Public Consultation

on

The Bridge beyond 2025

PC_2019_G_06

Consultation period: 23 July 2019 – 1 September 2019

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1. OBJECTIVE

The objective of this consultation is to gather stakeholders' views and further information regarding the trends in the European energy sector – and particularly in the gas sector - beyond 2025. The input from the consultation will be used by the Agency to prepare recommendations to the European Institutions on possible future legislation.

2. TARGET GROUP

This consultation is addressed to all energy sector stakeholders, and in particular to consumer representative associations, Member States (MSs), environmental groups, gas and electricity network operators and current and prospective market participants.

3. CONTACT AND DEADLINE

Replies to this consultation should be sent:

to pc_2019_G_06@acer.europa.eu

by 01 September 2019, 23:59 hrs (CET).

4. IDENTIFICATION DATA

In order to identify the respondent, the following information should be included at the top of the answer sheet: name, company, address, contact email, phone and country.

5. PUBLICATION OF RESPONSES AND PRIVACY

The Agency will treat all information received as non-confidential, unless it is explicitly marked as confidential and the confidential nature of the information is justified. The Agency will not treat e-mails which contain only a general disclaimer (usually automatically added) as containing confidential information. If a document containing confidential information is submitted, a non-confidential version needs to be submitted as well.

For more details on how the contributions and the personal data of the respondents will be dealt with, please see the relevant Privacy Notification available on the website of the Agency. (https://www.acer.europa.eu/en/The_agency/Data-Protection/Documents/DPN_Interactions%20with%20Stakeholders.pdf).

6. RELATED DOCUMENTS

- Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators
- Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity
- Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU
- Regulation (EU) 2018/1999 on Governance of the Energy Union
- Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009
- Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency]
- Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC
- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005
- ACER Market Monitoring Report 2018, October 2018
- ACER Guidance Note on Consultations, April 2014
- ACER European Gas Target Model: review and update, January 2015
- CEER consultation document on Regulatory Challenges for a Sustainable Gas Sector, March 2019
- ACER Report on the methodologies and parameters used to determine the allowed or target revenue of gas transmission system operators, October 2018

7. BACKGROUND

Delivering sustainable, secure and affordable energy for all European consumers is at the heart of the EU's Internal Energy Market. Within this framework, the purpose of energy regulation is to ensure a level playing field in which competition can flourish and to provide a sound investment climate that is based on a predictable regulatory framework.

This Consultation Paper is part of a process conducted by European energy regulators in support of the European Commission, to consider actions and possible legislative proposals – notably related to the gas sector. The process takes account of the reflections presented in CEER's Consultation Paper on Regulatory Challenges for a Sustainable Gas Sector (March 2019) and the responses to it provided by stakeholders. The present Consultation Paper explores a set of policy issues, linked in particular to market design and targeted regulatory measures. The Paper takes as given the "Clean Energy for All Europeans" Package (CEP), notwithstanding the challenges of its implementation, and seeks to identify the key issues we face beyond the CEP's scope and the actions that will be needed to address such issues in the gas sector, also with a view to sector coupling.

The context for these considerations includes increased electrification of economic activities and extensive decarbonisation of the energy sector, leading to reductions in the use of unabated natural gas (and other fossil fuels), but with substantial uncertainty over the pathway to these reductions and the extent to which various alternative technologies will be adopted. In many areas, natural gas is likely to continue to be a key energy vector in the 2020s and potentially beyond. It provides essential services for consumers such as heating, serves as feedstock for industry, is used in transportation and in various industrial processes to provide heat, and is converted into other energy products, such as electricity.

Regulators' priorities are to improve outcomes for consumers and other gas users in both the short and longer terms. The importance and priority of decarbonisation does not remove the need to improve outcomes where and whilst natural gas is still being used. Some improvements seem straightforward, such as aligning (or "mirroring") some of the gas legislation to the improvements of consumer rights and information made for electricity in the CEP. Others, such as those geared towards self-consumption, dynamic prices, demand response and (renewable) energy communities, may seem less obviously relevant for the gas sector, but they may, nevertheless, merit careful consideration in order not to foreclose future technological solutions, such as developments in renewable gases.

The energy transition and decarbonisation policies that lead to a substitution of natural gas with other energy vectors may have financial (and comfort) consequences for household consumers, as well as for others who currently use natural gas to meet some of their energy needs. In particular, residential consumers and businesses may face an increase in their energy bills – given the difference between natural gas prices and electricity prices, or between natural gas prices and the prices of other energy products. The cost of replacing devices and equipment that use natural gas with devices and equipment that use other kinds of energy, in particular electricity, should also be considered.

It will be, therefore, important to ensure that the transition is based on sound economic principles and leads to the selection of the best-value technologies for decarbonisation, learning from the experience with the early approach of administered support for renewable electricity, whose costs continue, in most countries, to be passed on to consumers via their electricity bill.

We have identified two strategic areas which seem appropriate for regulatory action. They include issues relating to electricity and gas sector coupling, going beyond the regulatory alignment of the gas and electricity sectors. The problems are outlined here and then addressed in turn in the next sections.

