French Gas Association answer to the CEER consultation on « Regulatory Challenges for a Sustainable Gas Sector »

This consultation aims "**to identify what energy regulation can do to foster the development of a sustainable gas sector**".

The goals are:

- to identify the regulatory challenges for an efficient transition of the gas sector towards a low-carbon energy demand scenario;
- to identify enabling factors that the National Regulatory Authorities (NRAs) could apply to favor this transition.

With this public consultation, CEER intends to collect information and opinions from all stakeholders on those challenges.

Q1: Which activities do you consider relevant for potential TSO/DSO involvement that should be considered in the assessment?

French Gas Association (Association Française du Gaz - AFG) agrees that the strict separation of essential infrastructure activities (especially TSO and DSO) from supply and trade is fundamental in the gas market design established by the European energy regulation in place. **DSOs and TSOs have a key role of market enablers to ensure fair and effective competition**. As such they are regulated monopolies focused on:

- the performance of their core activities,
- neutral facilitators to develop the market in the interest of the consumers.

The objective of decarbonizing the economy supposes an energy transition which involves the creation of new business models and a deep evolution of the energy markets. The way these changes will occur is still uncertain today. That is why **there are significant regulatory challenges** to achieve a fully sustainable gas sector, especially concerning the potential contribution of DSOs and TSOs to accompany the transition through new activities and necessary changes in the relationships between DSOs and TSOs.

Power-to-gas activities are in principle market activities, they should as an objective be carried out by **market operators**. **EU Institutions need to identify solutions to possible market failures or limits**.

However, **renewable and lower carbon gases are still not contributing enough to the energy transition.**

This is partly explained by a low commitment of market players and a low political commitment due to the lowest maturity of associated renewable gas technologies compared to the electric ones..

At this stage there is still no incentive to trigger enough market-based investment in renewable, low carbon gas production and energy coupling.

This situation endangers EU ability to decarbonize at the lowest possible cost, leveraging on gas (natural, renewable, decarbonized), at the 2030-2050 horizons by delaying the decarbonation of a large part of the energy mix.

New regulation, as for example a future Gas Package, should include specific measures to foster renewable and low carbon gas development. These measures should **enable the gas industry including DSO and TSOs to better support the energy transition**.

Depending on the technology maturity the support could have two shapes:

- At R&D and innovation stage, DSOs/TSOs could benefit from a regulatory sandbox without discrimination of market initiatives;
- For technology under deployment stage, DSOs/TSOs could be directly involved when economically sound (e.g. based on a cost-benefit analysis taking into account externalities and long-term value of the facility) and where market fails to invest. In such case, prior to validation, a market test is needed.

Such R&D&I activities could be entitled to DSO/TSO subject that:

- Public/regulatory supports are for a limited timeframe,
- These supports are within the core regulated activities of these regulated operators,
- DSO/TSO should not own the gas molecules, nor influence the markets
- Should be awarded on a case by case decision process.

When the market cannot (yet) endorse such kind of activities, NRAs should be entitled to decide on exceptions. Such exceptions should be based on a thorough market analysis and could be granted, under conditions and with explicit consent by the NRA. Conditions can include restrictions such as an application on a temporary basis a monitoring of the performance of the activity and assessments of relevant market developments when the NRA reviews the approval from time to time. Moreover, a CBA should be performed to assess the interest of this activity for the collectivity and with the view to favor energy transition at least costs.

Under such conditions, typical activities that **might be conferred to DSO/TSO for a limited timeframe might be:**

- Power-to-gas, in order to optimize the deployment cost of wind and solar energy taking maximum benefit from energy coupling based on the principle of the right energy at the right place at the right time (flexibility of gas energy carrier and pan-European existing network);
- Refuelling stations for maritime, river and road gas-mobility;
- Biogas upgrade to biomethane in order to benefit from economy of scale;
- thermal gasification and methanation facilities;
- transmission and distribution of CO2 linked to activities carbon capture and usage to support the deployment of a CO2 chain supporting the decarbonation of the industrial sector.

