

Open Public Consultation on the Hydrogen and Gas Market Decarbonisation Package

Fields marked with * are mandatory.

Introduction

The European Green Deal establishes a roadmap for cutting greenhouse gas emissions, fighting biodiversity loss and tackling pollution, while boosting a modern, resource-efficient economy and creating jobs. Energy policy is a central pillar in the European Green Deal and in the decarbonisation of the European economy. Energy instruments are needed to achieve climate targets in a cost-effective manner, to the benefit of EU customers. These include measures already outlined in the relevant initiatives adopted under the European Green Deal. Specifically, the Energy System Integration Strategy and the Hydrogen Strategy adopted on 8 July 2020 set out how the energy markets could contribute to achieving the goals of

the European Green Deal, including the decarbonisation of the production and consumption of hydrogen and methane.

This consultation aims to collect views and suggestions from stakeholders and citizens related to a possible proposal for a revision of the Gas Directive (2009/73/EC) and Gas Regulation ((EC) No 715/2009). This review is planned for Q4 2021.

The possible need for legislative changes relates primarily to cost-efficient decarbonisation of the existing gas sector by (i) enabling a market for renewable and low carbon hydrogen allowing it to become a key component of the energy sector, and (ii) facilitating the injection, transmission, distribution and trading of renewable and low carbon gases in the existing gas grid in the context of the wider energy system integration.

Moreover certain renewable gases might not be connected to any network at all, but could be consumed at the place of production (e.g. by small modular electrolyzers) or transported by other means (e.g. rail or road) to where they will be used. The scope of the off-grid production compared to production connected to a network depends inter alia on technological developments and market uptake.

While preparing for and incentivising the transition to renewable and low carbon gases, legislative changes may also contribute to a better and more consumer friendly functioning of the gas market, taking into account rapid technological developments and the principles introduced in the recent electricity market design proposals.

To organise the transition from fossil to carbon free fuels and to achieve a climate-neutral Europe by 2050, the Commission will table a Fit for 55 package to reduce greenhouse gas emissions by at least 55% by 2030. This will cover wide-ranging policy areas – from energy efficiency to renewables, energy performance of buildings, as well as land use,

energy taxation, effort sharing and emissions trading. The on-going reviews of the Renewable Energy Directive ((EU) 2018/2001) and the Energy Efficiency Directive ((EU) 2018/2002) are addressing, among other things, issues of regulatory incentives for production or consumption of renewable energy. The gas market legislation is part of the Fit for 55 package will need to be consistent with measures under both Directives as well as other measures under the package.

In the Commission's view, in order to deliver the 2030 and 2050 targets, an integrated planning and operation of the energy system as a whole, across multiple energy markets, carriers, infrastructure types, and consumption sectors is necessary.

Households and industrial consumers are at the centre of an integrated energy system. Consumers should be able to choose among the available and accessible renewable and low-carbon technologies that best serve their needs in terms of reliability, resource efficiency and cost. Competitive energy markets are a key tool to achieve the targets of the Green Deal in a cost-efficient manner and to stimulate the significant investments. Putting all technologies into competition, in particular smart electrification, demand response, energy efficiency, and renewable and low-carbon gases like hydrogen and bio methane, or Carbon Capture and Usage/Storage (CCU/S) technologies, will serve customers and empower them to make choices which, in turn, help to achieve decarbonisation targets in a cost efficient way. As such efficiencies and active consumer participation are facilitated, an integrated energy system must be effective and reliable in providing vulnerable and energy poor consumers with a high level of protection.

Direct electrification is in most cases the most cost-effective and energy-efficient way to decarbonise final energy demand. Electrification coupled with increased contribution from renewables, energy efficiency and applying circular economy will thus deliver a substantial part of the emission reductions across the energy system. In certain areas, where a decarbonisation of the current use of gaseous fuels through full electrification is unlikely to be technically or economically viable, gaseous fuels are likely to remain present in the EU's energy system.

The answers to this questionnaire will feed into the review process of the Gas Directive and Gas Regulation, in particular into the impact assessment that the Commission will carry out to assess whether a revision is needed and, if yes, what revision would be the most appropriate.

In the context of developing this initiative, the Commission will conduct an evaluation of the relevant gas market rules. The evaluation will assess the current effectiveness, efficiency, relevance, coherence and the added-value of action at EU level of the Gas Directive and Gas Regulation, in particular in reaching the EU d e c a r b o n i s a t i o n t a r g e t s .

The combined evaluation roadmap has been consulted previously and is available here:

<https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12766-Revision-of-EU-rules-on-Gas>

The questions are divided into eight sections: questions about the identity of respondents, general questions on revising the Gas Directive and Gas Regulation and more specific technical questions on e.g. consumer rights, infrastructure planning, hydrogen markets, access of renewable and low-carbon gases to the gas market and infrastructures, gas quality, and security of supply.

If you do not have an opinion on a question, do not reply.

NB: There is a session timeout for the submission of your contribution after **60 minutes**; this is an automatic security feature. In order to avoid any loss of data, do not forget to use the "Save as Draft" option on the top right side of your

screen before the 60 minutes expire. You can subsequently resume work on your contribution, and submit once completed.

Please note that this questionnaire will be available in all EU-languages in the coming weeks.

About you

* I am giving my contribution as

- ☐ Academic/research institution
- ☒ Business association
- ☐ Company/business organisation
- ☐ Consumer organisation
- ☐ EU citizen
- ☐ Environmental organisation
- ☐ Non-EU citizen
- ☐ Non-governmental organisation (NGO)
- ☐ Public authority
- ☐ Trade union
- ☐ Other

* First name

Francois-Regis

* Surname

Mouton

* Email (this won't be published)

frm@iogp.org

* Organisation name

255 character(s) maximum

IOGP Europe

* Organisation size

- ☐ Micro (1 to 9 employees)
- ☒ Small (10 to 49 employees)
- ☐ Medium (50 to 249 employees)
- ☐ Large (250 or more)

Transparency register number

255 character(s) maximum

Check if your organisation is on the [transparency register](#). It's a voluntary database for organisations seeking to influence EU decision-making.

395418749170

* Country of origin

Please add your country of origin, or that of your organisation.

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Cameroon

Iceland

North
Macedonia

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Canada

India

Norway

Turkey

Cape Verde

Indonesia

Oman

Turkmenistan

Cayman Islands

Iran

Pakistan

Turks and
Caicos Islands

Central African
Republic

Iraq

Palau

Tuvalu

Chad

Ireland

Palestine

Uganda

Chile

Isle of Man

Panama

Ukraine

China

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Italy

Guinea
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Emirates
 United Kingdom

Clipperton

Jamaica

Peru

United States

Cocos (Keeling) Islands Japan

Philippines

United States
Minor Outlying
Islands



Colombia

Jersey

Pitcairn Islands

Uruguay

Comoros

Jordan

Poland

US Virgin Islands



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Qatar

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Barthélemy | <input type="radio"/> Yemen |

The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. **For the purpose of transparency, the type of respondent (for example, 'business association', 'consumer association', 'EU citizen') country of origin, organisation name and size, and its transparency register number, are always published. Your e-mail address will never be published.** Opt in to select the privacy option that best suits you. Privacy options default based on the type of respondent selected

* Contribution publication privacy settings

The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.

☐ Anonymous

Only organisation details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself if you want to remain anonymous.

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Organisation details and respondent details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published. Your name will also be published.

☒ I agree with the [personal data protection provisions](#)

* Language of my contribution

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Czech



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English



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Latvian



Lithuanian



Maltese



Polish



Portuguese



Romanian



Slovak



Slovenian



Spanish



Swedish

I. General questions on the review and possible revision of the Gas Directive and Gas Regulation

Costs for renewable energies have decreased significantly in the last ten years. In the relevant scenarios used by the Climate Target Plan Impact Assessment, biogas, renewable and low-carbon hydrogen and synthetic fuels would represent two-thirds of the gaseous fuels in the 2050 energy mix, with fossil gas used in combination with CCU/S representing the remainder. The areas where renewable and low-carbon gaseous fuels are expected to come into play include today's industrial sectors (e.g. refineries, fertilisers, steel making, glass, ceramics) and certain heavy duty transport sectors (ships, aviation, long distance heavy vehicles). They are also expected to continue serving the needs of the electricity system as flexible power production. The role of gas in heating depends on the competition with other technologies, including heat pumps. The process to decarbonise the gas supply and to shift demand for gases to most needed uses must start already now. Achieving the 2030 renewable, energy efficiency and greenhouse-gas reduction targets in time is an important step in this process.

1. What is your view on the role of gaseous fuels in 2030, in particular as regards hydrogen, biogas and biomethane?

500 character(s) maximum

In this period, GHG emissions can be reduced by using natural gas to replace coal in power generation and heating applications. Natural gas and the existing infrastructure can pave the way for renewable and lowcarbon gases and help to accommodate increasing amounts of renewables by providing flexibility and backup for intermittent renewable power generation. Finally, gaseous fuels could be used as an efficient way to store renewable energy for seasonal supply/demand variability.

2. Do you see a need to revise the Gas Directive and Gas Regulation to help to achieve decarbonisation objectives?

☒ Yes ☐

No

3. If, yes what should the main elements of the reform be? Which benefits do you expect?

500 character(s) maximum

The main elements of the reform should be to safeguard the achievements of the Internal Gas Market while creating a framework for decarbonisation of the gas sector that builds on a credible, robust and manageable certification scheme embedded in RED revision on the basis of voluntary Guarantees of Origin scheme to value life cycle GHG intensity reduction of renewable and low-carbon gases, and that enables a competitive hydrogen commodity market irrespective of origin.

4. How could the revised legislation support the aims of the Energy Efficiency Directive (2018/2002) and the Renewables Energy Directive (2018/2001/EU)?

500 character(s) maximum

The revised legislation should work hand in hand together with the RED and EED to achieve a costs effective reduction of GHG emissions in the gas sector to meet the EU climate goals. There should be one common system for the certification of renewable and low-carbon fuels by expanding the existing voluntary Guarantees of Origins in RED to include standardized lifecycle GHG emission savings.

5. Should the revised legislation, in addition to the instruments under the Fit for 55 package, in particular the Renewables Energy Directive and the Energy Efficiency Directive, include also measures that dis-incentivise the use of unabated fossil gases?

☐ Yes ☒

No

6. Should the revised legislation, in addition to the instruments under the Fit for 55

package, in particular the Renewables Energy Directive and the Energy Efficiency Directive, include also measures that incentivise the use of renewable and low carbon gases, for example via specific targets?

☐ Yes ☐

No

7. Do you expect that the technological and regulatory changes necessary to decarbonise the gas market have a potential to create new jobs by 2030?

☒ Yes

☒ On balance neutral ☐

No

8. What type of jobs will be created? What are the characteristics of jobs that are at risk of being discontinued? If applicable please identify the potential changes in the skills requirements, job quality and occupational safety of the gas market jobs.

500 character(s) maximum

A switch to hydrogen and other renewable and low-carbon gases in the energy-intensive industry can help to continue existing European jobs in manufacturing. In addition new job opportunities will be created in all elements of the hydrogen and gas value chain such as production, transport, storage, supply and trading, as well as in CCUS applications.

9. Do you consider that investments in installations and infrastructure operating on fossil methane gas subject to the risk of stranded assets. If so can the revised legislation address this issue, and how?

500 character(s) maximum

Given the discussions about the risk of stranded assets, IOGP believe that the revised legislation should addresses stranded assets in a manner similar to the NC CAM process for additional capacity. Such a process should include the possible repurposing or retrofitting of assets for alternative use, such as transport of hydrogen or CO2.