- **Targeted regulation and market functioning**: in the near term, while the European Gas Target Model[1], where applied, is generally working well, there are some markets where competition is still not effective and consumers' interests are threatened, or where the current system of gas regulation may need review.

- **Enabling new products and enhancing infrastructure governance**: It seems clear that a sustainable future needs decarbonised gases and new technologies (such as power to gas), but the current regulatory framework was not designed with these activities in mind and the lack of regulation for these areas may have unintended consequences, acting as a barrier or hindrance to their development. In this sustainable future, the old roles and responsibilities may no longer be fully appropriate. The existing unbundling rules may need to be applied to new circumstances. And, in particular, what was a natural monopoly may now be competing with other services.

[1] https://acer.europa.eu/Events/Presentation-of-ACER-Gas-Target-Model-/Documents/European%20Gas%20Target%20Model%20Review%20and%20Update.pdf

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8. CONSULTATION TOPICS AND QUESTIONS

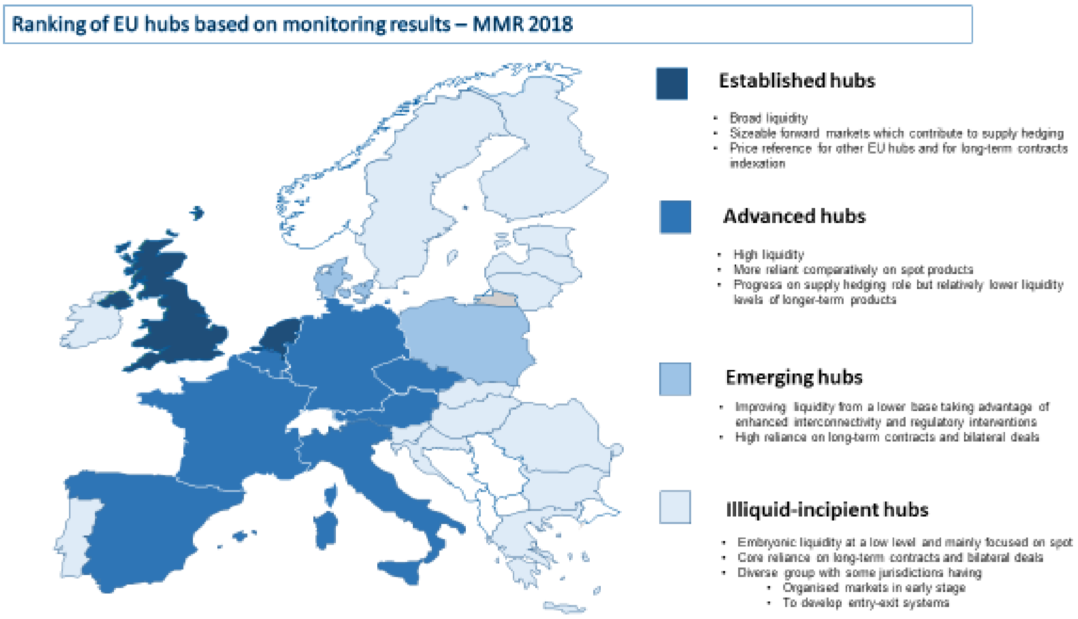
1.1 Topic 1: Targeted regulation and market functioning

Where are we now? What are the challenges?

The Agency's Gas Target Model (GTM) sets out a vision of a competitive European gas market, comprising entry-exit zones with liquid virtual trading points, where market integration is served by appropriate levels of infrastructure, which is utilised efficiently and enables gas to move freely between market areas to the locations where it is most highly valued by gas market participants. The GTM guides the coherent implementation of European Network Codes and also specifies the steps required to achieve liquid and dynamic gas markets, thereby enabling all European consumers to benefit from secure gas supplies and effective retail competition.

While the GTM has been successful in general, the Agency's market monitoring shows that some markets still face problems from weak competition or structural issues.

Figure 1: Ranking of EU gas hubs based on monitoring results – 2018



Market functioning at regional level

Typically, the challenges are structural and more severe in certain regions of Europe, often linked to reliance on a single source of supply. Competing sources of supply and new infrastructure are often not heavily utilised, which could also be linked to the fact that some infrastructure investments were primarily meant to make markets contestable or for security of supply purposes[2]. Investments in infrastructure and regulatory measures (like the application of reverse flows) to alleviate bottlenecks appear to be effective. While in some regions, mainly in South South-East Europe (SSE), bottlenecks remain, once on-going infrastructure projects become operational, they will resolve many of these bottlenecks.

Gas hubs in the North-West Europe (NWE) region registered the highest price convergence in the EU, because of similar market fundamentals, ease of access for upstream suppliers, stable increases in hub trading, relatively lower-priced transportation capacity and surpluses of long-term contracted capacity and commodity. Price integration in the Central and Eastern Europe (CEE) region has improved in recent years, while Mediterranean hubs has shown weaker convergence. This is due, among other things, to lower interconnection capacity levels, the effects of transportation tariffs, and weaker competitive pressure and hub functioning.

Other issues that affect market functioning have been identified in the Agency's annual market monitoring and network code implementation reports. Among other things, they reveal insufficient liquidity on some balancing platforms and possible market barriers stemming from administrative and legal requirements (licensing, security of supply obligations) or exemptions (e.g. from reverse flow requirements).

