

Hydrogen and Decarbonised Gas package of the European Commission from 15 December 2021

BACKGROUND

The Hydrogen and Decarbonised Gas package published as the second part of the 'Fit for 55' initiative seeks to align the European legal framework for the gas market to the goals of the Green Deal and create a basic framework for the hydrogen market. Among others, it includes a revision of the Gas Directive 2009/73/EC and Gas Regulation (EC) No 715/2009.

The rapid development of a pan-European hydrogen grid along with low tariffs and simple, cross-border transmission and trading are essential for the ramp-up of the hydrogen market. The regulations contained in this package should establish the relevant conditions required to make this possible.

The initial situation is promising: large sections of the existing pan-European natural gas grid as well as the distribution grids can be used to set up the hydrogen infrastructure quickly and at a modest cost. The regulatory framework for natural gas has led to a highly competitive European internal gas market. This can now be extended to include hydrogen as well.

OVERALL ASSESSMENT

The National Hydrogen Council (NWR) welcomes the fact that the Commission has put forward a proposal in the form of the legislative package to create the urgently needed regulatory framework for the ramp-up of the hydrogen market. The Commission's proposal establishes a number of important guard rails for this. In particular, the NWR welcomes the fact that the expansion of existing, well-established regulatory principles of the gas market to include hydrogen is envisaged in principle, notwithstanding the possibilities available for enhanced implementation.

A suitable framework is being set up for the development and use of the grid with the regulations to ensure non-discriminatory grid access and will provide the possibility of long-term transmission contracts. The financial obstacles for pioneer customers during the ramp-up phase of the hydrogen grid are being addressed. That said, the financing issue for hydrogen networks is only partially addressed with the proposed levy on gas transmission fees, as these will only apply for a limited time. We therefore

believe it is necessary to include common tariffs for hydrogen and natural gas – in line with the position adopted by the NWR – as an option within the European framework¹. It is also important to ensure that the cost of financing the hydrogen infrastructure is not disproportionately borne by pioneer customers.

It is also encouraging that a European framework for collaboration in cross-border transmission with cooperation obligations will be created.

The key points of criticism from the National Hydrogen Council's perspective with respect to the Commission's proposal relate to the recommendations for the vertical and horizontal unbundling of the hydrogen grid, which in fact prevent a hydrogen grid from being built quickly and at low cost based on the existing natural gas grid within and outside of Germany. It is not possible to tap synergies that do not impede competition between gas and hydrogen grids under these regulations, in whatever form this may take. As a result, investments are not being made.

The earlier Gas Directive from 2009 underscores just how important it is to have a clear separation of market roles along the value chain. It also provides three alternative paths to implement vertical unbundling (ownership unbundling (OU), independent system operator (ISO), independent transmission operator (ITO); see Appendix). The relevant regulatory authorities within the framework of the ITO model have certified 19 European grid operators, including 11 in Germany alone. This model has proven effective and made the emergence of a liquid gas market possible – something that has also been validated in the past by the EU Commission and the regulatory authorities. However, the proposals of the EU Commission now establish time limits for the use of the proven ITO model for hydrogen grids, which will phase out in 2031. As a result, gas grid operators with ITO certification would have to sell their hydrogen grids that are currently under construction by 2031. That's because their shareholders, as vertically integrated companies, are also active in the production and accompanying distribution of hydrogen, electricity or natural gas. This would also apply to municipal utilities, distribution grid operators and local hydrogen grids. These play a unique role in Germany in particular, as around 90 per cent of industrial companies are connected to the distribution grid. This forced sale would constitute a profound intervention in property rights. In addition, a majority of financial investors and insurance companies, which are indispensable for financing the energy transition, would be largely shut out as shareholders. The reason for this is that they are often involved at different stages of the value chain through holdings/funds. Under these conditions, no grid operator would invest in the development of the hydrogen infrastructure. Consequently, the ramp-up of the hydrogen market in Germany would not take place at all or would at least be significantly delayed.

Germany and other ITO countries, such as France and Czechia, would be left behind in the development of the hydrogen infrastructure, while countries with ownership unbundling structures, such as the Netherlands and Belgium, would be at an advantage. Due to Germany's role as a central hub, this would also have a negative impact on the ramp-up in the neighbouring European countries. Looking back at the past 13 years, there is no reason to eliminate the ITO model as proposed, neither on economic nor competition grounds. On the contrary, this strategy undermines the goal set out in the coalition agreement to move ahead as quickly as possible with the development of an efficient hydrogen economy along with the necessary import and transport infrastructure.

¹ Also see the dissenting opinion of Klima-Allianz Deutschland (Climate Alliance Germany) and Friends of the Earth Germany (Bund für Umwelt- und Naturschutz Deutschland, BUND) at the end of the document.