II. Consumer's choice and renewable and low-carbon gases

Recognising that citizens must be at the core of the Energy Union and the European Green Deal, clear and easily accessible information is essential to enable citizens to change energy consumption patterns, switch to solutions offered by an integrated energy system, and whenever applicable, switch supplier. Today's consumers are not always made aware of the origin of gases they consume and their climate impacts. To that effect, the certification of renewable and low-carbon gases is envisaged in the context of the upcoming revision of the Renewable Energy Directive (EU) 2018/2001. Recent changes to market rules for electricity have established a comprehensive framework for consumer protection and empowerment (see articles 4, 5, 9-19, 22-29, and Annexes I and II of recast Electricity Directive (EU) 2019/944) in the sector.

While technical and economic conditions in gas markets may differ from electricity markets, updating the legislative framework for gases could ensure an equal level of protection and empowerment for electricity and consumers of gaseous fuels, and increase certainty for market actors. This revision could establish the tools to empower consumers to actively take part in the energy transition while enjoying high level of consumer protection , and ensure that they fully benefit from their contributions to the decarbonisation process. This gives also an opportunity to complement existing legislation addressing the challenges related to vulnerable households and energy poverty.

Consumers should become well-informed and empowered as buyers. This could be achieved through clearer billing and advertising rules, trustworthy price comparison tools, the possibility to conclude contracts to buy specifically renewable or low carbon gas and by leveraging their significant bargaining power through collective schemes (such as collective switching and energy communities). Finally, consumers need to be free to generate and consume their own energy under fair and transparent conditions in order to save money, help the environment, and ensure security of supply.

10. Do you consider that the Gas Directive needs to be modified to ensure consumer protection and empowerment?

(multiple answers possible)

- ☐ Yes, it needs to be more ambitious to reflect the citizen/consumer focus of the Clean Energy Package for all Europeans and the Green Deal.
- ☐ Yes, and mirroring consumer protection and empowerment rights of electricity consumers conferred by the recast Electricity Directive and by 2018 Energy Efficiency Directive would be the most straightforward approach to do so.
- ☐ No, it strikes the right balance as it is.

11. If you answered 'yes' to the previous question, which provisions pertaining to consumer protection and empowerment should be prioritised in the revised Gas Directive?

(multiple answers possible)

- ☐ Provisions on protection of energy poor and vulnerable customers.
- ☐ Provisions on single points of contact for consumers for information on rights, gas consumption and costs, legislation and dispute settlement. ☐ Provisions on protection mechanisms to ensure efficient treatment of complaints through transparent, simple and inexpensive procedures and outof-court dispute settlements.
- ☐ Provisions on supply contract information and modification.
- ☐ Provisions on accessibility to transparent information on share of renewable gas consumed, gas quality, applicable prices and tariffs and on standard terms and conditions.
- ☐ Provisions on frequency of billing and available payment methods.

- ☐ Provisions on cost of access to metering and billing information.
- ☐ Provisions related to switching suppliers (switching related fees, final closure account).
- ☐ Provisions on accessibility of consumption data.
- ☐ Provisions on smart installation of individual meters in multi-apartment or multi-purpose buildings.
- ☐ Provisions on intelligent and remotely metering systems and their costs. ☐
- Provisions on protection against disconnection during winter. ☐ Other

12 Which of the following do you think would be appropriate in strengthening the rights and information of consumers in the gas market? (multiple answers possible) ☐ Consumer participation in demand response through aggregation contracts to sell or buy gases.

- ☐ Enabling the participation/the establishment of energy communities.
- ☐ Access to reliable online price comparison tools for improved switching rates.
- ☐ Introduction/deployment of smart metering systems for gases. ☐ Obligations to provide pro-active consumer information on switching possibilities, consumer rights etc.
- ☐ More consumption and billing information.
- ☐ Additional requirements (please explain further in next question).
- ☐ Enabling self-consumption for large customers using gas absorption heat pumps.
- ☐ Setting minimum requirements for billing information.
- ☐ Providing further billing information on breakdown of gas supply prices. ☐ Providing further information about historical consumption and energy sources.
- ☐ Providing information on the nature of gas supply i.e. fossil, renewable, low carbon. ☐ Other

13. Please specify and/or explain your choice for the three previous questions.

500 character(s) maximum

The existing legislation has been instrumental in establishing functioning gas markets at wholesale level but this does not automatically benefit retail markets. Further measures with respect to retail gas market liberalisation could strengthen consumer rights and enable EU citizens to share in the benefits of a competitive gas wholesale market. In addition, an open retail market would also support a functioning wholesale market.

14. Whether for residential or commercial purposes, consumers may bundle their utilities with a single energy provider. The idea of bundling is based on combining several services in one package. As regards households, some utility companies can provide electricity, gases

and heating offers in a single deal. How do you think transparency and the flexibility of such bundled electricity, gases and heating offers could be further improved to benefit consumers?

500 character(s) maximum

Where utilities offer bundling of services, it should be fully transparent to consumers what the price is for each individual service included in the package and should not reduce the basic rights of consumers.

15. To what extent has current EU legal framework on gas been effective:

for vulnerable consumers in:

	Highly effective	Effective	Moderately effective	Somewhat ineffective	Not effective	No opinion
ensuring a fair protection against disconnections?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

for customer empowerment in:

	Highly effective	Effective	Moderately effective	Somewhat ineffective	Not effective	No opinion
contributing to decarbonisation i.e. choose the most affordable sustainable energy source?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
contributing to the achievement of the EU internal energy market (i.e. choose the preferred supplier irrespective of their place of residence)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stimulating the availability of comparison tools?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
protecting consumers from aggressive marketing practice?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stimulating <i>green offers</i> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stimulating diversity in the choice of payment methods?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
setting clear deadlines for dealing with requests to switch supplier?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
establishing unique contact points for consumers?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

for information about dispute settlement mechanisms in:

	Highly effective	Effective	Moderately effective	Somewhat ineffective	Not effective	No opinion
establishing conditions to exercise the right of withdrawal?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
accessing to speedy and effective complaint handling procedures?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
providing available out-of-court procedures?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

for right to information in:

	Highly effective	Effective	Moderately effective	Somewhat ineffective	Not effective	No opinion
spreading the practice of clear description of the service/product?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
spreading the practice of offers presented in a clear, consistent and simple manner?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
spreading the practice of clearly presenting key information about prices, discounts, termination fees?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

for access to consumption data in:

	Highly effective	Effective	Moderately effective	Somewhat ineffective	Not effective	No opinion
ensuring access to consumption data shortly after consumption?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
boosting consumer confidence in the market?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ensuring transparency and fairness of contractual conditions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
preventing unilateral change of contractual conditions by the supplier?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

for right to accurate information on billing and switching in:













	Highly effective	Effective	Moderately effective	Somewhat ineffective	Not effective	No opinion
providing price increase notifications?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stimulating transparent bundled offers to consumers?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
discouraging surcharges in the payment methods?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ensuring a smooth and fast switching process?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
preventing termination fee or penalty for switching?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Do you see the price of residential gaseous fuel products as an important element in affordability? Do you see an energy poverty challenge in households' access to gaseous fuel products in the future?

500 character(s) maximum

Where energy poverty is a concern this should be addressed with social policies and not by subsidising energy prices. To avoid exacerbating the problem with the additional costs of decarbonisation, priority should be given to a cost-efficient transition, in which natural gas, renewable and low-carbon gases can play an important role. This is even more important in Member States that are switching away from coal as only natural gas can speed up this process without an increase of energy prices.

17. In your view, how important are price signals to consumers in the gas market?

	Very important	Important	Neutral	Not very important	Not important	No opinion
Would consumers benefit from price signals?						
Would price signals drive system integration and energy efficiency and decarbonisation?						

18. The recast Electricity Directive clarifies the scope of Public Service Obligations which concern notably the price setting for the supply of electricity (see Art. 5) in the electricity market. In your view, should such provisions be introduced in the field of gas?

☐ Yes ☐

No

III. Integrated infrastructure planning

Coordinated infrastructure planning across multiple energy carriers, types of infrastructure, and consumption sectors – is the cornerstone of an integrated energy system. In this spirit, the TEN-E Regulation requires that projects of common interest are to be included in national network development plans with highest priority. The Commission proposal

<https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12382-Revision-of-the-guidelines-for-trans-European-Energy-infrastructure>

envisages provisions for cross-sectoral infrastructure planning. Hydrogen infrastructure is included as a new infrastructure category and used for the network development plan on European level. The requirements for national development plans of the Gas Directive and Gas Regulation are focused on preventing underinvestment that could result in less competition. These requirements correspond neither to the decarbonisation objectives nor to the planning requirements on European level. They also lack consistency between gases and electricity sectors.

19. How to ensure non-biased scenario building and planning?

500 character(s) maximum

MSs & NRAs should ensure non-biased approach to scenario building and network planning (e.g. avoid regulatory incentives that lead to sub-optimal solutions). The joint EU TYNDP process, led by the ENTSOs and with stakeholder involvement, should test consistency of scenarios across the different energy sectors and to guide investments with a cross-border dimension. A cross-sectorial cost allocation methodology may be needed to allocate costs in one sector to the sector that benefits from avoided.

20. Do you support an alignment of the national network planning with the European Network Development, for instance regarding frequency of the plans (i.e. timing of submission), time-frames and scenarios to consider?

☒ Yes ☐

No

21. Should the national network development plan be based on a joint scenario used for gases and electricity planning?

☒ Yes

☐ No

22. What actions are needed to ensure that national network development plans properly take into account the Energy Efficiency First Principle, meaning that energy efficiency alternative solutions must be first considered when national network development decision are made?

500 character(s) maximum

The scenario's used for the national network development plans should include the effect of energy efficiency programs and decisions about network development should explicitly address energy efficiency alternatives.

23. What is your position on establishing a single national network development plan for all energy carriers?

Statement	Completely agree	Agree	Neutral	Disagree	Dompletely disagree	No opinion
A single national network development plan can optimise infrastructure needs.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All regulated infrastructure should be part of a single national network development plan.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Should the single national network development plan be binding?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is no objective model to optimise network planning across different energy carriers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is better to keep separate network plans for each sector, but based on a joint scenario.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. Do you support requiring the setting up of national network development plans by all electricity and gas transmission system operators, irrespective of the unbundling model (i.e. also including ownership unbundled transmission system operators)?

☒ Yes

☐ No

25. What role should distribution system operators have in relation to network planning?

(multiple answers possible)

- ☒ Provide information on expected supply and demand for the creation of a joint scenario for the national plan.
- ☒ Prepare their own distribution system network plan.
- ☒ Share information with transmission system operators for network planning purposes.
- ☒ Be allowed to conduct their own cross-sectoral optimisation. ☐ None of the above.

26. Should hydrogen transmission/distribution infrastructure be included in national network development plans?

☒ Yes ☐

No

27. What should the network development plan be used for?

(multiple answers possible) ☒ Provide

transparency.

- ☒ Ensure a robust network to match supply and demand for different scenarios.
- ☒ Enable execution of investments.
- ☒ Regulatory prerequisite for cost acceptance in regulated network tariffs.
- ☐ Guarantee that infrastructure contained in the plan is built (binding plan).

28. Should the national network development plans provide information where new electricity production, consumers, storages or electrolyzers reduce additional investment needs into the network?

(multiple answers possible)

- ☐ No, the selection of production, consumption and storage sites is not an activity system operators should be involved in.
- ☒ Yes, but only as information, without legal consequence.
- ☒ Yes, for hydrogen production.
- ☒ Yes, for electricity production (renewable and/or conventional).
- ☒ Yes, for electricity and/or hydrogen storage.



Yes, for major consumption sites.