The GTM identifies actions that can be taken, but progress remains mixed. Rather than changing the GTM or otherwise proposing new measures to be applied across the EU, a more targeted GTM-based approach appears to be merited. The Baltic-Finnish market integration initiative provides a positive example where action is being taken[3].

In markets without effectively competing sources of supply in particular, there may also be security of supply and competition advantages associated with infrastructure development or improvement in its use. For example, a liquefied natural gas (LNG) terminal, even with a relatively low utilisation factor at present, may act as a competitive backstop by making the local market contestable, and provide additional security of supply in a market that would otherwise be reliant on pipeline imports from one or a few sources. There could be strategic value in keeping the LNG terminal open, even if at current utilisation levels this were not economic. This would need further analysis based on the evidence in the particular case, considering the balance of the costs and the benefits associated with specific gas infrastructure.

[2] On average, only 26% of the available capacity of LNG facilities was used in 2018, up from 21% in 2016. In 2017, the utilisation rate of cross-border Interconnection Points (IPs), measured by the yearly average ratio of nominations over booked capacity, was estimated at 57%, based on a sample of 20 IPs. The use of averages is illustrative and meant to show the overall European situation, recognising that peak utilisation may be more important for capacity requirements.

[3] https://figas.fi/en/gas-market-integration-between-finland-and-the-baltics-going-forward/

Cross-border flows and transmission tariffs

The current approach to gas transmission tariffs is predominantly based on national entry-exit models. Unlike in electricity, where cross-border tariffs are prohibited by EU legislation, this leads to a range of tariffs on cross-border flows, from well below €0.5/MWh up to €2/MWh within the EU and up to nearly €3/MWh on external borders (see Figures 30-32 in the Agency's 2018 Market Monitoring Report). This is a potential concern where the entry-exit zones are relatively small so that gas could transit across several borders and be charged exit and entry fees several times even over relatively short distances (the so-called pancaking effect)[4].

We would expect cross-border tariffs to be a contributing factor to wholesale price spreads between markets either side of the border, which can also be caused by congestion on interconnector capacity (all capacity made available being utilised). In practice, spreads between EU gas markets are relatively modest, typically well below many spreads between EU electricity markets (which are due to congestion). So at present the tariff design does not appear to be causing major issues on a pan-EU basis.

However, concerns about gas tariffs are expected to grow – at least in some markets - as long-term capacity contracts come to an end and bookings move to a shorter-term horizon. Evidence across the EU is that new capacity bookings are running overall at a lower rate than contract expiry, but with local differences which can be significant. Further, short-term tariffs are often higher than long-term tariffs, which may offset the impact on transmission system operators' (TSOs') revenue recovery, but increase the barriers to trade and the gap between marginal cost and charges.

Furthermore, the way in which the value of TSOs' assets are established and their allowed revenues calculated has a major impact on the tariff levels, and thus indirectly on the possibilities for cross-border trade and market integration. The Agency's Allowed Revenues Report[5] has shown significant differences in approach among National Regulatory Authorities (NRAs). These may result from differing infrastructure and market characteristics, although in some cases the justification is unclear[6].

As well as cross-border charges, differences between gas and electricity tariff frameworks could distort other decisions where the two energy forms are substitutable and hence compete, as is increasingly likely in the future with sector coupling. For example, where energy from power to gas may be competing with energy from gas storage, LNG or electricity storage (or any combination), they should face network charges which allow them to compete on a

[4] Economic efficiency in trading would be promoted by charging incremental or marginal costs (including capital costs where incremental capacity is required), whereas current practice charges fully allocated costs. However, both approaches could be said to be "cost reflective" and to avoid cross-subsidy.

[5] Agency's Report on the methodologies and parameters used to determine the allowed or target revenue of gas transmission system operators
https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER%20Report%20Methodologies%20Target%20Revenue%20of%20Gas%20TSOs.pdf
and https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/Consultant%20Report.pdf

[6] See examples provided in the Agency's Report on the methodologies and parameters used to determine the allowed or target revenue of gas transmission system operators (footnote 5).

broadly level playing field, each paying for the costs they impose on the network. In addition, power to gas and gas storage could compete with electricity storage, while through power to gas, electricity transmission can compete with gas transmission. For example, if the demand for energy in a transformation process (gas to power or vice versa) is charged with fees reflecting fixed infrastructure costs or (even worse) with levies, spread on a per-kWh basis, these fees and levies increase the marginal cost (price) of the energy input in the transformation process, distorting competition. In some markets, the approaches to charging gas storage and electricity storage differ significantly, potentially distorting investment and operational decisions.

Proposed response

In addressing various aspects of the GTM and market performance across the EU, several targeted regulatory improvements should be considered, including in relation to balancing markets, administrative and legal requirements, oversight of regional entities, tariff design and capacity allocation, and last, but not least, issues related to the overall institutional and governance arrangements in the current legal framework. The changing dynamics across the energy sector, linked to the energy transition and to calls for greater sector coupling and a "whole system" approach, also require a review of the current framework and measures.