The Commission's plans also provide for extremely narrow rules on horizontal unbundling. Separate companies must be set up for the hydrogen grid and the gas grid of a corporate group (legal separation under company law). Along with that, the exchange of commercially sensitive information and the use of shared services, such as in the context of technical operation or grid planning, are also largely prohibited between the two subsidiaries (informational and organisational unbundling). The envisaged rules would de facto require duplicate structures to be set up, with the inefficiencies this entails, along with a build-up of redundant expertise in the face of limited availability of experts. This is unnecessary, but increases costs for customers and delays the transition from gas to hydrogen. Joint grid planning for gas and hydrogen, taking into account the relevant interdependencies, is no longer possible due to informational unbundling. This in turn hampers the seamless transition from gas to hydrogen. This also undermines the goal set out in the coalition agreement to increase collaboration in grid infrastructure planning while taking a more proactive approach. Public consultations and independent reviews also continue to be crucially important for a realignment of the grid planning process.

In view of this, the proposed rules on unbundling urgently need to be amended.

Certain provisions in the legislative package must first be further analysed in dialogue with stakeholders before the National Hydrogen Council takes its final position. This includes the proposed limit on hydrogen blending in the natural gas transmission grid at the border interconnection point, fluctuating up to five per cent, with a corresponding impact felt throughout the domestic natural gas network². It is necessary to determine over the coming months whether this is practical and feasible in consultation with the users, especially as this relates to sensitive industrial processes.

The proposal to transfer European grid costs almost completely to the respective exit point and not allow for transmission fees between the Member States in the hydrogen grid from 2031 at the latest must also be scrutinised with regard to its feasibility. This would require a complex financial offset mechanism between the Member States and could complicate infrastructure financing. In particular, infrastructure operators and Member States that would serve in a transit function within the hydrogen system would be dependent on financial transfer payments from other Member States when making their investment decisions. They would have little to no influence over the feasibility of the proposed transfer due to the complex regulatory processes. In addition, no transitional arrangements have been made for long-term transmission contracts concluded prior to 2031 under the negotiated grid access agreement. This could lead to considerable economic risks for the contractual parties.

Furthermore, the methodology used to calculate GHG reductions and thus comply with the GHG reduction threshold, which will not be submitted until the end of 2024, should be given preference within the framework of a delegated act of the EU Commission. This could be done, for example, by moving it to the Renewable Energies Directive or via direct regulation within the framework of the legislative package instead of the delegated act. This would enable companies to move the start of hydrogen projects forward.

A corresponding certification system is required to ensure a functioning cross-border trade in hydrogen. In the NWR's opinion, the current proposal for certification falls short, as there is no uniform European and standard market design for the certification system or an expansion of the market balance area for the proposed mass balancing system to include the entire European grid.

² Also see the dissenting opinion of Klima-Allianz Deutschland (Climate Alliance Germany) and Friends of the Earth Germany (Bund für Umwelt- und Naturschutz Deutschland, BUND) at the end of the document.

In addition, there are no solutions available for the interfaces between networked and non-networked logistics chains, which are crucial especially during the market ramp-up phase.

MOST IMPORTANT RECOMMENDATIONS FOR ACTION

Changes are urgently needed in order to create the actual conditions needed for a rapid market ramp-up through the legislative package. The most important recommendations for action of the National Hydrogen Council are as follows:

The regulations on vertical and horizontal unbundling represent the main obstacle to the ramp-up of the hydrogen economy. These must be addressed immediately by the German government in its discussions with the EU Commission. To ensure the efficient and rapid setup and expansion of the hydrogen infrastructure, the NWR calls for all three established unbundling models, including the ITO model from earlier European legislation on electricity and gas grids, to be applied to hydrogen grids as well. It is necessary to lift the rule limiting the use of the ITO model to 2030 and eliminate regulations on corporate, informational and organisational unbundling.

To guarantee modest fees for customers during the ramp-up phase of the hydrogen grid at a time when grid utilisation rates are low, the possibility for shared grid tariffs for gas and hydrogen with joint cost regulation should, in addition to the levy, also be included in the directive.

Beyond that, the German government should advocate for swift and rigorous action by the European Commission to upgrade the planned certification system to enable cross-border transmission and trading. At the very least, this will require an expansion of the balance area of the proposed mass balancing system to encompass the entire European grid.

Furthermore, the National Hydrogen Council recommends that the German government press the Commission to move the required delegated act on the methodology used to calculate GHG reductions to the Renewable Energies Directive or do so via direct regulation in the legislative package in order to expedite the process.

The National Hydrogen Council will draft recommendations for action in further areas once the analyses of the checklist have been completed.