Yes, to take into account externalities not necessarily perceived by market participants.

29. [question available only if “yes” to one of the bullets under 30]: If you answered yes, how should this be achieved?

- ☐ By selecting indicative areas which are particularly suitable from an energy network perspective for the given type of production/storage/major consumption site, as an information only.
- ☐ By defining areas where sufficient connection capacity to the energy networks for such sites can be guaranteed.
- ☐ By establishing that this type of site may only be connected in the indicated areas.
- ☐ By establishing areas in which lower network tariffs for the use of the respective sites, and/or connection charges can be expected, based on the tariffs approved/decided by the national regulatory authority.
- ☐ By indicating in which areas system operators expect to make offers for the purchase of system services which could typically be provided by the given type of site.
- ☐ By using connection in designated areas as a prerequisite for eligibility in support schemes. ☐ Other

30. If you consider that, in question 29, other approaches are required, please explain what approach is needed and why?

500 character(s) maximum

N/A

IV. Hydrogen infrastructure and a hydrogen market

Pure hydrogen, used today mainly as a feedstock, can be expected to be used as a fuel or as an energy carrier. Pure hydrogen may be transported via a network of dedicated pipelines that could consist of repurposed methane gas pipelines and/or newly built pipelines. Currently, infrastructure for the transport of pure hydrogen is not covered by the Gas Directive, as the gas system currently does not include network infrastructure dedicated to the transport of pure hydrogen.

The Commission’s vision as set out in the EU’s hydrogen strategy^[1] is that (low carbon and, preferably renewable) hydrogen will be used first in certain industrial applications (like refineries, steel production, fertiliser production, chemical complexes) and certain transportation modes (heavy duty road transportation, maritime) and that, progressively, an integrated market will emerge from initially disconnected hydrogen valleys. The hydrogen landscape

is expected to evolve rapidly in the coming years, but its development is likely to differ in speed and scope per Member State. The present consultation seeks to collect views on regulatory measures that may be required to accompany the emergence of an EU hydrogen market over the next 10-15 years.

[1] https://ec.europa.eu/energy/sites/ener/files/hydrogen_strategy.pdf

31. Which are in your view the main regulatory barriers to the development of a well-functioning cross-border hydrogen market and a cross-border hydrogen infrastructure within the EU?

500 character(s) maximum

Development of demand and supply for hydrogen will require targeted policy support to create an incentive for a transition to hydrogen as energy source, a stable regulatory environment, national schemes that support the common objective and product definitions that facilitate cross-border trade.

32. Which are in your view the main regulatory barriers to the development of a cross-border hydrogen market and a cross-border hydrogen infrastructure with third countries?

500 character(s) maximum

It will require targeted policy support to incentivise the supply of H₂ from (or to) 3rd countries & to develop a H₂ infrastructure with 3rd countries. Given the amount of public funding involved, this will be challenging. Nevertheless, the regulatory framework for a H₂ infrastructure with 3rd countries should be similar to the one applied in the EU natural gas sector, in order to guarantee a fully competitive market without a privileged position for market players from 3rd countries.

Section IV.1. Regulatory framework for pure hydrogen markets and pure hydrogen infrastructure

33. What regulatory model at EU level do you consider suitable to foster the emergence of a well-functioning and competitive hydrogen market and hydrogen infrastructure?

- ☐ No regulatory intervention is needed. Progress so far has been made without rules at EU level and competitive markets outcomes are likely to emerge without intervention.
- ☐ The creation of 'competition for the market' by tendering concessions at national level to own and operate hydrogen networks is a market model that can work for hydrogen. It will foster infrastructure development. Rules on the operation of the network are not needed.
- ☒ We need regulation to ensure "competition in the market". A common approach is needed in which an EU legislative framework outlining key regulatory principles (such as neutrality of network operation, third party access, cost reflective and market compatible network tariffs, treatment of private networks) are set as

networks can represent natural monopolies. The rules could be developed stepwise, e.g. the creation of more detailed EUwide technical rules could be left to later, or Member States could be allowed to develop such rules earlier where needed.

- ☐ We need regulation to ensure “competition in the market”, already with a greater level of detail at EU level. The final market organisation should be specified now to prevent regulatory divergence between Member States and create investment certainty. Detailed rules (with implementing regulatory principles and technical rules) are needed at EU level from the start.
- ☐ Other approaches are needed/required to regulate the hydrogen network as the regulatory approach currently used in gas and electricity offers little guidance.

34. If you consider that other approaches are needed/required, please explain what approach is needed and why.

500 character(s) maximum

The development of a hydrogen infrastructure will follow when effective policy support for supply and demand of hydrogen has been established. The regulatory framework for a hydrogen infrastructure should be based on the existing framework for natural gas.

35. Although further development of hydrogen markets along the value chain seems highly likely, significant uncertainties remain. How should this uncertainty be

taken account of in designing a ‘fit for purpose’ regulatory framework? ☐ Setting clear key regulatory principles for infrastructures will remove important uncertainties, while flexible rules do not. Precise rules are thus better than flexible ones.

- ☐ Setting main regulatory principles leaves enough flexibility for details to be set later or at Member State level. No specific provisions are required to allow for flexible application of main regulatory principles.
- ☒ Main regulatory principles are needed. However, flexibility needs to be built in, e.g. by allowing temporary exemptions/derogations from main regulatory principles.
- ☐ A dynamic regulatory approach should apply. Based on a periodic assessment of the market's maturity, it will be decided if regulatory intervention along pre-defined principles is needed. The benefits of such a flexible approach outweigh the costs of interventions with retroactive effect and regulatory uncertainty.

36. If you consider allowing temporary exemptions/derogations from main regulatory principles an important element, please explain which principles exemptions/derogation are useful and why.

500 character(s) maximum

Regulatory exemptions and derogations are important instruments to facilitate investment initiatives by market parties. Nevertheless, temporary exemptions may work for a single investment (provided sufficient duration and acceptable conditions) but hinders ongoing network expansions. In general, the approach to exemptions/derogations applied in the natural gas sector should be the basis for a hydrogen infrastructure.

37. How important would you consider to define the following regulatory roles and principles early in order to facilitate the development of a dedicated hydrogen network and market framework towards 2030?

Role/regulatory principle	No opinion	Very important	Important	Neutral	Not very important	Not important
Role of existing network operators (TSOs/DSOs) in developing hydrogen infrastructure	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Role of private parties (non-TSO/DSO operators) in developing hydrogen infrastructure	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rules to ensure the neutrality of hydrogen network operations (i.e. unbundling)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Third Party Access to hydrogen infrastructure	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost-reflective, non-discriminatory network tariffs for hydrogen networks that are market compatible.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Market rules on capacity allocation and congestion management at cross-border interconnection points in hydrogen networks	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Market rules on balancing the injection of hydrogen in a network with the volumes taken off the network by a given network user	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rules on cross-border operability of hydrogen networks.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rules on tariff setting for hydrogen networks	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rules on the valuation of assets when they are repurposed and taken out of the regulated asset base of a gas-TSO	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section IV.2. Regulated versus non-regulated hydrogen networks

38. With the imminent phase out of low-calorific methane gas (L-gas) and the demand for methane gas expected to decline after 2030, parts of the existing panEuropean gas infrastructure could be repurposed to provide for the necessary infrastructure for large-scale cross-border transport of hydrogen. Should existing methane gas network operators be allowed to own, operate and invest in hydrogen networks?

- ☒ Yes, the current gas network operators (TSOs/DSOs) should have a prominent role. The current gas market model could serve as a model for future hydrogen markets.
- ☐ Yes, but a parallel pathway for non-regulated infrastructure investments by private parties should exist.
- ☐ No, a hydrogen network will need to be regulated, but the current gas network operators (TSOs/DSOs) should not have a prominent role.
- ☐ No, hydrogen networks should be left unregulated. “Competition for the market” can work.

39. How should **existing private** hydrogen pipelines (pipelines directly connecting hydrogen supply and demand whilst not being part of a meshed, interconnected network) be regulated?

- ☐ Existing private networks should be left unregulated. This is a pathway for infrastructure development in parallel to a regulated system.
- ☐ Existing private network operators should be left unregulated but able to unilaterally choose to ‘opt-in’ into an existing regulated system.
- ☒ Existing private networks can be exempted (under NRA supervision) from regulatory requirements (such as unbundling and third party access) but a sunset date needs to be set (e.g. once supply contracts expire, once it is integrated in a other, already regulated hydrogen network or by conducting regular market tests to verify market interest in accessing the pipeline).
- ☐ No special treatment for existing private infrastructure. Main regulatory principles should apply to all networks as of the moment of their introduction.

40. Should **future private** investments in hydrogen pipelines be regulated?

- ☐ Future private networks should be left unregulated. This is a pathway for infrastructure development in parallel to a regulated system.



The default rule for future networks should be that they are regulated. Exemptions for private investment from certain provisions (e.g. unbundling, third party access, tariff regulation) can be considered provided conditions are met (akin to Article 36 of the current Gas Directive).

- ☐ Private investments should be allowed and exemptions for private investors to stimulate them should be considered. However, day-to-day operations of private networks could be left to other bodies, e.g. an Independent System Operator (ISO).
- ☐ No special treatment for future private infrastructure. Main regulatory principles should apply to all networks.

Section IV.3. Main principles for regulated hydrogen networks

41. Vertical unbundling^[2] should prevent that hydrogen network operators (i) discriminate against third parties with regard to the connection or access to the network in favour of affiliated production and supply activities, and/or (ii) that hydrogen network operators over- or under-invest in their energy network which could increase energy system costs or purposely limit capacity to hinder competitor's access. Please indicate the extent to which the vertical unbundling principle should apply to hydrogen networks:

[2] For the purpose of this questionnaire and to reflect the specific situation of interrelation between hydrogen and methane gas networks, the Commission will refer to "vertical unbundling" when describing the separation of hydrogen production, trade and supply activities from hydrogen network-related activities and to horizontal unbundling, when describing the separation between ownership of hydrogen and methane gas networks.

- ☐ Accounts unbundling should be applied: the use of separate accounts for the regulated hydrogen network activities and hydrogen production and supply activities.
- ☐ Functional unbundling should be applied: the effective separation of the decision making rights between the network and production/supply activities, as well as the separation of the human, technical, physical and financial resources.
- ☐ Legal unbundling should be applied: the separation of network operation activities in a distinct legal entity.
- ☐ Based on the experience in gas and electricity markets, ownership unbundling should be applied from the start: the same company is not allowed to control both the hydrogen network and hydrogen production or supply interests, although e.g. the ownership of minority shares without rights to vote or appoint board members may be allowed.

42. Should (regulated) network operators (e.g. gas, electricity or hydrogen TSOs /DSOs) have a role in Power-to-gas installations (i.e. electrolyzers)?

- ☐ Network operators should never own or operate Power-to-gas installations. To avoid conflicts of interest and network foreclosure, system operators should be precluded from investing in and running power-to-gas installations (as is currently the case). Investment and management of power-to-gas installations should be market-based and open to competition among market players. Investment by regulated entities will discourage investments by market participants and create competition distortions.
- ☒ Network operators should never own or operate Power-to-gas installations. However, network operators should be encouraged to be involved in R&D and development projects that are related to energy grid operations (e.g. grid connection and grid services, like balancing provision). Network operators are well placed to assist in such projects and encouraging their active involvement will facilitate the integration of Power-to-gas installations where no rules exist and speed-up rule setting.
- ☐ Vertical unbundling remains the default option. Exemptions for network operators to own or operate Power-to-gas installations should only be allowed in clearly defined circumstances. For example, only if this is necessary to guarantee network operations and if no other market party is willing to carry out the investment. Clear and limited conditions should be defined (e.g. limitations in scope, scale and time), after it has been proven that the market is not willing to invest in such installations and foreseeing a procedure to transfer such installations back to a market-based regime once the derogation expires.
- ☐ There are no reasons to impose restrictions on network operators to operate or invest in power to gas installations or such choices can be left to Member States or National Regulatory Authorities.