Market monitoring as a basis for action

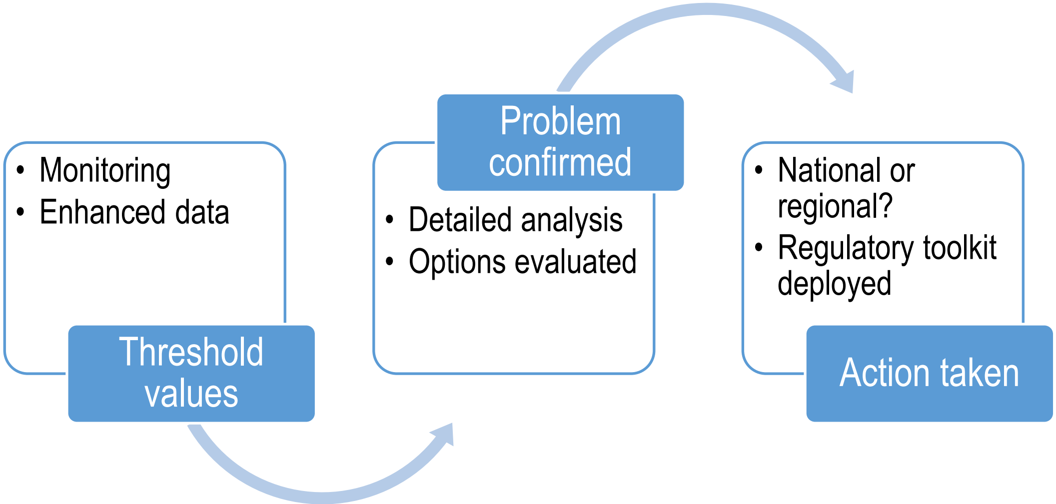
The key metrics identified in the GTM will continue to be monitored. While some indicators can be changed and updated over time, the system of having the Agency track indicators to measure market performance should be enshrined in EU law. The Agency will seek the required data from NRAs, TSOs and other relevant stakeholders, while some information is already available through data reporting under the EU Regulation on Wholesale Energy Market Integrity and Transparency (REMIT). Threshold values for these metrics can be used to indicate (as a screening mechanism) cause for concern on competition grounds in the gas wholesale market.

Where a number of indicators do not meet the thresholds, this indicates potential concern. This should trigger a requirement for the concerned NRA(s) to undertake a more detailed analysis of the situation, properly to define the relevant market (e.g. national or multi-national), ascertain the underlying causes and consider whether any of the options available from a "regulatory toolkit" would be likely to provide the necessary improvements. The regulatory toolkit should be based on the tools described in the GTM, such as various forms of market mergers, but could also comprise other tools such as tariffs adaptations or release programmes.

If the problem were confirmed by the analysis, the relevant decision makers, following consultation with all market participants, would then have to decide on action. The proposed action should be subject to a cost-benefit analysis (CBA), to ensure the benefits outweigh the cost of the proposed action. Where there are decisions with cross-border relevance that fall to NRAs, if they do not agree, the decision would be transferred to the Agency.

This process is summarised in the graphic below. At each stage, there is a decision gate (the blue box) to pass to the next stage of the process. The analysis would need to be published and decisions to proceed or not would need to be duly justified. If the detailed analysis indicates that a regional approach is merited, it must be a stepping stone towards an integrated European market, not a diversion from it.

Figure 2: Process for monitoring and improving market performance



Liquidity on balancing platforms

For those Member States that are using balancing platforms to manage gas balancing in the period until 2024, as foreseen in the Balancing Network Code where there is insufficient liquidity, they would need to move all their balancing trades to a market either in their own country or in a neighbouring country, with a view to network users fully balancing their own requirements. If a trading platform in a neighbouring country is chosen, any infrastructure constraints between the markets should be identified well in advance. The competent NRA should take the decision at least a year ahead of the deadline, having consulted market participants, and should publish a roadmap detailing the required actions.

Administrative and legal requirements

Licensing and registration requirements serve the purpose, among others, of protecting market functioning from malicious practices. Experience has shown that in some cases the requirements were insufficient, and companies could get away with balancing fraud (by taking a position in the balancing market and leaving the market before the required payment was due). This needs to be avoided by sensible *ex-ante* checks by the TSO (for registration) and/or the NRA (for licensing and collateral requirements). In case energy trading companies are convicted of fraud, after due process, it must be possible to put them on an EU-wide “blacklist”, with the purpose of excluding them from operating in other EU energy markets. The same could apply to board members and subsidiaries of convicted companies.

At the same time, in some markets, licensing requirements can act as a barrier to entry. In order to address this, a system of mutual recognition for wholesale markets should be introduced. Once a supplier/trader is licensed in one Member State, based on well-defined standardised minimum requirements, including in relation to the reliability and financial solvency of the entity as well as to the relevant collateral framework, this licence should automatically be recognised in other Member States. Enforcement by NRAs needs to be ensured[7].

Governments have put in place several important measures to enhance security of supply, which in some cases may have an effect on market functioning and/or integration. For gas, these can include storage, supply diversification and/or reverse flow obligations. In electricity, measures can include capacity remuneration mechanisms and/or capacity auctions. Considering the increase in sector coupling and the future competition between electricity and gas storage, the different frameworks currently applied in these sectors should be assessed in a harmonised way.