Finally, the **transmission and distribution activities of TSOs/DSOs may be enlarged, after careful evaluations, to hydrogen and/or carbon dioxide**. All these network activities should be carried out as regulated activities (except closed systems) and TSOs/DSOs should ensure a third-party access in order to let market players maximize the value of the investment.

At the end of this limited timeframe, **the assets should be transmitted to interested market operators.**

Q2: To what extent should a common European threshold for the blending of hydrogen in gas networks be mandatory and which timing should be taken into account? Please explain your reasoning.

The **goal should not be to converge towards a single H2 content in the networks across Europe**, which would either be extremely low, or penalize « downstream » countries compared to « upstream » countries, but rather to provide equal opportunities to develop hydrogen injection into the network in each market. Therefore, a work of normalization should grant an equivalent capacity for each country to blend a maximal threshold of hydrogen content.

Regarding the **question of timing**, and considering the complexities of interoperability issues, the sooner this issue is addressed, the better. The first studies on-going with all French gas infrastructures (transmission, storage, distribution) show the complexity of these analyses and the potential need for coordinated research and development actions to be able to adapt the present gas infrastructures and thus maximize acceptance for hydrogen blending as a tool for decarbonation of gas usages.

That is why one **major regulatory challenge** in the coming years will be to establish a set of support and regulatory rules to promote cooperation between DSO and TSOs on this question. Support to DSO and TSO cooperation projects in the field of hydrogen, should be encouraged in order to contribute to the development of a harmonized European framework for the blending of hydrogen in gas networks.

Furthermore, different portions of the gas systems (high pressure, low pressure, storages…) could accommodate different proportions of hydrogen blended with methane (regarding the integrity of gas infrastructures, but also usages). Hence the need for a careful assessment of gas specifications at the Interconnection Points across the entire gas chain, considering possible cross-border or cross-infrastructure flows.

That is why **norms regarding maximal hydrogen blends should be addressed** at European cross border points, e.g. through Interconnection Point Agreements foreseen in the Interoperability Network Code. At least coordination between countries with interconnected gas networks is required, bearing in mind that the accepted hydrogen content exiting at an Interconnection Point might limit the ability to accept hydrogen injection in the downstream flow.

As European gas networks are interconnected, even if as mentioned the **goal should not be to converge towards a single hydrogen content across Europe,** it seems beneficial to have **harmonized regulatory framework for the blending of hydrogen** in European gas networks.

The regulatory framework to identify the allowed percentage of hydrogen being in the gas grid should be harmonized at the European level. The regulatory framework should be defined within the discussion on norms such as CEN/TC 234 and EN16726. **A harmonization of** regulatory framework (on hydrogen level) **will facilitate the exchange of gas** with hydrogen incorporation between countries, therefore contributing to security of supply. A harmonization will also push the actors and investors to develop R&D projects to test the economic viability of hydrogen. It will also bring visibility to DSOs regarding their investment on the network.

Q3: Under which circumstances or conditions should hydrogen networks be regulated, and should this regulation be in the same way as gas networks or are there alternatives? Please explain your reasoning.

Regulation will be relevant when the hydrogen market will be developed enough, with a variety of players which will need to access the infrastructure on a level playing field: producers, end-consumers with different sizes and different capabilities of influencing the market organization, prices… Under these circumstances, **hydrogen networks regulation** (non-discriminatory third-party access, regulated prices for a monopoly infrastructure) **will help develop a fluid market** with a transparent and non-discriminatory access to hydrogen transport.

Furthermore, as **electricity and gas networks coupling** is a key challenge to achieve energy transition and the climate change objectives taken by the European Union, the regulatory framework for hydrogen should take into consideration from the beginning the coupling of gaseous energy infrastructures, **and not fragment the market** between a market for energy in the form of a methane carrier, and another market for energy in the form of an hydrogen carrier. **Consistent market model for both methane and hydrogen** would facilitate this challenge and avoid unnecessary fragmentation of the markets, which are detrimental to a fair competition and would create local monopolies. In this respect, the management of L gas and H gas in several EU countries might provide a relevant example.

Last, considering that decarbonation of gas usage is of general interest, **a coordinated regulation of hydrogen networks and methane networks enables** to partly tackle the question of funding investments for conversion or adaptation of some parts of the existing gas system to hydrogen blending, or conversion to pure hydrogen.