43. How should non-discriminatory access to future regulated hydrogen networks be ensured?

- ☐ The principle of negotiated third party access should apply. It will be left to the hydrogen network operator and the network users to negotiate the terms of access to the network, such as tariffs. National regulators play a role at distance only.

- The principle of regulated third party access should apply. Infrastructure operators should be obliged in EU legislation to provide non-discriminatory access to network users on the basis of published terms and conditions, including tariffs that are set or approved by the national regulator.
- Third party access does not have to be ensured.

44. Today's rules for gas network tariffs (see Art. 13 of the Gas Directive) seek to avoid cross-subsidies between network users but also to provide incentives for investments. In an emerging hydrogen market, the transported hydrogen volumes as well as the customer base might be low initially. This could lead in certain cases to high initial hydrogen network tariffs for early users of a hydrogen network. Please indicate the appropriateness of the statements below in case incumbent methane gas network operators should be allowed to retrofit their assets for hydrogen transport:

Statement	No opinion	Completely agree	Agree	Neutral	Disagree	Completely disagree
Horizontal unbundling rules should ensure that hydrogen pipelines are being financed by hydrogen network users only and not by methane gas network users. Methane gas network users should not carry the costs and risks for a hydrogen network and non-TSO hydrogen operators should not suffer a competitive disadvantage.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cross-subsidisation between users of the methane gas infrastructure and the hydrogen infrastructure should be allowed. This could lower the initial tariffs for the use of hydrogen networks and could facilitate the conversion of parts of the methane gas infrastructure into hydrogen infrastructure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Cross-subsidies between methane and hydrogen network users should not be allowed. Other measures should be made available to lower initial hydrogen network tariffs (such as public grants or subsidies to network users or network operators).	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

45. Do you think the current structure of cross-border gas transmission tariff system is suitable for the development of the hydrogen market (or other renewable and low carbon gases) in the EU?

☒ Yes

☐ No, other ideas should be developed, for instance to avoid tariffs on crossborder points between EU Member States.

Please explain why

500 character(s) maximum

Assuming network operators remain organised by Member State, the current tariff structure at cross-border points is designed to recover the costs made by a network operator for the benefit of a neighbouring system. The tariff system in place is effective and suitable for a dedicated hydrogen backbone. An alternative approach would be impractical and require agreement on inter-TSO compensation mechanisms.

46. The creation of hydrogen networks, specifically by repurposing, may give rise to coordination problems when operated by separate and fragmented system operators. This may hamper the development of a well-functioning cross-border hydrogen market. The creation of hydrogen markets opens up a possibility to manage and operate the hydrogen pipelines by a European Independent System Operator (ISO). Do you support to introduce an EU ISO model for hydrogen?

☐ Yes ☒

No

Please explain your answer

500 character(s) maximum

The Internal Gas Market functions well despite having separate system operators. When such operators can repurpose natural gas pipelines for transmission of hydrogen, with separate RABs to ensure efficient cost allocation, they can also operate these hydrogen pipelines and there is no benefit in transferring these assets to a newly created European ISO.

47. The configuration of many energy networks and the rules that apply to them set out a clear distinction between a transmission and distribution level. Is this distinction relevant for a hydrogen regulatory framework before 2030? Do you expect the development of a “transmission” and a “distribution” level for hydrogen? ☐ No: hydrogen networks may have different features than methane networks (e.g. high/low pressure distinction less relevant in hydrogen network). At this stage, main regulatory principles should apply at any point in a hydrogen network.

- ☒ Yes: Many potential customers are connected to distribution grids; it should already be anticipated now that different rules should apply for the distribution and transmission level.
- ☐ Yes: At this stage, rules should be set for the transmission level only. EU rules for the distribution level can wait until later or be defined at Member State level.
- ☐ Yes: At this stage, rules should be set for the distribution level. EU rules for the transmission level can wait until later or be defined at Member State level.

Please explain your answer

500 character(s) maximum

The pipeline materials used in DSO networks may enable a higher % of hydrogen to be injected at the DSO level. This could facilitate a parallel development of the hydrogen market: at TSO level focussed on industrial users and at DSO level focussed on heating applications. However, where more hydrogen is injected into the DSO networks, the hydrogen could be available on a virtual basis to trade on the wholesale market to avoid fragmentation and facilitate a liquid traded market for hydrogen.

Section IV.4. Inventory of national rules on the construction of methane and hydrogen pipelines

48. In order to repurpose the existing methane gas infrastructure for hydrogen transport, it is necessary to clarify whether rights of land use, private easements as well as (other) public permits that have been granted for the construction and operation of methane gas pipelines will remain valid once the transported gaseous energy carrier changes from methane gas to hydrogen. In addition, a legal framework covering these aspects might also be required for the construction and operation of new hydrogen pipelines. Will the construction of dedicated hydrogen pipelines (either repurposed or new built pipelines) be considered a public interest in your Member State?

- ☐ Yes
- ☐ No ☒ Do not know

49. Will rights and permits in your Member State initially obtained for the construction and operation of methane gas pipelines remain valid in case the development and (re-) use of these pipelines for hydrogen transport is foreseen?

- ☐ Yes
- ☐ No
- ☒ Do not know

50. Is a (new) legal framework covering public permits and rights of land use required in your Member State for the construction and operation of new hydrogen pipelines?

- ☐ Yes
☐ No ☒ Do not

know

51. Should rights and permitting requirements for hydrogen infrastructure be similar to that of those that are applicable today to methane gas pipelines in your Member State?

- ☒ Yes
☐ No ☐ Do not

know

52. If you replied 'no', please explain

500 character(s) maximum

Section IV.5. Consumer rights for users of pure hydrogen

53. The Commission expects as set out in the EU hydrogen strategy^[1] that renewable and low carbon hydrogen will be used first in certain industrial applications (like refineries, steel production, fertiliser productions, chemical complexes) and certain transportation modes (heavy duty road transportation, maritime). In view of these typical end-users that may adopt hydrogen by 2030, what rights and protection rules for users connected to a pure hydrogen network may be needed?

[3] https://ec.europa.eu/energy/sites/ener/files/hydrogen_strategy.pdf

- ☐ Other than network access rights, little needs to be done in terms of customers rights. These typical end-users do not need specific consumer rights and protection.
- ☒ It is important that these typical users of a hydrogen network have the same rights as if they would be connected to the methane gas grid. Having the same consumer rights and protection ensures a level playing field between energy carriers.
- ☐ It is important that consumer rights and protection rules for all consumers connected to a hydrogen grid are fully aligned with those for consumers of connected to the methane grid, regardless as to whether they are likely to use hydrogen or not or their size (i.e. households).

54. What consumers rights and protection rules will need to be clarified already now for users receiving pure hydrogen from dedicated hydrogen networks?

Consumers rights and protection rules	No opinion	Very important	Important	Neutral	Not important	Very important
Access to consumption data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on billing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on quality of H2 supplied	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on CO ₂ content of hydrogen along its life-cycle ^[4] [Including emissions determined from hydrogen transport, distribution, liquefaction and storage].	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on rights to switch supplier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Information about dispute settlement mechanisms	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section IV.6. Quality standards for pure hydrogen and its governance

55. Different hydrogen production methods produce hydrogen of different purity and different end-uses require specific purity levels^[4]. To ensure the cross-border flow of pure hydrogen from production to consumption centres and to ensure the interoperability of the connected, neighbouring markets, common quality standards or cross-border operational rules may be necessary. In your view, at what level should such binding hydrogen quality (purity) standard be established?

[4] In a simplified way, we can distinguish between industrial grade purity for the hydrogen used e.g. in refineries, for ammonia and steel production and fuel cell grade purity for use in low temperature fuel cells, e.g. current road and rail transport applications.

- ☐ At Member State level (i.e. maintaining potential differences between Member States).
- ☒ At Member State level with EU-level cross-border coordination rules (i.e. allowing for coordination between Member States).
- ☐ At EU-level, setting common standards for hydrogen quality across the EU.
- ☐ No common rules on hydrogen quality standard are necessary before 2030.

56. In a cross-border dedicated hydrogen network, adapting the quality of hydrogen for specific end uses (purification) might become an important task (including the measurement and monitoring of hydrogen quality). In your view, what would be the most efficient and appropriate way to establish the necessary rules on roles, responsibilities and cost-allocation for the management of hydrogen quality?
- ☐ Member State level regulatory framework (i.e. with potentially very different regimes per Member State).
 - ☒ EU-level principles providing for a common overall approach in the Member States.
 - ☐ EU-level principles providing for a common approach combined with regional implementation.
 - ☐ EU-level rules ensuring a harmonised approach across the EU. ☐ No common rules are necessary before 2030.

Section IV.7. Hydrogen storage and hydrogen import from outside the European Union

57. Do you see the need to develop larger-scale, dedicated hydrogen storage facilities in the EU in light of the increased use of hydrogen in the EU?

☒ Yes ☐

No

58. Do you think that regulation of hydrogen storage would be necessary?

- ☒ Yes, to the same degree as for methane storage (leaving Member States the choice of negotiated or regulated third party access).
- ☐ Yes, but it should not be directly available to the market itself and should only be used by the operators for network operation purposes.
- ☐ No, hydrogen storage facilities can be left unregulated.

59. Hydrogen is likely to be produced inside the EU at the same time imports from outside the EU may be possible and competitive for the supply of hydrogen.

- ☐ I disagree, imports will not take place before 2030 and therefore there is no need to look into relevant infrastructure.
- ☒ Whilst imports may still be modest by 2030, they will require the necessary infrastructure and reflection on appropriate measures should start now. ☐ It is important that import infrastructure is in place by 2030.

60. Hydrogen may be transported via pipelines into the EU, but also via nonnetwork based transport options. In case you expect non-network based imports from outside the EU, in which way do you expect hydrogen to be carried into the

EU?

- ☒ Shipped into the EU as liquefied hydrogen.
- ☒ Shipped into the EU as ammonia.
- ☒ Shipped into the EU on the basis of Liquid Organic Hydrogen Carriers ('LOHCs').
- ☒ Transported into the EU via trucks.

61. Do you see a need to prepare EU LNG terminals to receive liquefied hydrogen? ☒ Yes, today's import terminals can play an important role in supplying the EU. ☐ No, imports will become important but large-scale LNG terminals will not be relevant.

62. In case hydrogen is carried into the EU as liquefied hydrogen, ammonia or LOHC, would you expect subsequent injection into pipelines?

	No	Yes
If imported as liquefied hydrogen	<input type="radio"/>	<input checked="" type="radio"/>
If imported as ammonia	<input type="radio"/>	<input checked="" type="radio"/>
If imported as LOHC	<input type="radio"/>	<input checked="" type="radio"/>

63. How important would you consider to define the following regulatory principles early in order to facilitate the development of a dedicated hydrogen infrastructure and market framework towards 2030?

Regulatory principle	No opinion	Very important	Important	Neutral	Not very important	Not important
Market rules for access to storage for (pure) hydrogen	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Market rules for access to import terminals for pure hydrogen	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

V. Access of renewable and low carbon gases to the existing methane gas networks and markets, including LNG terminals and gas storages

Today, biogas^[5] and biomethane provide the most significant sources of renewable and low carbon gases in the EU with some 18 bcm annually (5% of total gas demand). Whereas biogas is used off the grid (for power production or by the industry to reduce process related CO₂ emissions), biomethane can be injected into the existing methane network.