Furthermore, for storage and LNG facilities, the type of regulation (price, access, transparency, etc.) should be decided in the light of an analysis of the degree of competition the facility faces in the relevant market or of its role with respect to security of supply.

Oversight of regional entities and market areas

Regional cooperation can be fostered by new entities, such as booking platforms, covering an enlarged market area. However, such entities should not be used to weaken regulatory oversight. A clear legal requirement should be introduced to the effect that TSOs can only delegate or mandate legally required tasks if there is at least the same degree of regulatory oversight over the new entity. How this regulatory oversight is shaped can be left to lower-level legislation or regulation.

Transmission tariffs and cross-border capacity allocation

On tariffs, the Agency's experience is that the basis of the current gas market design needs first to be anchored more firmly in EU legislation. In order to do so, the entry-exit system needs to be defined accurately, taking into account the topology of the network, flow patterns and the potential for physical congestion. Such a description needs to include rules indicating if and when deviations from standard firm and interruptible capacity products are allowed (for instance for conditional capacity products).

Several factors drive convergence of hub prices, including market liberalisation and hub development, suppliers paying similar prices to producers with direct physical access, enhanced upstream supply competition, renegotiation of supply contracts based on hub-price indexation, antitrust interventions, and enhanced wholesale trading. Thus, while cross-border tariffs might influence hub price differentials, they are clearly not the sole driver.

Should cross-border capacity charges for gas be a hindrance to trade, there are a range of possible measures that could be taken at a regional level. A voluntary response could be to allow the reserve price in cross-border capacity allocation to be reduced, on the basis of an agreement between the concerned NRAs, supported by the Agency in a mediating role where needed. Merging national entry-exit zones into regional zones may provide a structural

[7] An equivalent mechanism could be automatically to grant (or deem) a licence with no additional conditions in all other Member States, which may enable enforcement to continue in the market where the alleged breach occurs.

solution[8]. Any of these measures could be combined with an inter-TSO compensation (ITC) mechanism, to ensure the recovery of the allowed revenues also for TSOs whose systems are significantly affected by transits. This could be part of a broader shift, gradually rebalancing away from cross-border tariffs within the EU to tariffs on external borders and on demand.

In case a regional ITC mechanism is implemented, additional transparency requirements are needed, in particular covering the calculation and value of the allowed revenue, respecting confidentiality requirements. In order to foster the implementation of ITC mechanisms at regional level, clear principles established at EU level are needed, along with an appropriate institutional framework setting out the roles and responsibilities of each entity. A regional market merger, including an ITC mechanism, should be based on a positive CBA, allowing a fair allocation of costs and benefits from the merger[9]. These CBAs should be consistent with the CBAs (and cross-border cost allocations) used for cross-border investments (in particular, projects of common interest (PCIs)). The mergers of bigger zones may also require an analysis of the impact in the adjacent markets. In case of a disagreement between the NRAs involved within the prescribed decision making period, the decision would be transferred to the Agency.

While harmonising tariff structures goes some way towards protecting consumers in a Member State potentially overpaying for TSO transmission services in countries through which the gas they use passes, it only addresses part of the issue. Implementation of the Network Code on harmonised gas tariff structures (TAR NC) reveals that there may be further room for improvement of the methodology, namely in order for cross-border tariffs to allocate properly the costs of the network used by domestic and non-domestic flows. The allowed revenue of the TSO is part of the equation for calculating the cross-border entry-exit prices. In order fully to address the issue when an ITC mechanism is used, the calculation of a TSO's allowed revenue should follow a set of common methodologies and, in case of disagreement between the involved NRAs, the decision should be transferred to the Agency. The common methodologies would be applied by the NRAs to derive specific parameters in a comparable way.

To address sector coupling issues, NRAs should be tasked with reviewing the substitutability of gas and electricity assets and ensuring that network charges provide a level playing field between gas and electricity – for example, between gas and electricity storage. In order to ensure a level playing field and promote economic efficiency, the tariffs applied to these assets should reflect marginal costs. An example of such difference is that electricity storage may currently be treated either as a generator (often exempt from network access charges) or as a consumer (subject to network access charges similar to those applied to end consumers). Meanwhile, for gas storage a discount may be applied on network access charges. Parallel treatment should be envisaged for power-to-gas facilities.

[8] Provided it does not lead to significant congestion within zones or to significantly higher cross-border tariffs at the edge of the larger zones.

[9] Merging of zones does not automatically imply an increase in remaining cross-border tariffs. For example, this would be the case with a market merger that applies a reference price methodology compliant with the TAR NC for each of the market areas that are part of a merger and allocates the costs of the disappearing IPs according to the gas flow at those IPs.

Finally, with respect to capacity allocation, there should be rules to prevent longer-term capacity (for instance yearly capacity over longer periods) being booked and assigned to one player only, in particular if that player already holds a dominant position in the market. The underlying question is if the regulatory framework should allow one single entity, or a limited number of entities, to book the vast majority of capacity offered at one IP side, even if there is no demand to book such capacity from other shippers. On the one hand, IPs booked for long time provide stability for revenue recovery to TSOs. On the other hand, restricting future access to those IPs for alternative suppliers can put upward pressure on prices.