Interconnected hydrogen networks should be **regulated** with the same principles as natural gas networks.

Q4: Is 'cost efficiency' a legitimate reason for pro-active market intervention which may be contrary to a general "technology neutral" approach? Please explain your reasoning.

There is **no opposition between cost efficiency and technology neutrality** when they both consider system resilience, externalities (e.g. use of scarce and strategic resources) and the long-term need of the energy system with very high RES penetration.

We **support** technological neutrality, **provided that** the specificities and externalities are well reflected and taken into consideration in any case on one hand, that technologies have an interest for the collectivity on the other hand and that they are not postponed by the development of most mature technologies that will hinder their development. This may be the case for the development of different sustainable gas solutions (including biomethane, synthetic gas, renewable hydrogen, decarbonized gas and hydrogen etc.).

Q5: Which role do you see for power-to-gas infrastructures?

From a technology perspective, **Power-to-gas is a facility converting electricity into hydrogen or synthetic methane**. From an energy perspective, it may have a wide range of use cases, enlarging over time with higher RES deployment and progress towards carbon neutrality.

Power-to-gas plays a key role to:

- help sector coupling between electricity and gas,
- facilitate sector integration (mobility, industry),
- decarbonize gas,
- transform intermittent energy into schedulable energy,
- store energy (even long-term / seasonal storage),
- transport energy over long distances,
- bring flexibility to electricity system,
- Produce renewable hydrogen and/or synthetic methane,
- Increase biomethane production by combining anaerobic digestion with methanation,
- Valorise carbon dioxide from existing processes.

Investment in Power-to-gas projects, especially hybrid ones, are challenging for the merchant sector as complex business plans are the riskiest. As mentioned under Q1, where the merchant sector fails to get involved, there might be a role for TSOs under well-defined conditions.

To produce synthetic methane, CO_2 will have to be transported or distributed from the producer (bio-methane plant for instance) to the Power-to-Gas infrastructure. **AFG is favourable to regulatory changes allowing under certain conditions TSO/DSOs to distribute CO_2.**

Q6: In your opinion, do the electricity and gas tariff systems create possible distortions to the efficient deployment and use of power-to-gas technologies? If yes, how and in what circumstances?

Power-to-Gas technology could be considered as a pure consumer of electricity and apply the same rules as the other consumers. Nevertheless, considering such activity as a service for the energy system as a whole and the difficulty to develop business cases today, specific tariff should be envisaged for this activity as a congestion management plant for instance.

A Power-to-gas facility does not create primary energy, it converts one energy carrier into another one. As such, **any double taxation should be avoided.**

In addition, a Power-to-gas facility connected to a gas grid behaves as a source of short term to seasonal flexibility for the electricity sector. It could be counter-modulated and could reduce the solicitation of the network at peak, and therefore may limits investments. Such ability enables a significant optimization of the electricity system.

Q7: Do you see other possible issues regarding power-to-gas technologies that require consideration from a regulatory point of view?

Under the occurrences defined in Question 1, **DSO/TSOs may build a P2G facility as a demonstrator or as a commercial unit in case of long-term market interest but lacking short-term market interest in early development stages and for a limited timeframe**.

In both cases, there is a need for regulatory rules to:

- Integrate temporarily the facility in the TSO regulated asset base,
- Implement in the same temporary period third party access for the electricity to gas conversion service,

In both cases, there is a need to properly define:

- The end of the limited timeframe.
- The regulatory framework during the limited timeframe
- If the regulatory framework is proven to be the good solution, the regulatory conditions after the limited timeframe

Beyond P2G technology, regulation should incentivize R&D and cooperation between gas and electricity European TSOs especially regarding the preparedness of the energy system to a low carbon future. This would ensure economy of scale and knowledge sharing. Therefore, the **European regulatory framework should define the way to operate new regulated services and incentivize cross border cooperation in the field of R&D**.

As a general principle, costs associated to the development of P2G shall be **borne by beneficiaries**.