However, the deployment of biomethane is currently below its potential. There are about 725 biomethane plants connected to the gas grid, the majority at the distribution grid level.

Synthetic methane has the potential to support the decarbonisation of gas as well. It is produced by adding CO₂ captured during the upgrading of biogas to biomethane, from industrial processes, or eventually directly from the air to renewable or low carbon hydrogen.

Biomethane and synthetic methane injected at distribution level may face barriers preventing it from being traded on the EU's wholesale markets to the same degree as methane gas. Similar difficulties may be encountered by hydrogen when blended into the existing gas grid.

[5] Biogas is about 60% methane, 40% CO₂ + some impurities. Upgrading biogas to biomethane level requires removal of CO₂ and impurities. If used and, more importantly, stored the CO₂ obtained in production of biomethane from biogas is sometimes argued to create 'negative' emissions

64. Which are in your view the main regulatory barriers to the deployment of biomethane and synthetic methane?

500 character(s) maximum

The deployment of all renewable and low-carbon gases could benefit from an EU-wide, credible and robust system to reward the decarbonisation benefits of those gases. Certification of emission savings should be provided in the RED revision, and should be eligible to be used in the compliance market.

65. Do you consider it important to adapt the Gas Directive and Gas Regulation to facilitate injection biomethane and synthetic methane into the existing methane gas grid?

☒ Yes ☐ No

66. Do you consider it important to adapt the Gas Directive and Gas Regulation to the needs of hydrogen to be injected into the existing gas grid?

☒ Yes ☐ No

67. How do you rate the measures below? (one answer per question)

Measure	No opinion	Very important	Important	Neutral	Not very important	Not important
Adapt tasks and responsibilities of national regulatory authorities to oblige them to facilitate the process of decarbonisation of gas when taking decisions (e.g. as regards development of infrastructure).	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve the coordination between transmission and distribution system operators to facilitate the process of decarbonisation of gas.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure access to the transmission level and to the EU's wholesale market of renewable and low-carbon gases produced at distribution level.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrate the distribution system operator level into the entry-exit system with the same balancing regime that is applicable to the transmission system operator.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extending the model of energy communities of the Electricity Directive to the gas market to consume volumes of biogas, biomethane or hydrogen not injected to the interconnected grid.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obliging operators to ensure connection for new renewable gases facilities i. e. priority connection and dispatch.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Reducing network tariffs for injection of renewable gases to the grid.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Limit tariffs to efficient network operations, not supporting other policy objectives.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make the short term capacity products for methane pipeline and storage infrastructure more attractive to better reflect the interdependency with electricity and compatibility with the support schemes for renewable and low-carbon gases.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abolish special treatment of fossil methane long-term contracts e.g. abolish derogations for take-or-pay clauses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

System operators should be obliged to explore the opportunities for improving the energy efficiency of the system (i.e. eliminate leaks, recovering energy from pressure drops between high, medium and low pressure grids, optimise heat management including cold recovery from pressure decrease).



68. The current gas market model implies diverging access tariffs at the borders of Member States. As pointed out by ACER *“Cross-border tariffs tend to have a referential role over hub price spreads, although the role may vary per case. In hub pairs, mainly in the Nord-West Europe area, day-ahead price spreads are regularly below daily transportation tariffs and frequently also below yearly transportation tariffs (the latter being usually more economic)^[6]”*. For the sake of an enhanced efficiency of gas markets into an integrated EU-wide internal market so as to facilitate the uptake of renewable and low-carbon gases within the market, a re-design of the access tariff to be more compatible with market dynamics could be introduced. This would lead to a full integration of gas markets and avoid price spreads across EU. It would however bear the risk of redistribution of transportation tariff between Member States in accordance with inter-TSO agreements and changes to end-user tariffs. Moreover, the re-designing of the short-term capacity products may avoid capacity foreclosure/lock-in in favour of long-term (natural) gas trade to the detriment to the renewable and low carbon gases. This may also help in aligning the capacity products of the future methane-based system with the electricity market operating on the basis of short-term trading. This could be done even in absence of EU-wide common rules on e.g. the overall rate of return, depreciation times or asset value for the gas grids, as these are set out at national level.

How do you rate the measures below to reach this enhanced level of design?

[6] see ACER’s Market Monitoring Report 2019, p58)

Measure	No opinion	Very important	Important	Neutral	Not very important	Not important
<ul style="list-style-type: none"> Abolishing grid charges on intra-EU cross-border points, payable price for capacity booking determined by auctions only (minimum price fixed at variable costs only). Charging the entry points from non-EU countries based on capacity weighted distance to a virtual point in the middle of EU’s grid in addition to some fees set according to market and security of supply criteria 						

<ul style="list-style-type: none"> Collecting the remuneration of the EU's network operators from capacity auction revenues at extra-EU entry points, intra-EU entry points for gas' production and from exit points Introducing an inter-TSO compensation mechanism to reconcile revenues by keeping TSOs revenues neutral with the current circumstances. Setting up short-term capacity products 						
Harmonising allowed revenues parameters for TSOs (e.g. WACC, depreciation time, valuation of assets)						
EU level guidance for the regional integration of the gas market, including gas market mergers						

69. The measures under question 67 and 68 could be combined. How do you see such a possibility?

500 character(s) maximum

The development of renewable and low-carbon gases could leverage the benefits of the existing liquid gas market. The existing tariff design for interconnection points is not a barrier for the cross-border trade in natural gas and hence should not restrict the physical flow of renewable and low-carbon gases across borders. Changes to the tariff design, if any, should be evaluated and justified for all gases that use the system on an equal basis.

70. The LNG market in Europe has significantly changed since the adoption of the Third Energy Package setting the rules applicable to LNG terminals in the EU. Additional LNG volumes imported to the EU, more short-term trade and an increased number of LNG terminals in the EU change the way the terminals operate. Market participants are calling for more transparency, flexibility of products and access rules^[7]. Provided that adaptations are made and that sustainable renewable gases can be verified in third countries, LNG terminals can play a role in importing renewable and low-carbon gases (i.e. liquid hydrogen, biomethane, ammonia, synthetic-fuels). Gas storage facilities may also play an important role for renewable and low-carbon gases either directly or after adaptations. Do you think the existing regulatory framework for LNG needs to be modified? (multiple answers possible)

[7] <https://op.europa.eu/en/publication-detail/-/publication/efa4d335-a155-11ea-9d2d-01aa75ed71a1/language-en>.

- ☐ Yes, it needs to incentivise and promote the access of renewable and lowcarbon gases into the LNG terminals (i.e. synthetic methane, bioLNG, etc.) ☐ Yes, it needs to be more harmonised in terms of transparency and access to available capacities to improve the functioning of LNG market in the
- ☐ Yes, it needs to be less prescriptive compared to the current framework, allowing for negotiated access rules to LNG terminals
- ☒ No, it strikes the right balance as it is ☐ Other
- (pls allow for comments)

71. Do you think that LNG terminals will play an important role in the decarbonisation of the gas sector?

- ☒ Yes, the import of renewable and low-carbon gases via LNG terminals into the EU will play an important role
- ☐ No, LNG terminals cannot be used to import renewable and low-carbon gases

72. Which renewable and low-carbon gases, in your view, can be imported via LNG terminals?

100 character(s) maximum

LNG terminals can import liquefied biomethane & would need adaptations to be able to take liquid H2.

73. How important do you consider the following measures to be to improve the current regulatory framework for LNG terminals?

	No opinion	Very important	Important	Neutral	Not very important
Require LNG terminals and other gas depressurising sites to provide waste heat/cold to nearby heat/cold consumers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Introduction of measures coordinating the adaptation of LNG terminals to renewable and low-carbon gases e.g. coordination of development plans, market tests etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Removing of the tariff discount for gaseous fuels entering the TSO grid from LNG terminals, regardless of the type of gas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Introduction of stronger enforcement rules preventing cross-subsidisation of LNG terminals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Introduction of an EU-wide information platform that ensures transparency on and comparability between terminal service offerings, tariff levels, and available capacities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Facilitate more transparency in the secondary trading of capacity.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Harmonise the congestion management rules to improve terminals' usage.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Provide an option for Member States to opt for "negotiated" access similar to storage facilities.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

74. Do you have any other view or ideas related to improve current regulatory framework for LNG? Please specify.

75. Do you think the Gas Directive and Gas Regulation should be revised to encourage and promote the role of storage for use of renewable and low-carbon gases by introducing transparency measures such as coordination of development plans, market tests?

☒ Yes ☐

No

76. The blending of hydrogen and other renewable or low carbon gases into the existing methane gas grid requires a consideration of its contribution to the decarbonisation of the energy system as well as its economic and technical implications (see specific questions on technical implications in section on gas quality). Please indicate the appropriateness of the statements below with regard to blending

Statement	Completely disagree	Completely agree	Agree	Neutral	Disagree
Blending provides a cost efficient and fast first step to energy system decarbonisation. It will facilitate the offtake of hydrogen and other renewable and low carbon gases by using existing methane gas infrastructure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blending prevents the direct use of pure hydrogen in applications where its value in terms of GHG-emission reductions is higher, such as industry and transport.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blending creates technical constraints and additional costs at injection and end-use appliances which makes it a less cost-efficient option for decarbonisation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

VI. Gas Quality

The variety of sources of gases transported through the EU's methane gas networks^[8] leads to a corresponding variety of gas quality with different physical and chemical characteristics. These gas quality characteristics are an essential consideration for the design of gas infrastructure and end-use appliances, as well as for industrial processes using gas as feedstock, in order to ensure the safety and efficiency of operation. To this end, gas quality standards have been developed. Member States have established their own practices to control gas qualities at national level, adapted to their national context (e.g. quality of gases historically consumed and appliances in use). In addition, the CEN standard

on H-gas quality^[9] is currently the fundamental standard for the EU gas sector used in EU Member States. However, the CEN standard is not applied in a coordinated^[10] or binding manner and therefore, is not sufficient on its own to provide for a harmonisation of gas quality standards across EU Member States. Differences in gas quality can lead to problems for end users and have negative effects on cross-border trade.

The issue of gas quality is becoming more pressing with the effort to decarbonise the EU's energy sector, as this will require the injection of growing volumes of renewable and low-carbon gases into the existing gas transmission and distribution networks. The quality parameters of gas consumed and transported in Europe will change, leading to more frequent quality fluctuations to a much larger extent than is the case today. This will affect the design of methane gas infrastructure and end-user applications, as well as industrial processes using gases as feedstock. However, the existing regulatory framework was not designed to cater for such developments^[11].

[8] Currently mainly natural gas from different sources in and outside of the EU combined with a growing volume of renewable and lowcarbon gases produced in the EU.

[9] European Committee for Standardisation, EN 16726 "Gas infrastructure – quality of gas – group H", OJEU, December 2015.

[10] Study: Potentials of sector coupling for decarbonisation: Assessing regulatory barriers in linking the gas and electricity sectors in the EU, December 2019, https://ec.europa.eu/energy/studies/potentials-sector-coupling-decarbonisation-assessingregulatory-barriers_en; 6th CEER benchmarking report on the quality of electricity and gas supply, 2016.

[11] The Interoperability and Data Exchange Network Code is establishing a dispute resolution process in case of cross-border trade restrictions due to gas quality differences; Commission Regulation (EU) 2015/703 of 30 April 2015 establishing a network code on interoperability and data exchange rules, Article 15.

78. In your view, what is necessary to ensure efficient coordination on gas quality between Member States?

- ☒ The current cross-border coordination framework, is sufficient to deal with problems due to gas quality differences in the energy transition.
- ☒ Reinforced cross-border coordination tools (e.g. streamlined procedure, involving all impacted market participants, increased transparency).
- ☒ Harmonised application of gas quality standards across the EU.