DISSENTING OPINION

of the National Hydrogen Council members Dr. Christiane Averbeck from Klima-Allianz Deutschland (Climate Alliance Germany) and Verena Graichen from Friends of the Earth Germany (Bund für Umwelt- und Naturschutz Deutschland, BUND):

We object to the agreed opinion that it is necessary to include common tariffs for hydrogen and natural gas – in line with the position adopted by the NWR – as an option within the European framework. Joint cost regulation and the cross-financing of hydrogen pipelines by natural gas customers are highly controversial. This is something we have already pointed out at another time at the NWR and described in a dissenting opinion. It entails price risks for households that are difficult to gauge over the long term and potentially creates an automatic financial mechanism for switching the existing natural gas grid fully over to hydrogen without sufficient analysis on a systematic or case-by-case level. Instead, we call for a more proactive and collective approach to planning Europe's energy grids, with a view to achieving the climate targets. This is also in line with the concept of climate-neutral grids agreed in the coalition agreement and the approach set out in the Regulation (EU) on the internal market for electricity. We continue to believe that public consultations and independent reviews are important in order to verify, through expert reports, whether there are more cost-effective alternatives to building a pipeline or modifying an existing one. It is in everyone's interest for a demand-based infrastructure to be created and stranded assets to be avoided.

In our view, the NWR should emphatically reject the EU's plan to allow hydrogen to be added to the natural gas transport grid at fluctuating rates of up to five per cent. We welcome the NWR when it, in its statement, calls for a review to determine if hydrogen blending is practical and feasible in consultation with the users, especially as this relates to sensitive industrial processes. In addition to the negative impact on applications that react sensitively to hydrogen blending, there is also a risk that it will have an adverse effect on climate protection, if blending is approved on this scale. Studies have shown that the positive impact of green hydrogen on the climate when used in industry (especially in the steel industry) is many times higher than when it is 'dispersed' in the natural gas grid. Moreover, blending entails the risk that natural gas will be labelled as 'green' and that reliance on fossil fuels and the accompanying infrastructure will be unduly prolonged, without being able to quickly adopt a binding transformation pathway that is compatible with climate neutrality.

THE GERMAN NATIONAL HYDROGEN COUNCIL

On 10 June 2020, the German Federal Government adopted the National Hydrogen Strategy and appointed the German National Hydrogen Council. The Council consists of 26 high-ranking experts in the fields of economy, science and civil society. These experts are not part of public administration. The members of the National Hydrogen Council are experts in the fields of production, research and innovation, industrial decarbonisation, transportation and buildings/heating, infrastructure, international partnerships as well as climate and sustainability. The National Hydrogen Council is chaired by former Parliamentary State Secretary Katherina Reiche.

The task of the National Hydrogen Council is to advise and support the State Secretary's Committee for Hydrogen with proposals and recommendations for action in the implementation and further development of Germany's National Hydrogen Strategy.

◆ **Contact: info@leitstelle-nws.de, www.wasserstoffrat.de**

APPENDIX

The regulations on vertical unbundling create a clear separation of market roles along the value chain. The current European regulatory framework for electricity and natural gas grid operators provides three versions of vertical unbundling:

◆ **ITO – Independent transmission operator**

The ITO-certified grid operator is an independent company that is completely functionally separated from the owner. The ITO-certified grid operator owns the infrastructure and makes business decisions about the organisation and operation of the grid on its own. To this end, the owner must provide the ITO with the necessary financial, technical and staff resources. In addition, comprehensive regulations on the separation of personnel must be observed and compliance programmes must be set up. Under the ITO model, a grid operator can be owned by financial investors or corporate groups that are also active at other stages of the value chain. The ITO model is the most common model used in Germany by both gas and electricity grid operators.

◆ **Ownership unbundling**

In the case of ownership unbundling, the grid operator may not be controlled by persons or undertakings which, at the same time, exercise control over an undertaking which is active at the stages of production, generation or distribution of energy to customers. In practice, this unbundling model is mainly used by state-owned grid operators and by (listed) companies where diversified ownership does not allow individual control of a relevant shareholder. If the state is also actively involved in state-owned grid operators at other stages of the value chain, these shareholdings and the grid operator only need to be controlled by different ministries.

◆ **ISO – Independent system operator**

Under the ISO model, the operation of the grid, including maintenance and expansion, must be entrusted to a fully independent third company (in other words, the ISO). The owner has no say in the decisions of the independent third party, but is required to assume the operational risk for investments that it cannot influence or limit in terms of amount or form. In the past, the ISO model was only used in very few cases in the electricity and gas sector.

If you are interested in finding out more or have any questions, please contact:

Hydrogen Coordination Office (Leitstelle Wasserstoff)

e-mail: info@leitstelle-nws.de

Website: www.wasserstoffrat.de (in German)