

## Position Paper

to the public consultation “Preparing a future EU strategy on energy sector integration” of the European Commission

Berlin, 14th of May 2020

The German Association of Gas TSOs (FNB Gas e.V.) welcomes the European Commissions (EC) initiative to better link up existing energy systems and to exploit the synergies enabled by an integrated system of all energy carriers as a crucial part of the ambitious European Green Deal agenda. The German TSOs fully support the target of a climate neutral Union by 2050 and are convinced that renewable and decarbonized gases in an integrated energy system will play an important role in reaching this target.

We appreciate the possibility to contribute to this important assessment via answering some of the main questions of this public consultation.

### What would be the main features of a truly integrated energy system to enable a climate neutral future?

A truly integrated energy system requires great technical effort along the entire value chain as well as an incentivizing framework to be established by policy makers and regulators. In our view the following main features of such an integrated energy system are:

- Europe has enough renewable energy potential. However, renewable energy production will not be enough to meet energy demand at any time and any location in Europe. While the power sector alone will struggle to overcome this challenge, an enhanced European gas infrastructure for hydrogen and biomethane based on existing gas pipelines and underground storages will be the solution. Thus, **a clear political commitment to renewable and decarbonized gases (in particular hydrogen) and a future European-wide hydrogen network is needed as means to contribute efficiently to the decarbonisation** of the integrated energy system.
- To foster the development of a liquid market for hydrogen in Europe, the Energy Sector integration Package needs to set an appropriate regulatory framework that supports the building up of demand for and supply of hydrogen. An efficient tool to achieve such an effect would be a **binding quota system** that requires energy suppliers to deliver a pre-defined share of renewable and/or decarbonised hydrogen (and potentially other gases) to their end consumers as part of their supply mix.
- Hydrogen transported via an interconnected pipeline system to industrial and residential end consumers is characterised by very similar patterns as the transport and supply of natural gas. Furthermore, a future hydrogen system that is largely based on repurposed existing gas infrastructure is significantly cheaper and faster to realise compared to laying new network systems. For these reasons, the **European regulatory framework** for the natural gas market **should be expanded to include hydrogen** in addition. In particular hydrogen systems should be subject to non-discriminatory third-party access rules and TSOs require financial certainty that the costs linked to the repurposing and subsequent operation of existing infrastructure to transport hydrogen will be recognised by NRAs.
- **Innovation** is crucial to integrate and decarbonize the existing energy infrastructures. By only relying on existing technologies and solutions the target of a fully integrated and decarbonized energy sector cannot be achieved. Therefore, the innovation policy of the EU and the member states need to be rearranged. For TSOs to play their role in

this important process, the regulatory framework needs to foresee proper incentive mechanisms for TSOs to invest in R&D which ensure that these costs will be recognised by NRAs.

- A truly integrated energy system is based on **technology neutrality**. All possible ways of decarbonization and the different potential starting points and pathways in each member state should be respected. With the right legal and regulatory framework, technologies linked for the supply of renewable and decarbonized gases such as Power-to-Gas, Biomethane, Combined Heat & Power, stationary fuel cells, dedicated hydrogen grids, CNG/LNG as well as fuel cell mobility and CCS/CCU will be able to contribute significantly to decreasing the GHG emissions in the European Union while preserving the global competitiveness of our economy.
- Existing regulatory provisions should not be a barrier to innovation and much needed pioneering projects in the context of energy system integration and decarbonization. A **regulatory testbox** allowing TSOs to deviate for a limited period of time and under regulatory supervision from existing regulation will support innovation and much needed practical experiences.

### Where do you see benefits or synergies?

#### Cost-efficiency

Several comprehensive studies (e.g. the Green Gas Initiative Study on the value of gas infrastructure in a climate-neutral Europe or the Gas for Climate Study) have shown clearly, that achieving the ambitious climate targets of the Union by **making use of the electricity and the gas grid in an integrated manner** would be significantly cheaper and more efficient than an all-electric solution.