79. In your view, the harmonised application of the CEN standard across EU Member States would be best achieved by:

	Completely disagree	Completely agree	Agree	Neutral	Disagree
Increased transparency on the application of the current standards					

(e.g. on measured parameters, on frequency of measurement, on rules of information provision).					
EU-wide harmonised rules on information provision and publication of CEN quality parameters.					
Harmonising the gas quality standard across the EU based on the CEN H-gas standard.					
Harmonising the gas quality standard across the EU based on a standard taking fully into account renewable and low-carbon gases, developed by an independent technical expert group.					

80. The injection of hydrogen into the existing methane gas network (blending) is currently explicitly accepted only in a few Member States and only possible at very low concentration levels. Similarly, hydrogen blending limits at cross-border interconnection points are applied only in a few Member States. In your view, what would be necessary to avoid or limit potential negative effects of hydrogen blending into the existing methane gas network from the perspective of end-users and infrastructure operators (e.g. for safety, production efficiency, product quality, emissions, etc.)?

- Not to blend hydrogen into the current methane gas network.
- Develop robust gas quality standards (e.g. CEN, national) allowing for the injection of renewable and low-carbon gases (including hydrogen) into the existing methane gas network.
- Establish EU wide harmonised quality specification at the transmission level, including at cross-border interconnection points, allowing for the injection of renewable and low-carbon gases (including hydrogen) into the existing methane gas network.

81. Clearly defined allowed blending levels at the EU or national level (e.g. minimum and/or maximum level of hydrogen in % by volume to be accepted in the network) could provide certainty for producers, infrastructure and appliance manufacturers and end-users. Applied at cross-border interconnection points, such blending levels would enable the unhindered flow of blended gases across Member States. In your view, should allowed hydrogen blending levels be introduced, and if yes in what form?

- ☒ Not at all.
- ☒ National hydrogen blending levels set by Member States.
- ☒ National hydrogen blending levels set by Member States in a standardised and transparent way, based on EU rules.
- ☒ Harmonised EU-wide hydrogen acceptance level for hydrogen blends, which TSOs have to accept at cross-border interconnection points (minimum and /or maximum level of hydrogen in % by volume).

82. Do you consider that rules on roles and responsibilities on gas quality management, including e.g. on cost allocation, dispute resolution and regulatory oversight, should be defined, and if yes in what form?

- ☒ Not necessary to define such rules.
- ☒ At Member State level (i.e. maintaining potential differences of the regulatory framework across Member States).
- ☒ By establishing EU-level principles providing for a common approach in the Member States.
- ☒ By setting EU-level rules ensuring a harmonised regulatory framework across the EU.

83. Do you see changes to the roles, tasks and liabilities of market participants with regard to gas quality monitoring, measurement and management?

Type of market participant	No	Yes
Gas producers, including producers of renewable and low-carbon gases	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Transmission System Operators	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Distribution System Operators	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Consumers	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Gas appliance manufacturers	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Service providers	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Others (please specify)	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Please specify what these changes would entail (*gas producers*)

100 character(s) maximum

Please consult the accompanying document.

Please specify what these changes would entail (*TSOs*)

100 character(s) maximum

Please consult the accompanying document.

Please specify what these changes would entail (*DSOs*)

100 character(s) maximum

Need to accommodate and manage local gas production entering the DSO system.

Please specify what these changes would entail (*consumers*)

100 character(s) maximum

Please consult the accompanying document.

Please specify what these changes would entail (*gas appliance manufacturers*)

100 character(s) maximum

Need for appliances that can accommodate changes in gas quality e.g. in case of hydrogen blending.

Please specify what these changes would entail (*service providers*)

100 character(s) maximum

N/A

Please specify what these changes would entail (*others*)

100 character(s) maximum

Smart metering may become an important tool for TSO/DSOs to simulate gas quality & flow variations.

84. In your view, at what point in the gas value chain should the quality of gases be adapted to the standard specifications, considering also technical feasibility and cost-effectivity?

- ☒ At gas production/injection points by the producer (i.e. before injection into the gas system, e.g. with adequate quality contracts).
- ☒ In the transmission and/or distribution system by the system operator.
- ☒ At the exit point by end-users.
- ☒ At the exit point to end-users by a third party service provider.

85. While handling varying qualities and more frequent quality fluctuations of the different renewable and low-carbon gases, gas quality management should remain cost-

effective in the coming years and decades. Cost effective quality management requires sufficient transparency and information sharing. Do you consider that providing improved visibility on gas quality and transparency on the cost of gas quality measurement, monitoring and handling is needed?

☒ Yes ☐

☐ No

86. The current regulatory framework^[12] includes some requirements on TSOs to share information on gas quality. In order to enable market participants to deal with different gas qualities and potentially with quality fluctuations, it might be however necessary to further develop the visibility on gas quality for market participants. Please indicate the importance of the measures below.

[12] Commission Regulation (EU) 2015/703 of 30 April 2015 establishing a network code on interoperability and data exchange rules (Articles 7, 16, 17 and 18).

Measure	Not important	Very important	Important	Neutral	Not very important
The current regulatory framework is sufficient to ensure adequate transparency on gas quality (Interoperability and Data Exchange Network Code).	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide improved visibility on gas quality (actual and forecast) to market participants.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extend the group of market participants receiving gas quality information (e.g. to include producers, all end-users, appliance manufacturers).	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure transparency on the roles, responsibilities and liabilities for gas quality management.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide for transparency on the costs of gas quality management (incl. measurement, monitoring and handling).	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Include gas quality aspects into the coordinated network planning (national and EU-wide).	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

87. The potential changes to the regulatory framework and the changing role of market participants in gas quality management requires revisiting the question of proper regulatory oversight. However, harmonised rules on the role of National Regulatory Authorities (NRAs) for gas quality issues is currently missing. While NRAs have a role in dispute resolution in case of cross-border trade restrictions due to gas quality differences^[13], most of them are not involved in setting gas quality standards or in monitoring gas quality parameters. Do you consider it necessary to reinforce the roles and responsibilities of NRAs in a harmonised way to ensure proper regulatory oversight of the revised gas quality regulatory framework?

[13] Commission Regulation (EU) 2015/703 of 30 April 2015 establishing a network code on interoperability and data exchange rules, Article

15.

☒ Yes ☐

☐ No

88. Do you see any other issues related to improving the regulatory framework on gas quality management you would like to raise? Please explain.

500 character(s) maximum

There is no EU-wide one-size-fits-all solution to gas quality given that there is a large variation between national systems in the gas supply portfolio and the ability of the system to co-mingle and blend gas of different qualities. Despite this, the EU gas industry has been able to handle diverse gas supplies at entry points while maintaining exit specs within narrow regional bands. Improving the regulatory framework should maintain these benefits.









VII. Alignment of institutional rules for gaseous fuels to the Clean Energy Package

EU electricity and gas market rules have been developed in parallel over the last 20 years and no distinction was made so far as concerns regulatory oversight over gas and electricity markets. Sector integration, i.e. more integrated EU electricity and gas markets may even require more aligned rules.





The revision of the Electricity Directive and Electricity Regulation adopted in 2019 (Directive (EU) 2019/944 on common rules for the internal market for electricity and Regulation (EU) 2019/943 on the internal market for electricity) reinforced the institutional framework to make it fit-for-purpose for the changes in the electricity sector (integration of renewables, decentralised electricity production, regionalisation, etc.). However, this creates differences in the institutional set-up between the electricity and gas sectors, which might lead to detrimental regulatory divergence and unnecessary complexity that could affect consumers, industry and regulators alike.

The revision of the gas legislation would envisage to align the provisions on the institutional framework for the gas sector to those already adopted for electricity, as this would also help implementing the sector integration principle. Updating the institutional framework for gas appears also necessary to make the EU gas sector fit for decarbonisation.

89. In your view, to ensure the consistency of the regulatory framework, in which areas is it important to align the institutional provisions of the electricity and gas sectors?

Area of alignment to the electricity institutional framework	Gas market specificities to the different set rules for	Align gas legislation with the rules in the Clean Energy Package (electricity of legislation) gas
Adapting ENTSOG's mission, tasks and the rules governing its transparency and oversight by the Agency for the Cooperation for Energy Regulators (Electricity Regulation, Articles 28-31).		
Adapt the role of ACER to oversee the effective functioning of the integrated markets and cross-border infrastructure (ACER Regulation, Article 4).		
Aligning the process for developing detailed regulatory rules on the operation of the market and networks (i.e. network codes and guidelines, Electricity Regulation, Articles 58-60 and ACER Regulation, Article 5).		
Aligning the provisions reflecting the increasing link between the distribution and transmission network levels in the regulatory framework (e.g. requirements for cooperation on network planning; Electricity Regulation, Article 57).		

90. The revision of the Electricity Market Design formalised the role of Distribution System Operators (DSOs) at European level by creating a single European DSO entity, rendering their participation effective and independent (Electricity Regulation, Articles 52-55). The aim was to facilitate distributed resources to participate in the market by – among others – enabling DSOs to become more active at European level and have increased responsibilities and tasks (similar to those of the TSOs). In your view, what would be required to ensure the EU-level representation of gas DSOs?

-  There is no need to establish a DSO entity for gases.
-  It is necessary to establish a separate DSO entity for gases.
-  It is necessary to establish a “department” for gases under the existing electricity DSO entity with all rules from electricity applying.
-  It is necessary to establish a “department” for gases under the existing electricity DSO entity with some specific rules applicable to gas DSOs.

91. Do you see any other issues related to the alignment of the gas institutional provisions to the Clean Energy Package provisions? Please explain.

300 character(s) maximum

Please consult the accompanying document.

VIII. Security of supply dimensions

With the adoption of the Security of Gas Supply Regulation^[14], the framework for the security of gas supply in the EU has developed significantly over the past years. Other EU initiatives such as the protection of critical energy infrastructure and cybersecurity were added to the energy security and safety framework. The revision of the Gas Directive and the Gas Regulation needs to take into account this evolution. At the same time, the upcoming revision and the clean energy transition might imply amendments to these other pieces of EU acquis applicable in the sector of gases.

[14] Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010, OJ L 280, 28.10.2017.

92. How do you see the security of supply challenge in the context of the decarbonisation of the supply of gases in the EU in line with the climate-neutrality objectives?

- ☒ Security of supply will not be an issue when renewable and low-carbon gases will be used in the EU.
- ☒ Security of gas supply will still be an important challenge that needs to be taken into account in the context of increased use of renewable and lowcarbon gases in the EU.
- ☒ New security issues should be taken into account.

93. In case you consider that new security issues should be taken into account please explain which

500 character(s) maximum

For pure hydrogen networks, the early stages of the development will bring security of supply issues because initially there will be no/limited diversification of supply sources and routes as well as limited hydrogen storage and limited support from solidarity measures.

94. Do you think that changes are needed to guarantee consistency between the Gas Directive and the Security of Gas Supply Regulation:

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Area of alignment	Not important	Very important	Important	Neutral	Not very important
Definitions, in general	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definition of “protected customers”, in particular	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clarify the conditions under which PSOs on security of gas supply grounds may be justified	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solidarity mechanism	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safeguard measures	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

95. Do you see room for harmonising other elements, in addition to those listed under 94?

☒ Yes ☐

No

* Please specify what these changes would entail

500 character(s) maximum

We believe it is important to maintain consistency between the Gas Directive and the SoS Regulation for natural gas/methane networks, but in our view there is consistency now and therefore responded that no changes are needed in question 94.