As a first measure, such occurrences should be monitored and possibly published, to alert authorities and market participants when such instances are taking place. One could also consider additional tools to block such assignments to one player (such as limiting long-term bookings for dominant players and/or strengthening Use-It-Or-Lose-It provisions) and/or to take away capacity later on under certain conditions. In some instances, competition law could also be used, although that would only be effective *ex-post*. NRAs and the Agency could monitor and engage National Competition Authorities (NCAs) and the European Commission's Directorate General for Competition (DG COMP) where there are potential breaches of competition law.

Institutional and governance arrangements

More generally, the overall governance arrangements in the gas sector should be brought into line with those recently updated for the electricity sector in the CEP (especially in a context of sector coupling and a holistic system view in the future). This includes new governance and regulatory oversight arrangements in relation to the TYNDP, Network Codes, the Agency's powers, ENTSO tasks, exemptions, the creation of an EU-wide DSO entity and planning obligations for distribution systems.

In terms of overall energy governance, the ENTSOs should be obliged to submit their budget for approval to the Agency. The Agency should have the possibility to request an amendment, if it deems the budget to be insufficient to cover the ENTSO's legal obligations, as well as if it considers the budget to be too generous. Such oversight by the Agency needs to be coordinated with the NRAs overseeing their TSOs' contributions to the respective ENTSO budget.

No.	Consultation questions
1.	Is the proposed response set out above appropriate to address the challenges the sector faces? What should be done differently and why? In particular:
1a.	For monitoring the GTM metrics and prompting action, should the threshold values be set out at EU level? What should they be? Who should set these values?
1b.	Should there be new principles for tariff and allowed revenue methodologies in legislation – e.g. ensuring a level playing field between the gas and electricity sectors? What principles would be crucial?
2.	Should the Agency develop a joint Electricity and Gas Target Model in view of sector coupling and what key features should this model have?

1.2 Topic 2: Enabling new products and enhancing infrastructure governance

Where are we now? What are the challenges?

Impact of new products on markets and regulation

Decarbonisation solutions include blending biogas, biomethane, synthetic methane or hydrogen into natural gas, or using biogas, biomethane, synthetic methane or hydrogen in place of natural gas. This includes "power to gas", regardless of whether the resulting gas is synthetic methane or hydrogen. It may also include carbon capture and use or storage where relevant.

The potential expansion of these technologies gives rise to a number of technical issues, such as the definitions of various decarbonised energy products in technical terms, as well as in terms of being "green", and technical standards for connections and gas quality. For the purposes of this paper, we only note that, to the extent that blending of other gases into natural gas becomes more prevalent, variations in gas quality standards across borders should not become a barrier to trade[10].

We are here more concerned with the impact of these new solutions and technologies on competition and on regulated monopolies. Our current view is that new "green gas" production assets could be developed in a competitive market, supported in the early stages for technology development reasons if government policy so dictates. There is a wide range of different decarbonisation technologies and we do not yet know which ones will end up providing the most economic solutions, in which combinations. The terms on which they connect to the existing gas system and the tariffs they pay should put them on a level playing field, so that they can compete based on the wholesale market and the carbon value they provide.

In some cases, there may be related assets with monopoly characteristics, for example if end consumers are supplied with pure hydrogen conveyed through a network of pipes. In many countries, there is no regulatory framework for these assets today and it may be unclear whether they would or should fall within the same regulatory framework as natural gas networks.

For some assets, it may be unclear whether they are better treated as part of the competitive market or as a monopoly function. We already see TSOs looking to invest in assets that are arguably for competitive activities, for example power-to-gas or renewable gas facilities.

For power-to-gas assets, there may be issues where differences in tariffs (as described above) or market rules between the gas and electricity sectors cause distortions or unintended consequences. For example, differences between the gas day and electricity day (i.e. the period covered by day-ahead auctions) could increase risks.

[10] Under the Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, Guarantees of Origin for gas are introduced, so the action required may be more related to implementation than legislation.

Infrastructure governance

Overall, one of the main issues here is uncertainty as to how new assets and activities will be treated in regulation. The historical system was not designed with them in mind and they may, by chance, currently be treated differently in different countries depending on the precise wording of legislation or regulation, highlighting the need for uniform definitions and criteria to be met for a product to be designated as “low-carbon” or “green”. Otherwise, this uncertainty is likely to deter investment and the potential variation could distort decisions.

At present, responsibility for planning network infrastructure sits mainly with TSOs at national level, overseen by NRAs who determine funding for investments and in some instances approve the national development plans, and with ENTSOs at European level, plus a role for the European Commission and Member States in the PCI selection process and the provision of the EU’s Connecting Europe Facility (CEF) grants. This planning is primarily done separately for electricity and gas networks, notwithstanding the welcome recent joint work of ENTSOG and ENTSO-E on developing an interlinked model and joint scenarios for the purpose of infrastructure planning. While the Agency provides non-binding opinions on ENTSOs’ network development plans, these have less impact than NRA decisions e.g. on funding. This situation has led to some challenges, such as divergent views on the need for some infrastructure intended to bring gas into the European Union and certain cross-border infrastructure, the need to coordinate planning between electricity and gas and the overlap between cost-benefit analysis and market testing of gas investments.