Possible issues:

- unambiguous definitions,
- an EU blueprint for guarantees of origins,
- appropriate rules for the injection of green gases into the grid,
- simplification of permitting,
- identification of appropriate economic signals to value dispatchability value of H_2 and synthetic methane delivered through P_2G.

Q8: What is required to facilitate efficient cross-border trading of renewable gas GOs?

National registries must be **interoperable**, both within one country (there might be different registries for electricity, gas and hydrogen) and between countries.

It must be possible to clearly distinguish between renewable and non-renewable gases, with **standard definitions and criteria** across Europe.

A **common methodology** should be established on how to issue, register, transfer and cancel GOs, as well as how to convert them from one energy carriers to another.

Additional policies that directly and indirectly incentivize the uptake of green gas production will be key, because the revenue from a market for gas GOs will not be sufficient to trigger investment in green gas production.

One key point to enhance renewable but also low-carbon gases development is to **guarantee to the final consumer the traceability** of these two products. We support the **establishment of one standardised GO scheme** for both renewable gas and low carbon non-renewable gas, with a clear and separate terminology.

To ensure **interoperability of different GOs**, the conversion of the GO from one energy carrier (e.g. electricity) to another carrier (e.g. hydrogen) needs to be possible. Within each MS, setting up interoperable schemes for the GOs for different energy carriers should be encouraged as well as a certain harmonization of production standards and regulatory framework, to mitigate possible distortions. Such GOs conversions should be limited to cases where a physical conversion occurs. A stakeholder producing hydrogen from natural gas with a SMR without CCS and buying renewable gas GOs to "green" such natural gas should not be entitled to hydrogen GOs.

Furthermore, an EU-wide solution for implementing GOs requires an **extension of the CEN 16325 to include GOs for gaseous carriers**.

Cooperation of national issuing bodies between Member States is also key to facilitate GOs trading: interoperable schemes based on widely accepted rules will allow transfer of GOs. Particular attention is required to avoid any double support for the same renewable MWh produced. As such, and to prevent market distortion, it would be beneficial that Member States progress towards a harmonisation of national support schemes for renewable or low-carbon gas (where currently some support schemes apply on the production side while others apply on the consumer side).

Q9 Which lessons from the EU-wide system for renewable electricity, if any, should be considered when setting up an EU-wide GO system for renewable gas?

As mentioned in our response to Q8, the development of an EU-wide solution for renewable gas and the conversion of the GO from one energy carrier to another carrier are key to enhance the development of renewable gas.

Lessons learnt from the electricity sector underline the importance to **pay attention to avoid double support** for the same renewable MWh produced.

Additionally, a **common design for data** (data format, data fields, data protection…) is required for GOs for renewable as well as other low carbon gases.

Q10 In your view what should be ACERs and NRAs' responsibility in the development and approval of the TYNDPs, their underlying scenarios and the CBA methodologies?

TYNDP shall pursue **cost efficient energy transition** as guiding target, which requires to include the contribution to decarbonation of other sectors (i.e. mobility, electricity, gas heating)

The **current regime** where ACER and NRAs are involved in Ten Year Network Development Plan process and formulate opinions on the draft report is an important subject. We request full **transparency** on

scenarios, costs and results. Especially more transparency on underlying scenarios and on methodologies or hypothesis underlying any project. ACER and NRS should be more involved on these questions.

The priority should be that TYNDPs and national plans fully consider the whole potential of energy coupling in terms of cost minimization of the energy transition.

The regulation authorities should make sure that the c**ontribution of the DSO/TSOs is effectively taken into consideration** in the elaboration of the development plans such as TYNDP.

ACER and NRAs should make sure that the CBA methodologies considers the **positive externalities of developing technologies such as biomethane injection** and shall ensure that the CBA takes into consideration adverse and critical scenarios for electricity and gas.

Q11 How should the whole process be designed to maximize the efficiency of decision taking about new infrastructures? In particular, would you support the addition of cross-references between the infrastructure regulation 347/2013 and the CAM NC (2017/459)?

As mentioned by CEER, we **support the extension of the PCIs selection scope** to projects regarding the connection of decentralized and local renewable gas generation, as well as to gas-electricity integration in the context of power-to-gas and sector coupling as well as for the conversion/adaption of gas grids to new gaseous carriers.