96. The scope of the Security of Gas Supply Regulation is currently limited to guaranteeing the provision of “methane gas”. Do you think that the rules on security of gas supply need to be amended ?

☒ Yes, the SoS Regulation should be amended as soon as possible. ☒ Yes, the SoS Regulation should be amended, based on the experience of the application of the new gas market rules.

☒ No, the SoS Regulation is fit for purpose (guaranteeing the methane gas supply, based on existing gas corridors).

☒ No, the provisions of the SoS Regulation are flexible enough and already allow to take into consideration the expected adaptation of the market to the needs of renewable and low carbon gases.

* Please explain (*mandatory field*)

500 character(s) maximum

For the natural gas networks, the provisions of the SoS Regulation are sufficiently flexible to deal with renewable and low-carbon gases blended with natural gas, and the supply of renewable and low-carbon gases further increases the resilience of the natural gas system.

For pure hydrogen networks however, the existing SoS Regulation is not fit-for purpose – certainly not in the initial stages – and a separate security of supply framework for hydrogen should be considered.

97. The increasing digitalisation of energy technologies and networks makes the energy system smarter and enables consumers to benefit from innovative energy services. At the same time, digitalisation creates significant risks as an increased exposure to cyberattacks and cybersecurity incidents potentially jeopardise the security of energy supply and the privacy of consumer data. Cybersecurity and challenges related to it are evolving at a rapid pace, which is why the European Commission has taken a series of measures to tackle it^[15]. Taking into account the specific challenges in the energy sector^[16], the Commission adopted a dedicated recommendation on cybersecurity in the energy sector in April 2019. Further, the recent Clean Energy for all Europeans Package^[17] introduced the possibility to develop cybersecurity rules for electricity.

Do you consider that developments in the gas sector also require establishing cybersecurity rules for gas?

(only one answer possible)

[15] At horizontal cross-sectoral level, the Commission adopted a package on cybersecurity and critical infrastructure on December 2020, including a revised NIS Directive (Cybersecurity, COM(2020) 823 final), a revised Cybersecurity Strategy (JOIN(2020) 18 final) as well as a new proposal for a Directive on the resilience of Critical Entities (COM(2020) 829 final).

[16] E.g. real-time requirements, cascading effects and the mix of legacy technologies with smart/state of the art technology.

[17] Further information on cybersecurity measures: https://ec.europa.eu/energy/topics/energy-security/critical-infrastructure-andcybersecurity_en?redir=1

- ☒ There is no need to develop cybersecurity measures for the gas sector. ☐ It is necessary to establish EU-level legislation for cybersecurity specifically for the gas sector.
- ☐ It is necessary to establish a comprehensive EU-level legislative framework for cybersecurity for the energy sector (covering the electricity, gas, hydrogen and heating sectors).

98. Do you think that energy-specific measures should be introduced to improve the resilience of critical gas infrastructure, including renewable and low-carbon gases?

- ☒ Yes
- ☐ No

*** Please explain (*mandatory field*)**

500 character(s) maximum

Specific measures should be introduced for pure hydrogen infrastructures considering that, in the early stages of the development, the resilience of critical hydrogen infrastructure may need to be addressed.

UPLOADING DOCUMENT IF NEEDED (possible in case the questions do not cover all issues the respondent would like to rise)

Only files of the type pdf,txt,doc,docx,odt,rtf are allowed

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/IOGP_accompanying_document_to_the_EC_consultation_on_hydrogen_and_gas_market_decarbonisatio pdf

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Accompanying document:

IOGP response to public consultation on the Hydrogen and Gas Market Decarbonization Package

The International Association of Oil & Gas Producers' (IOGP) member companies account for approximately 70% of the oil and gas produced in Europe. IOGP shares the world's ambition to reach the Paris Agreement's goals and supports the EU's objective of climate neutrality by 2050 upon the implementation of enabling measures.

This document contains additional comments which accompany IOGP's response to the public consultation (questionnaire) on the hydrogen and gas market decarbonisation package.

- **Continuation of response to Question 1: What is your view on the role of gaseous fuels in 2030, in particular as regards hydrogen, biogas and biomethane?**
 - **IOGP response:** IOGP would like to comment on the assertion that "direct electrification is in most cases the most-cost effective and energy-efficient way to decarbonise final energy demand". Together with Hydrogen Europe, IOGP is one of the funding partners of the Hydrogen for Europe study which has assessed the contribution of low-carbon and renewable hydrogen to the European energy transition. The study has analysed two decarbonisation scenarios to reach the 2050 climate neutrality objective: the Technology Diversification pathway and the Renewable Push pathway. The study has found substantial cost-reduction benefits of a technology diverse approach to decarbonisation, that leverages the benefits of both renewable and low-carbon solutions, versus an approach that only supports renewables. For the full report, please refer to <https://www.hydrogen4eu.com>
- **Continuation of response to Question 5: Should the revised legislation, in addition to the instruments under the Fit for 55 package, in particular the Renewables Energy Directive and the Energy Efficiency Directive, include also measures that dis-incentivise the use of unabated fossil gases?**
 - **IOGP response:** IOGP supports measures that incentivise the development of renewable and low-carbon gases and natural gas can support the development of renewable and low-carbon gases by providing market liquidity and security of supply. Low-carbon hydrogen produced from natural gas with CCS can help to build scale for the development of a hydrogen market and infrastructure. In addition natural gas can help to accommodate increasing amounts of renewables by providing flexibility and back-up for intermittent renewable power generation. The use of unabated natural gas with post combustion CCS would also contribute to decarbonisation. Against this background, setting an artificial end date for the use of unabated natural gas would be counterproductive.

- **Continuation of response to Question 6: Should the revised legislation, in addition to the instruments under the Fit for 55 package, in particular the Renewables Energy Directive and the Energy Efficiency Directive, include also measures that incentivise the use of renewable and low carbon gases, for example via specific targets?**
 - **IOGP response:** This is not a simple Yes or No question. If measures are defined to incentivise the use of renewable and low-carbon gases, we recommend a credible, robust and EU-wide system to determine, certify and value the GHG emission savings of renewable and low-carbon gases. Targets for renewables (such as hydrogen from electrolysis) without explicitly addressing and certifying the GHG emissions associated with the production of electricity may incentivise production of high-emission hydrogen. Certification provides an instrument to verify, demonstrate and monetise the premium value for the lower carbon content of renewable and low-carbon gases. This EU-wide certification system builds on the existing Guarantees of Origin under REDII, which should therefore be amended to include standardised lifecycle GHG information and apply to all renewable and low-carbon gases. These certificates should be eligible to meet the sectorial targets set under the (amended) REDII.]
- **Continuation of response to Question 9: Do you consider that investments in installations and infrastructure operating on fossil methane gas subject to the risk of stranded assets. If so can the revised legislation address this issue, and how?**
 - **IOGP response:** New infrastructure investments by regulated entities under NC CAM are made following a market assessment and subject to sufficient economic support from the market and regulatory support by the NRA. This process includes an assessment of the externalities of an investment (e.g. security of supply / increased competition). We recommend that for (potential) stranded assets a similar process is introduced in the revised legislation. The amount of stranded assets should be determined based on a transparent process with sufficient market testing and using objective criteria. A decision about stranded assets should be taken by the NRA and should include how the costs related to stranded assets – if any – are handled. External financing (by EU and MS) related to stranded assets should be possible, similar to new investments (e.g. for repurposing natural gas pipelines into hydrogen service). It should be avoided that the costs of stranded assets are by default allocated to the remaining users of the natural gas system where external factors (MS policy) have caused assets to become stranded.
- **Comment on section II: Consumer's choice and renewable and low-carbon gases**
 - **IOGP comment:** Given the focus of this section is on consumer markets, we limit ourselves to making some general observations. The existing legislation has been instrumental in establishing functioning gas markets at wholesale level but this does not automatically benefit retail markets. Further measures with respect to retail gas market liberalisation could strengthen consumer rights and enable EU citizens to share in the benefits of a competitive gas wholesale market. In addition, an open retail market would also support a functioning wholesale market.

Consumer rights should also be addressed in the decarbonisation efforts and take account of the choices made by consumers on which technology they prefer. Proportionality will also be key to ensure the regulation reflects the ability and willingness of different classes of consumer to actively engage in the market. Applying the same level of regulation for domestic / B2B consumers to B2C consumers risks impeding competition in the large consumer segment. In this context, the certification of GHG emission savings for renewable and low-carbon gases in the RED revision could provide an EU-wide, credible and robust system to reward the decarbonisation benefits of those gases, and could provide consumers a choice to decarbonise their energy consumption.

- **Continuation of response to Question 22: What actions are needed to ensure that national network development plans properly take into account the Energy Efficiency First Principle, meaning that energy efficiency alternative solutions must be first considered when national network development decision are made?**
 - **IOGP response:** We would like to note that energy efficiency programs generally reduce total energy demand for consumers but have a smaller effect (if any) on peak flow, and thereby on the size of the required infrastructure.
- **Continuation of response to Question 23: What is your position on establishing a single national network development plan for all energy carriers?**
 - **IOGP response:** We support integrating the infrastructure planning for different energy carriers (electricity, methane, hydrogen, heat) on a national basis in a single national network development plan. This would help to ensure consistency between gases and electricity sectors, and help to capture synergies and efficiency-savings by using infrastructures in one sector for the benefit of another sector.

With respect to the binding nature of the single national network development plan, we agree that when such a plan is approved by the NRA (and after stakeholder consultation), it becomes binding between the NRA and the regulated infrastructure operator(s). This means that the infrastructure operator(s) can start execution of their plans, knowing that efficiently incurred costs to execute the plan will be rolled into the network tariffs, whilst ensuring a level of horizontal unbundling through at least separate accounting for the different energy carriers to maintain efficient cost-allocation. The operator(s) are also bound to the network development plan, subject to the arrangements made by the network users to provide additional capacity.

Once approved, the single national development plan has served its purpose and execution of the plan should not be a single, integrated activity because this would complicate and likely delay the permitting, contracting and construction activities.

- **Continuation of response to Question 29. [question available only if “yes” to one of the bullets under 28]: If you answered yes, how should this be achieved?**
 - **IOGP response:** We would like to select two answers: “By selecting indicative areas which are particularly suitable from an energy network perspective for the given type of production/storage/major consumption site, as an information only”, and “By indicating in which areas system operators expect to make offers for the purchase of system services which could typically be provided by the given type of site.”
- **Continuation of response to Question 37: How important would you consider to define the following regulatory roles and principles early in order to facilitate the development of a dedicated hydrogen network and market framework towards 2030?**
 - **IOGP response:** IOGP believe that the regulatory framework should be designed to facilitate the development of a dedicated hydrogen network and hydrogen market.

Since TSOs and DSOs have existing assets of which some could be re-purposed in hydrogen service, the regulatory framework should enable existing regulated network operators to develop a hydrogen infrastructure as a regulated activity. The regulatory framework for TSOs and DSOs could be based on the existing framework for natural gas with limited regulatory differences between hydrogen blending and a dedicated hydrogen infrastructure. We believe that separate tariffs for hydrogen infrastructure and separate balancing rules (at least initially) are warranted.

Special attention is required in the regulatory framework for existing hydrogen infrastructure which (in most cases) is not regulated and not subject to unbundling. The core regulatory principles of vertical and horizontal unbundling are crucial to facilitate open and transparent competition in all aspects of the hydrogen value chain, which supports the foundations of a liquid market for hydrogen. To enable expansion of the existing hydrogen infrastructure and other market initiatives, it should be possible to develop a hydrogen infrastructure under a temporary exemption from regulatory requirements (third party access and unbundling).