Furthermore, in the future, the boundaries between competitive activities and monopoly activities may blur, and gas and electricity may be competing with each other. Going forward, it seems likely to become less clear that TSOs can be neutral to market developments. Electrification of heating, development of power to gas and/or networks of pipes conveying pure hydrogen could change the value of gas (and electricity) transmission assets. In some countries, national legislation for natural gas may already be defined to apply to pure hydrogen, potentially depending on how it is used. In others, hydrogen may be unregulated and outside the monopoly of TSOs and distribution system operators (DSOs). Also, investments geared solely towards fossil fuels should be avoided or require a quick payback of value, while investments in gas infrastructure should be future-proof, meaning they should also be useful for “low-carbon” or “green” gases, properly defined.

Increasingly, as new technologies and locations for supply of “green gas” are considered, network assets may become one of several ways to provide solutions to meet the energy needs of consumers (i.e. one of the competing options), instead of being a natural monopoly and essential facility. The owners of these assets have a vested commercial interest in how they are used and may not be incentivised to encourage more economic alternatives to come to the market through forward-thinking planning.

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<u>Proposed response</u>

Defining new technologies

As technologies are still developing and the future mix is rather uncertain, we favour adopting consistent principles at European level and a dynamic regulatory approach, rather than including detailed rules in legislation at this stage.

This will need to be supported by effective definitions and monitoring. Definitions and criteria should unambiguously determine the different types of decarbonised gas and the extent to which each can be regarded as “green” or “low carbon”. For the proper regulatory assessment of the impact of decarbonised gas production on the sector, including transmission system development patterns and trading, fundamental data on gas production assets in place and planned should be systematically collected and should be available at European level.

Dynamic regulation for new activities

In general, we favour market-based approaches where conditions allow this. Regulation should be neutral between technologies and support efficient outcomes and investments. In particular, and in a sector coupling context, there should be a review of market rules across gas and electricity as they affect power-to-gas assets to ensure no undue distortions.

As regards the development of new technologies and activities for gas, a parallel can be drawn with the approach for electricity storage adopted in the CEP. This could be formulated as a confirmation of how the existing approach to unbundling applies to new activities[11].

In general, TSOs and DSOs should be precluded from investing in potentially competitive activities. Where it can be seen that the market will not bring forth the needed investment (demonstrated through CBA), the next course of action should be to utilise competitive tenders. If this fails, then following careful analysis of the cost and benefits of the proposed investment and of the effect on competition, it may be possible to grant limited exemptions to TSOs and DSOs to allow them to invest in order to get the market started. Additional restrictions could be considered such as requiring investment to be through a separate but related company for greater transparency, and requirements to divest once the market is ready to take over. Care would need to be taken not to allow TSO/DSO-operated assets to foreclose the market for the services these assets provide, to use their inside information to secure the best sites or to cross-subsidise the new projects putting the TSO/DSO in a favourable position.

We note that support for investment in technologies that are not yet commercially viable may be justified to promote learning, but this is largely a matter for governments rather than regulators.

Nonetheless, and without pre-empting the question of whether some or all such new installations (e.g. power to gas) should or should not be in the regulated domain, we note that the existing tools such as the TEN-E Regulation should be amended to include these

[11] See also the CEER conclusions paper on DSOs and new activities, published March 2019.

investments in the TYNDP and possibly as PCIs, where this would facilitate increased efficiency to support the energy transition in the best interests of energy consumers.

Where new infrastructure, such as power-to-gas or biogas plants, are developed by the market, there is a need to coordinate with network availability and development. This starts with the TSOs (and DSOs, where relevant) being required to publish information on relative ease of accommodation of new assets. Economic efficiency is likely to be best served if this is backed up through a price signal, such as connection charges, but in any event appropriate processes will need to be put in place to ensure that there is a level playing field. Where it is clear that network operators cannot invest in such assets themselves, it should be possible to achieve effective coordination so that networks can accommodate solutions provided by the market.

In the CEP, the establishment of an EU-DSO entity is foreseen. While this is primarily focused on the electricity side, also on the gas side many of the experiences and lessons with renewable energy (for example, biomethane fed into gas distribution networks) occur more at DSO than at TSO level. This implies that the possibilities and limitations of DSO networks need to be taken into account much more than before. To ensure that the DSOs' views are part of the EU deliberations when developing new measures, it could be useful to bring gas DSOs into a new European DSO entity with clearly defined tasks and objectives to support new technologies.

More generally, this could be seen as an example of where dynamic regulation is more important than a focus on setting the best rules today. There is value in learning from experience and in the legislation giving the relevant authorities powers to act at a later stage, with procedural safeguards.

