in intensification of agricultural land and/or expanded ruminant production in opposition to mitigation commitments in the agriculture sector. In other words, the risk is that biogas demand and the operation of such facilities would drive continuous high volumes of these by products at farm level. Detailed analysis is required as to what percentage of farmland would be required to produce high volumes of grass for AD plants.

²⁶ http://iae.ie/wp-content/uploads/2018/08/IAE_Natural_Gas_Energy_Security.pdf

- If energy communities are to be acknowledged in the Gas Directive, this should be done through provisions that strengthen the ability of Renewable Energy Communities to store and inject biomethane into the network and to enter into the supply market.