- **Continuation of response to Question 41:** Vertical unbundling should prevent that hydrogen network operators (i) discriminate against third parties with regard to the connection or access to the network in favour of affiliated production and supply activities, and/or (ii) that hydrogen network operators over- or under-invest in their energy network which could increase energy system costs or purposely limit capacity to hinder competitor's access. Please indicate the extent to which the vertical unbundling principle should apply to hydrogen networks:
 - **IOGP response:** We would have picked the last option but take exception to the term 'ownership unbundling'. We would support 'existing unbundling rules'. An existing gas TSO that would like to repurpose its assets to transport hydrogen should be able to do so (subject to due process: consultation and NRA approval) without the need to change its ownership or legal structure, but with appropriate horizontal unbundling rules, including separate accounts for hydrogen and natural gas activities.
- **Continuation of response to Question 44:** Today's rules for gas network tariffs (see Art. 13 of the Gas Directive) seek to avoid cross-subsidies between network users but also to provide incentives for investments. In an emerging hydrogen market, the transported hydrogen volumes as well as the customer base might be low initially. This could lead in certain cases to high initial hydrogen network tariffs for early users of a hydrogen network. Please indicate the appropriateness of the statements below in case incumbent methane gas network operators should be allowed to retrofit their assets for hydrogen transport:
 - **IOGP response:**
 - The development of a dedicated hydrogen network will require public support (grants or subsidies) to network operators and should not be subsidised by users of the natural gas network.
 - Existing gas TSOs should be allowed to develop and operate a hydrogen network. Horizontal unbundling rules should ensure at least separate accounting between natural gas and hydrogen activities in order to avoid cross-subsidisation.
 - There should be no need for TSOs to change their legal or ownership structure to facilitate the early development of a hydrogen infrastructure and consequently of a hydrogen market by retrofitting gas assets into hydrogen service and to capture operational synergies of transporting natural gas and hydrogen.
 - Cost allocation rules should ensure that the costs of developing a hydrogen network do not result in higher tariffs for users of the natural gas network.
 - When retrofitting existing assets has benefits for the users of the natural gas network and for the hydrogen network users, those benefits may be shared amongst all users.
- **Continuation of response to Question 54:** What consumers rights and protection rules will need to be clarified already now for users receiving pure hydrogen from dedicated hydrogen networks?
 - **IOGP response:** The consumer right to switch supplier is considered 'not very important' because the hydrogen market still needs to develop and in the early stage the development may benefit from long-term supply contracts.
- **Continuation of response to Question 60:** Hydrogen may be transported via pipelines into the EU, but also via non-network based transport options. In case you expect non-network based imports from outside the EU, in which way do you expect hydrogen to be carried into the EU?
 - **IOGP response:** Our preference is to select all 4 options. Since only one option can be selected we prefer to leave the answer open because we don't want to select winners.
- **Continuation of response to Question 61:** Do you see a need to prepare EU LNG terminals to receive liquefied hydrogen?
 - **IOGP response:** Please see the response to question 71.

- **Continuation of response to Question 62: In case hydrogen is carried into the EU as liquefied hydrogen, ammonia or LOHC, would you expect subsequent injection into pipelines?**
 - **IOGP response:** We prefer to leave this answer open because we don't want to select a winning technology.
- **Continuation of response to Question 63: How important would you consider to define the following regulatory principles early in order to facilitate the development of a dedicated hydrogen infrastructure and market framework towards 2030?**
 - **IOGP response:** The market rules for access to a dedicated hydrogen infrastructure should focus on promoting investment and providing regulatory certainty for investors with the aim to accelerate the development of a liquid competitive hydrogen market.
- **Continuation of response to Question 65: Do you consider it important to adapt the Gas Directive and Gas Regulation to facilitate injection biomethane and synthetic methane into the existing methane gas grid?**
 - **IOGP response:** The existing Gas Directive and Gas Regulation have facilitated the intake of biomethane by providing access to a liquid and competitive gas market. We believe changes to the regulations can be limited to more inclusive definitions (currently 'transmission' is defined in terms of 'the transport of natural gas') and to address the more decentralised supply of gases into the system.
- **Continuation of response to Question 67: How do you rate the measures below?**
 - **IOGP response:** The measure 'Limit tariffs to efficient network operations, not supporting other policy objectives' is considered 'very important', because support for the development of hydrogen networks should not come from transport tariffs but from other sources of financial support, such as grants or subsidies.

Where there is significant growth in local gas production, potentially exceeding minimum off-take within a distribution network, enhancements to the existing regulatory framework could be made to manage temporary insufficient network capacity at distribution system level. This is already compatible within the existing framework, which does not prevent the inclusion of standardised balancing products or flexibility services from sources further downstream where the relevant balancing zone includes both the transmission system(s) and the distribution system.

- **Continuation of response to Question 68: How do you rate the measures below to reach this enhanced level of design?**
 - **IOGP response:** In addition to the latter two measures marked in the consultation questionnaire, we choose to answer 'Not important' for (1) 'Abolishing grid charges on intra-EU cross-border points, payable price for capacity booking determined by auctions only (minimum price fixed at variable costs only)'; (2) 'Charging the entry points from non-EU countries based on capacity weighted distance to a virtual point in the middle of EU's grid in addition to some fees set according to market and security of supply criteria'; (3) Collecting the remuneration of the EU's network operators from capacity auction revenues at extra-EU entry points, intra-EU entry points for gas production and from exit points'; (4) 'Introducing an inter-TSO compensation mechanism to reconcile revenues by keeping TSOs revenues neutral with the current circumstances'; and answer 'Very important' for 'Setting up short-term capacity products.'
- **Continuation of response to Question 71: Do you think that LNG terminals will play an important role in the decarbonisation of the gas sector?**
 - **IOGP response:** On the question about the role of LNG terminals, we believe that LNG terminals will be relevant to continue to bring natural gas into the EU, which can be used to supply low-carbon hydrogen. Import of liquid biomethane (bioLNG) would also be possible. However, existing LNG facilities are not designed to handle very cold liquid hydrogen and would require significant modifications to do so. For this reason, and because it is unclear whether long-distance transport of hydrogen in liquid form will develop, there should be no obligations on operators of LNG terminals to pre-invest for importing liquid hydrogen.

- **Continuation of response to Question 73: How important do you consider the following measures to be to improve the current regulatory framework for LNG terminals?**

- **IOGP response:** We would like to explain why the measure 'Require LNG terminals and other gas depressurising sites to provide waste heat/cold to nearby heat/cold consumers' is considered 'not very important': Where waste heat/cold from LNG terminals and other gas depressurizing sites can be used nearby, we would welcome that this is supported, but it should not be an obligation for LNG operators.

We would like to explain why the measure 'Removing of the tariff discount for gaseous fuels entering the TSO grid from LNG terminals, regardless of the type of gas' is considered 'not very important': Where discounts are applied at entry points from LNG facilities in accordance with the Tariff Network Code for the purpose of increasing security of supply, this serves a legitimate purpose. Removing such discounts would jeopardize the current balance of regulations.

We would like to explain why the measure 'Harmonise the congestion management rules to improve terminals' usage' is considered 'not very important': The utilisation of LNG terminals in the EU is determined primarily by the global LNG demand/supply situation, and there are not indications that contractual congestion is an issue. Furthermore, the harmonization of congestion management rules may not be realistic because of differences in the design of LNG terminals (shipping, storage and blending facilities).

- **Continuation of response to Question 75: Do you think the Gas Directive and Gas Regulation should be revised to encourage and promote the role of storage for use of renewable and low-carbon gases by introducing transparency measures such as coordination of development plans, market tests?**

- **IOGP response:** We answered "No" because the development of storage facilities is seen as a competitive activity and new storage initiatives have a (potential) impact on the commercial market for flexibility services.

- **Continuation of response to Question 76: The blending of hydrogen and other renewable or low carbon gases into the existing methane gas grid requires a consideration of its contribution to the decarbonisation of the energy system as well as its economic and technical implications (see specific questions on technical implications in section on gas quality). Please indicate the appropriateness of the statements below with regard to blending:**

- **IOGP response:** IOGP believes that blending of hydrogen into the existing natural gas grid and transport of hydrogen in dedicated pipelines should both be considered as options for decarbonisation of the energy system. Today, hydrogen is used primarily for its chemical properties, as feedstock and not as energy source, and transported in dedicated pipelines. The contribution of hydrogen to the decarbonisation of the energy system can be achieved by blending with other renewable and low-carbon gases into the existing natural gas infrastructure. This provides a cost-efficient and fast first step. Blending can be done both at the TSO and at the DSO level. Moreover blending leverages the benefits of the existing gas market (market liquidity, balancing market, security of supply) and the existing regulatory framework.

Blending does not prevent the direct use of pure hydrogen in other applications (industry, transport). Ideally the market should direct hydrogen to where its value is highest. Also hydrogen and methane can be separated from a comingled stream with de-blending facilities at end-user offtake points as DSOs have presented at the latest Madrid Forum.

While we acknowledge that blending requires careful consideration of any constraints, which may be different for different parts of the system (e.g. TSO, DSO, storage), we do not support the assertion that blending would be a less cost-efficient option. Blending should be considered as a good option complementary to a dedicated hydrogen infrastructure.

- **Continuation of response to Question 78: In your view, what is necessary to ensure efficient coordination on gas quality between Member States?**
 - **IOGP response:** We believe that reinforced cross-border coordination tools are needed because of increasing blends of renewable and low-carbon gases with natural gas.
- **Continuation of response to Question 83: Do you see changes to the roles, tasks and liabilities of market participants with regard to gas quality monitoring, measurement and management?**
 - **IOGP response:**
 - ‘Please specify what these changes would entail (gas producers)’: Increasing need for quality monitoring and management of gases produced by more complex manufacturing processes.
 - ‘Please specify what these changes would entail (TSOs)’: Need to monitor and manage more diverse gas quality and flow variations, including backflow of gas from the DSO system.
 - ‘Please specify what these changes would entail (consumers)’: Increasing information exchange with TSO/DSOs related to gas quality in the system and at individual exit points.
- **Continuation of response to Question 87: The potential changes to the regulatory framework and the changing role of market participants in gas quality management requires revisiting the question of proper regulatory oversight. However, harmonised rules on the role of National Regulatory Authorities (NRAs) for gas quality issues is currently missing. While NRAs have a role in dispute resolution in case of cross-border trade restrictions due to gas quality differences, most of them are not involved in setting gas quality standards or in monitoring gas quality parameters. Do you consider it necessary to reinforce the roles and responsibilities of NRAs in a harmonised way to ensure proper regulatory oversight of the revised gas quality regulatory framework?**
 - **IOGP response:** Most NRAs currently do not have an oversight role in gas quality and would need to attract the necessary competencies to be able to set and decide on gas quality standards.
- **Continuation of response to Question 91: Do you see any other issues related to the alignment of the gas institutional provisions to the Clean Energy Package provisions? Please explain:**
 - **IOGP response:** The planned reform provides an opportunity for re-alignment of the gas and electricity institutional provisions where this has tangible benefits and while taking into account that there are structural differences between gas and power markets in particular with respect to supply and storage of energy and cross-border transmission.
- **Continuation of response to Question 94: Do you think that changes are needed to guarantee consistency between the Gas Directive and the Security of Gas Supply Regulation (‘Definitions, in general’)**
 - **IOGP response:** The existing Gas Directive and Security of Gas Supply Regulation are generally very consistent and function well together. We do believe it is warranted to review the definitions to be more inclusive towards the supply of renewable and low-carbon gases. Currently ‘transmission’ is defined as ‘the transport of natural gas ...’ and the SoS Regulation addresses ‘natural gas undertakings’.