Some projects and technologies could be supported through the PCI framework, including biomethane connections and injection costs.

The addition of cross-references between the infrastructure regulation 347/2013 and the CAM NC (2017/459) is **positive**.

Q12 Do you see a risk for stranded assets in your country? If it becomes of relevance, what could be the appropriate regulatory tools to reduce this risk?

Gas infrastructure (transport, distribution, storage, LNG…) bring the needed flexibility for both the gas and the electricity systems and play a key role in satisfying winter peak demands and in allowing the development of decentralized renewable gas production. Gas will play a key role in the European energy transition: link with the agriculture sector, in line with a circular economy approach with the waste recycling, emergence of gas solutions in the mobility sector, renewable gas and hydrogen, mix of energy sources and technologies…

This evolution can be made possible given the already existing gas infrastructures and mitigate a potential risk of stranded asset.

We consider that the issue of stranded assets should be addressed by a very cautious and as wide as possible approach. Regulation must cover entirely and explicitly this kind of risk. We consider that while recognizing that there is no reason to act rules soon.

It is important to put in place a framework minimizing the risk of stranded assets with measures such as:

- a strong coordination when developing new energy investments considering the long-term potential offered by existing infrastructures,
- the development of renewable and low carbon gas production
- tariffs considering not only the day-to-day use of infrastructure but also its intrinsic value (externalities, optionality…)

Such measures cannot completely mitigate the risk of stranded assets. As a result, a regulatory framework is needed to deal with the remaining cases, **spiraling of gas network tariff** should be avoided.

Q13 In your opinion, should decisions on decommissioning be assessed with methodologies similar to those used for investing in new cross-border infrastructures? Do you see the need of an EU framework for decommissioning infrastructure with a cross-border impact?

Yes, decisions on decommissioning / mothballing **should be assessed** with methodologies like those used for investing in new cross-border infrastructures.

The existing framework for **developing new infrastructures** (incremental capacity process, TYNDP and Cost-Benefit Analysis), already provides a methodological set. The necessary tools to manage potential decommissioning has to be adapted: the existing framework for new infrastructure seems to provide a good native. It enables the assessment of both direct market demand and contribution to the energy policy objectives.

The importance of the geographic scope of the assessment must be highlighted as within the pan-European meshed network, the impact may be distant from the underlying infrastructure. As a result, any **decommissioning project** must be dully assessed and coordinated.

An EU framework for decommissioning / mothballing infrastructure with a cross-border impact shall also be implemented.

Q14 What are the critical points that should be addressed regarding the gas market design?

The results achieved in many European gas markets show that the existing framework can offer **secure and competitive gas to end-consumers**. Setting some implementation standards of the EU regulatory framework as a condition for benefitting from the TEN-E regulation could accelerate the achievement of the single energy market.

At EU level, the main challenge to be addressed by gas market design is to **unleash renewable and low carbon gas contribution to the energy transition**.

Cross-border transport tariffs must be addressed regarding the gas market design to avoid significant increases in tariff at interconnection point in particular for long term subscriptions

Access to firm capacities must be proposed (any project that has the consequence to reduce firm capacities in another country should use the decommissioning strategy mention in Q13).

Enforceability of the gas market must be designed.

Q15 Considering the possible development of renewable gases, in your opinion, do you see a need to update the gas market design?

Market design should ensure **meaningful coupling** between gas and electricity systems and distribution and transmission levels.

The first topic is covered by questions related to P2G. The second topic requires close cooperation when defining the most efficient way to connect renewable gas production. It means lowering the cost of gas injection into the network considering long term potential. The different tools are direct connection to DSO or TSO grids, raw biogas networks with centralized upgrade to biomethane and DSO to TSO back-haul facilities.

Biogas and biomethane, renewable hydrogen and renewable synthetic gas will need **dedicated policies** and support mechanisms to kick off and – through large-scale employment – realize cost reductions.

A **binding renewable gas target** on EU and/or national level can be a strong driver.