Governance for infrastructure planning

In these circumstances, it may be inappropriate for the TSOs, as owners/operators of one of the competing options, to have a monopoly over the identification of system needs. There is a need for a coherent approach across multiple sectors, including integration with power to gas and energy for households, transport, services and industry. This may be facilitated, particularly at European level, by a neutral body (such as a regulatory entity) establishing a consistent set of definitions, criteria and scenarios - such as the speed of decarbonisation in different sub-sectors, the extent of technological innovation and energy efficiency improvements and trends in demographic and economic factors – and the resulting system needs. These scenarios need to be driven by the National Energy and Climate Plans established in Regulation (EU) 2018/1999 on Governance of the Energy Union, to ensure that they are in line with the wider policy objectives. In order to (later) test the robustness of proposed solutions, scenarios or sensitivities could be used to develop alternative, realistic pathways which take into account and promote the availability of efficiently produced "green" gases.

The scenario development at EU level, as a basis for the TYNDP, should be at least subject to approval by the Agency, taking into account the policy goals in the National Energy and Climate Plans. In this respect, it should be noted that currently not all NRAs have the power to approve the NDPs, which should be changed. In this way, consistency between the EU and national regulatory approval could be ensured through collaboration between the Agency and NRAs. The extent to which proposed infrastructure investments are robust under various outcomes needs to be tested. These tests should consider both total and peak demand, and the effects of the investments on the transmission capacity needs. The Agency should be conferred the power to approve the ENTSOs TYNDPs and require amendments by the relevant ENTSO, with due justification and when the plan is deemed non-compliant with the objectives in the Regulation, but should not overwrite the approval of the NDP. Given the complexity and importance of this work, a significant increase of the Agency's resources would be required to develop decisions and undertake due diligence of ENTSO assessments. Alternatively, the Agency should be given the power to prescribe binding guidelines for the TYNDP development, and check the draft TYNDP against those guidelines, similar to the Framework Guidelines – Network Codes development process.

On the basis of the identified needs, presented in a transparent way, and taking into account the supply of decarbonised gases, multiple solution providers (including TSOs and flexibility providers) could come forward with ways to meet those needs, which could be network-based or not. Where possible, these alternatives would compete either in the market or through market tests. At EU level, the assessment of the available options and pathways should be supported by the availability of the necessary fundamental data as described above, with the Agency having stronger oversight of the operational planning activities undertaken by the ENTSOs.

This reflects the growing recognition that the "natural monopoly" element of TSOs lies really in network planning and operation and that in some instances even the development of new infrastructure is potentially a competitive activity. Current trends in the industry may take this further as digitalisation and decentralisation allow for bypass of some networks or of network components.

The CBA methodology needs to be adapted to ensure that climate effects of new investments are properly taken into account. In this respect, the development of the CBA methodology should be assigned to the Agency, including by formally documenting any models used in the CBA in a way that allows third parties to run a CBA analysis independently. Alternatively, the Agency should be given the power to prescribe binding guidelines for the CBA methodology and have the power to require amendments. The CBA methodology should include decarbonisation and its monetisation.

Regulation of new networks

Consideration should be given to a regulatory framework for a pure hydrogen network. This might appear premature, as initial investments are being made in a competitive market (e.g. for use of hydrogen in industry) rather than as a network asset. The prospect of a widespread hydrogen network still seems some years away, and is likely to be localised at first. However, uncertainty over future regulation could hamper (and delay) the initial investments in decarbonised gases. Some principles, such as third-party access, could potentially be set down at EU level before investments are made. Just as it is important to ensure effective regulation of networks, so it will be important to avoid unnecessary regulation of competitive activities. For example, where hydrogen is piped to a single industrial user, it is unlikely to be appropriate to impose significant regulatory requirements. But should hydrogen networks become widespread, and where blending of decarbonised gas increases in existing networks, there would be real value in leveraging the liquidity of existing markets and the understanding of existing rules and regulations. This could be achieved by extending the existing Gas Directive and Regulation to apply beyond natural gas to include decarbonised gases, with clear carve-outs for direct pipes to individual (or small clusters of) industrial users where additional regulation is unwarranted.

At the same time, the support mechanisms (such as PCI status) provided under the TEN-E Regulation could be extended to investments supporting the energy transition, such as power-to-gas and biogas / biomethane installations.

Furthermore, TSOs, storage operators (SSOs) and LNG operators (LSOs) should be obliged to measure and report their methane emissions according to a standard methodology, with sufficient granularity to allow the identification of the highest emitters. The data should be publicly available through a European Methane Emissions Observatory as well as in the audited annual reports of the operators, which should also cover other sources of methane emissions. The measurements should be followed by an action plan at system operator level to address emissions, including budget availability as evidenced in the annual audited financial statements of the operators. NRAs should recognise efficiently incurred costs for regulated entities. Once emission data are sufficiently robust, tradeable permits or taxes on actual emissions could be required.

No.	Consultation questions
3.	Is the proposed response set out above appropriate to address the challenges the sector faces? What should be done differently and why? In particular:
3a.	Who should provide data on the availability of decarbonised gases by location so as to enable assessment of changes of gas system needs and flows, in parallel to greater availability of decarbonised gases? At what frequency should this data be provided to the Agency?
3c.	Do TSOs face a conflict of interest in the future in planning gas and electricity infrastructure? If so, would stronger regulatory oversight resolve the problem? Which powers are needed and at which level (European, regional, national)? Would transparency requirements on TSOs/ENTSOs mitigate this problem and if yes, what shall be done?
4.	What powers are needed for dynamic regulation to be effective?