A holistic strategy regarding the European Energy Systems considering the whole value chain **will reduce the investments** needed for the transition towards a climate-neutral energy sector in the EU.

#### Public Acceptance

The expansion of the European electricity network required to transport increasing volumes of renewable electricity is more and more hindered by public resistance due to the linked incisive effects in the landscape and the effects on the value of land and property. With an integrated energy system that is largely based on the already existing European-wide gas infrastructure less investments in the electricity network will be needed, the transformation could be much faster and stranded assets will be avoided, thus increasing the welfare gain for the entire society. Therefore, we are convinced that the transition towards **an integrated energy system will be much more acceptable to the public**.

### Security of Supply via a robust and resilient Energy System

A secure and reliable supply of energy is one of the key pillars of Europe's current energy policy. For good reason – secure supply of energy is crucial in the lives of the European citizen and is a precondition to stable economic growth. It is therefore important not to lose this merit of our energy system in the transition towards a climate neutral economy. **Renewable energy can be stored in form of molecules on a short-term and seasonal basis in very large quantities, can be used in a flexible manner directly in the industry, mobility and heating sector and to produce electricity in case of inadequate weather patterns.** Hydrogen can be transported in a very efficient manner across the Member States of the Union from regions with favorable conditions for the renewable energy production to centers of energy demand via the existing gas system.

**Are there any best practices or concrete projects for an integrated energy system you would like to highlight? / What role should hydrogen play and how its development and deployment could be supported by the EU?**

**A European internal market for hydrogen** based on a European-wide backbone hydrogen network would massively contribute to the decarbonization of the European economy whilst preserving the goals of the EU internal energy market. The German TSOs go ahead and have presented their vision of a dedicated hydrogen network largely based on their well-developed existing infrastructure. This could be a blueprint for the European level and integrated into the Green Deal in order to promote the development and deployment of hydrogen in the EU.

More information on the initiative can be found within the consultation document of the National Development Plan of the German TSOs (pages 159 & 160) under the following link:

[https://www.fnb-gas.de/media/2020\\_05\\_03\\_fnb\\_gas\\_2020\\_nep\\_konsultation\\_en.pdf](https://www.fnb-gas.de/media/2020_05_03_fnb_gas_2020_nep_konsultation_en.pdf)

and in the attached Document.

**What role should renewable gases play in the integrated energy system?**

Notwithstanding the important role of renewable gases to the future energy system, we would like to highlight that also decarbonized gases will be needed to achieve the European climate goals. Therefore, both gases should be considered in an energy sector integration strategy of the EC.

We are convinced that energy system integration – based on a hybrid energy system integrating gas and electricity networks – is the most cost-efficient, reliable and quickest solution to achieve the ambitious decarbonization targets of the European Union. The existing gas infrastructure in Europe is an asset of tremendous value to the EU in the transition towards a net-zero emissions economy. It is a tool to supply both – renewable and decarbonised gases – to the consumers and allows us to **decarbonize energy-intensive sectors, such as industry, residential heating and mobility, enabling an efficient long-distance transport as well as**

**short- and long-term storage of sustainable energy.** Several studies<sup>1</sup> have shown that electrification would not be able to deliver on these characteristics in an effective or efficient manner and that an integrated system based on both, electricity and gas, could create societal value of several billion Euros per year for the European Union.

### What measures should be taken to promote decarbonized gases?

To appropriately address the role of gas in the EU strategy on energy sector integration, we urge the EC to consider the following aspects:

A major focus of the Energy Sector Integration Strategy should be a framework that incentivizes and triggers the supply of and demand for renewable and decarbonized gases such as hydrogen and biomethane. This should be achieved by specific measures, such as:

- **Agreement on a common political roadmap towards a European internal market for hydrogen** including a European-wide technical conversion strategy for the whole value chain.
- Expansion of the existing **gas market legislation to include hydrogen** and a respective adaption of the relevant Network Codes.
- **Priority feed-in for hydrogen and other renewable and decarbonized gases** in the gas networks.
- The European framework should enable and establish a gradually increasing **quota for the supply of renewable and decarbonized gases**. Such a quota-system is the only tool which ensures a targeted scaling up of production capacities while at the same time reaching the required reduction in GHG emissions. In the case of hydrogen, such a quota should not be limited to blending but should explicitly include hydrogen transported in 100% hydrogen system.
- **Financial and regulatory support mechanisms** on a European level should be amended to also include renewable and decarbonized gases as well as the underlying technologies, considering the positive contributions to reaching the climate agenda of the Union. An example would be the upcoming **revision of the regulation on trans-European energy infrastructure**, which should in future include a framework supporting sustainable gas projects (e.g. hydrogen grids). Furthermore, there should be a consistent European framework which incentivizes member states to include respective mechanisms in their regulatory systems, **e.g. the allowance of a certain percentage of the RAB for R&D activities**.
- EU investment classification initiatives such as the **taxonomy** and the respective delegated acts should **include the transport of hydrogen and biogas as sustainable activities**.
- A European framework to incentivize the **investment in new technologies** such as Power-to-Gas and Fuel cells for mobile and stationary applications is required. Several TSOs in Germany and Europe have announced their readiness to kick-start the market development by investing in such facilities, fully taking into account the existing

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<sup>1</sup> <https://gasforclimate2050.eu/publications/>  
<https://www.greengasinitiative.eu/upload/fichiers/20190409-ggi-press-release.pdf>

unbundling provisions. The European framework should nonetheless be revised to give certainty on market conditions to all types of investors.

In addition to that the EC should consider the following aspects for the promotion of renewable and decarbonized gases in the context of their Energy Sector Integration Strategy

#### Terminology and certification schemes

Despite long-lasting political discussions on the contributions of different gas-based technologies to Europe's energy transition, there is still uncertainty and misunderstanding on the types of gases and technologies to play a role. We urge the EC to use the Energy Sector Integration Package to finally **implement concrete legal definitions and criteria on renewable and decarbonized gases**. In this context, the climate effect of different gases and technologies should be the key driver to establish the level of support given by the regulatory framework. Decarbonized gases such as hydrogen produced by SMR or pyrolysis in combination with CCS/CCU should be allowed to play its role as trailblazer for green hydrogen.

To supplement to legal terminology, a reliable system of “**Guarantees of Origins**” needs to be established to prove the climate effect of any gas to the end consumer.

#### Integrated network planning

Coordinated planning process of energy systems (especially gas and electricity networks) based on comparable underlying scenarios needs to be a crucial part of energy sector integration. On a European and on a national level, **infrastructure development plans need to be based on a holistic approach** and common scenarios with the aim to optimize the development of the future decarbonized energy infrastructure in the most cost-effective way. In a technology-open manner, energy demand should be met with the most suitable energy form (power line, gas pipe etc), considering e.g. costs, time-scales, social acceptance and environmental aspects.

#### Functioning of a hydrogen market

With increasing volumes of renewable and decarbonized hydrogen coming to the market, a clear and certain regulatory framework for a competitive EU-wide hydrogen market is required. We are convinced that comprehensive hydrogen networks linking supply and demand in the energy sector have to be regulated the same way as natural gas grids. **The same rules as for natural gas should apply to secure the principles of the European internal market such as security of supply and competition via a non-discriminatory third-party access**. What is more, using the existing gas infrastructure for the transport of hydrogen where possible would be economically sensible compared to developing new hydrogen networks.

### **About FNB Gas**

Vereinigung der Fernleitungsnetzbetreiber Gas e. V. (FNB Gas) is the association of German transmission system operators, i.e. the operators of the major supra-regional and cross-border gas pipelines. The Association was established at the end of 2012 and has operated an office in Berlin since April 2013. One main focus of the Association's activities is the Network Development Plan Gas, which has been drawn up annually by the transmission system operators since 2012. Furthermore, the Association represents its members as a point of contact for politicians, media and the public.