A **broader enabling framework** must be put in place, which should include at least the following elements:

- A functioning GO system.
- Enable renewable gas operators to maximize their energy market revenues, not only from selling renewable gas but also from participating to other markets such as reserve/flexibility/ancillary service markets (P2G and G2P).
- Internalization of positive externalities
- Proper recognition of CO2 savings using renewable gas via a well-to-wheel methodology in relevant EU legislation.
- Removal of entry barriers
- Dedicated R&D support
- Next to financial support on the production side, incentives to stimulate demand for green gas, including through tax advantages, blending obligations
- Simplified permitting and administrative procedures
- Measures outside the gas sector such as:
    - possibility to properly valorize side-products (e.g. digestate from production of biomethane),
    - review "distortive" support mechanism in electricity that privilege biogas use for onsite electricity production,
    - aligning the agricultural sector with climate goals,
    - CO_2 pricing
- ETS installations using green gas with GO's should not have to submit CO2 allowances

Q16: In your opinion, do you see an issue with the current transmission tariff regime for the efficient integration of the EU gas markets, in particular considering a scenario where long-term contracts expire, and gas consumption may decrease?

Yes, as described in question 14, this is a **major concern**, already costing billions of € to European gas consumers.

Current tariff network code is solely focused on internal gas infrastructure issues. The code is not considering as an objective the **role of the gas in the energy transition**

Q17: If yes, how could the current tariff system, with particular regards to cost allocation methodologies, be amended?

Grid costs associated to the development of P2G shall be **borne by beneficiaries**.

Q18: Are there other regulatory challenges for a sustainable gas sector not addressed in this document?

1.1 Carbon dioxide

The current focus of the gas sector is very much on biomethane and possibly more hydrogen. It is very positive, but this framework should be complemented with CCS/U. Considering carbon dioxide as a commodity would leverage energy sector efforts towards carbon neutrality:

- on the short term, CCS/U may help to save EU carbon budget;
- CCS/U may be an opportunity to decarbonize industry at a cheaper cost than electrification or conversion to hydrogen, thus mitigating the risk of delocalisation;
- CCS paves the way to negative emissions necessary to ensure a resilient carbon neutrality;
- Methanation process helps to make better use of carbon dioxide including anthropic carbon dioxide on the short/medium term.

As the main CO2 sources are spread across Europe, there is merit in considering the potential value of regional carbon dioxide networks. Such networks would connect numerous CO_2 sources with some valorisation facilities and exits towards carbon sequestration. Gas TSOs/DSOs may be relevant future operators of such facilities given the operational similarity, the need of third-party access and the likely neighbouring with methane networks (e.g. an industrial facility burning natural gas).

1.2 Regulatory sandbox

The present document mentions the concept of "regulatory sandbox". The aim is to provide NRAs with a consistent and flexible EU framework enabling experimentation at national level. As a result, NRAs could authorize regulated investments in not yet mature technologies considering the national context only in case of lack of market operators' interest. Such decisions should include a consultation process with relevant stakeholders.

1.3 An EU gas DSO Entity

We would like to detail a bit more the tasks and form of the EU DSO Entity. In our opinion, the EU gas DSO entity should be different from the EU electricity DSO entity as there are a numerous issue which

are specific to the gas sector. Besides, the above-mentioned role of the entity when it comes to cooperation with the TSOs, the EU gas DSO entity will be responsible to facilitate the exchange of best practices on energy efficiency, digitalization, demand side management, data protection and cybersecurity. It should also contribute in the development of renewable gases, storage capacity and gas mobility.

1.4 The digitalization of the network

Smart meters are currently being rolled out in several EU countries. The next gas market design should support this development. Smart meters allow to reduce the energy consumption, therefore participating in the energy efficiency objective defined in the EED directive. Moreover, it brings social benefits to consumers who are better informed about their energy consumption.

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Similarly, more DSOs/TSOs are installing sensors on their network at pressure reduction stations and at biomethane injection plants. This evolution allows to optimize the management of the network and to better integrate renewable energies into the grid.

L'Association Française du Gaz (AFG) est le syndicat professionnel de l'ensemble de l'industrie gazière française. Elle représente l'ensemble des métiers de la chaîne gazière.