

A future EU strategy on energy system integration?

EFET thoughts and recommendations

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The European Federation of Energy Traders (EFET)¹ welcomes the opportunity to provide feedback on the European Commission's (hereafter "the Commission") announcement of a future strategy for energy system integration. This future strategy proposed by the Commission aims at strengthening links between electricity and gas systems and energy end-use sectors across the EU economy. The objectives of the strategy reflect the interest of EFET in potential decarbonisation of the gas sector by harnessing market mechanisms and closer coupling of the gas and power markets at wholesale level.²

Our answers to specific consultation questions listed by the Commission in the announcement of the preparation of a system integration strategy³ are set out in Annex to this paper.

In order for the future energy system integration strategy to facilitate Europe's energy transition and help reach ambitious climate objectives in a cost-effective way, we believe it should be underpinned by the following five policy priorities.

Policy priorities to underpin efficient energy system integration and cost-effective decarbonisation of the EU economy

1. Setting an ambitious, **economy-wide climate neutrality objective at Union level**
2. **Strengthening the EU ETS** in the short term, as it currently applies to power generation and heavy industries, then **reforming and expanding** it to become a long-term driver for decarbonisation across the EU economy
3. Utilising **market-based mechanisms** and adapting market instruments whenever financial support for new, low carbon energy sources is considered, while **respecting sectoral unbundling rules**
4. Ensuring **pan-European coordination and cross-border implementation of any financial support schemes** for renewable, decarbonised and low carbon gases, especially in case national end-use prohibitions of hydrocarbons should be foreseen
5. Insisting on **technological neutrality** of measures, to include **a level playing field between power and gas systems**, so that users face a cost reflective allocation of costs across both types of grid, without cross-subsidisation

¹ The European Federation of Energy Traders (EFET) promotes competition, transparency and open access in the European energy sector. We build trust in power and gas markets across Europe, so that they may underpin a sustainable and secure energy supply and enable the transition to a carbon neutral economy. We currently represent more than 100 energy trading companies, active in over 27 European countries. For more information: www.efet.org.

² Please see the report by Frontier Economics for EFET "Gas decarbonisation and sector coupling: ensuring a market-based approach" available at https://efet.org/Files/Short%20Form%20Report%20-%20A%20market-based%20approach%20to%20gas%20decarbonisation%20and%20sector%20coupling_Frontier%20report%20for%20EFET%20.pdf

³ See here: https://ec.europa.eu/info/news/preparing-future-eu-strategy-energy-sector-integration-2020-apr-14_en

1. Setting an ambitious, economy-wide climate neutrality objective at Union level

The Climate Law proposal, as well as the Commission's inception impact assessment for EU 2030 Climate Target Plan (hereafter "the IIA"), emphasize the need for a coordinated action to tackle climate change at Union level as a "trans-boundary challenge."⁴ We support such action. We also agree that, "all sectors of the economy and society will need to contribute"⁵ to it, including those that are currently reliant on natural gas and other hydrocarbon fuels.

This objective of climate neutrality across the whole European economy by 2050 together with a tightened trajectory for emission reductions by 2030 justify stringent efforts to create **an integrated energy system and to take a cross-sectoral approach to decarbonisation**. Electrification alone is unlikely to deliver carbon emission reductions affordably on the scale and at the pace required. This is the case in particular for hard-to-abate sectors, which must also contribute to Europe's decarbonisation objectives.

We feel that the European climate 2030 targets and the 2050 climate neutrality objective can only be reached in an efficient and fair manner if they are set at Union level. Consequently, all national targets and initiatives should be strictly aligned with the respective EU economy-wide targets and objectives.

Setting **clear overall decarbonisation targets** for the whole EU economy is one of the key policy recommendations identified in the recent report from a study carried out by Frontier Economics for EFET (hereafter "the Frontier report").⁶ This report explores how market-based mechanisms can be harnessed to enable cost-effective decarbonisation of the gas system and efficient coupling of the gas and power sectors. It points to the need for a coherent policy framework that rewards carbon abatement in a market-based, technology-neutral way.

We recognise policymakers may in the short to medium term wish to define **sector-specific** sub-targets or national targets (e.g. for heating, cooling, transport and/or the gas sector as a whole). However, in the long run, any sector specific sub-targets and purely national targets should be wound down and it should be left to market-based signals at European level to direct decarbonisation efforts into those sectors and geographical areas where abatement can be achieved at least cost.

⁴ Inception Impact Assessment for a 2030 Climate Plan, p.2

⁵ Ibid.

⁶ "Gas decarbonisation and sector coupling: ensuring a market-based approach", report by Frontier Economics for EFET, available at https://efet.org/Files/Short%20Form%20Report%20-%20A%20market-based%20approach%20to%20gas%20decarbonisation%20and%20sector%20coupling_Frontier%20report%20for%20EFET%20.pdf

2. Strengthening the EU ETS in the short term, as it currently applies to power generation and heavy industries, then reforming and expanding it to become a long-term driver for decarbonisation across the EU economy

The objective of the EU Climate Law proposal defined in the European Commission legislative financial statement is described as “climate neutrality achieved through a well-functioning EU carbon market and a fair operating framework for EU MS to reduce emissions in other sectors.”⁷

The key role of a credible, harmonised EU-wide carbon pricing scheme as the long-term driver for decarbonisation across the economy is recognised in the Frontier study. In the short term the challenge remains to strengthen the ETS within the existing scope of installations to which it applies. In the medium to long term, there is an opportunity to turn it into a wider scheme, to bring a carbon abatement price signal to bear in relation to other end uses of hydrocarbons. Indeed, strengthening of the EU ETS, followed by reform and expansion, could eventually result in consistency of carbon pricing across most sectors of the European economy.

A credible, expanded EU ETS would gradually facilitate energy system integration and encourage uptake of least cost emission reduction technologies and solutions, to the extent that the supply of EUAs tightens and the demand for them spreads into further end uses of hydrocarbon fuels.

We recognise that in the short to medium term some Member States may want to introduce national carbon abatement measures in addition to the EU ETS. The same or other Member States may want to decide on progressive prohibitions on the use of hydrocarbon fuels in certain end uses. Such initiatives will create a risk of inconsistencies between national schemes or measures on the one hand and the auctions and allocation mechanisms involved under the EU ETS on the other and distort wholesale energy price signals. To help preserve the integrity of the EU ETS, modelling of variable price signals emerging from national measures will be needed. The European Commission could then intervene by setting **pathways for greater harmonisation between national carbon abatement schemes and their eventual merging with an expanded EU ETS.**

It is worth noting that some Member States are already working on extending carbon pricing to sectors not yet covered by the EU ETS and on fuel usage bans in particular applications. In this context, the development of a German national emissions trading scheme for the transport and heating sectors is an interesting example.⁸ A clear pathway for integration of such schemes introduced at national level into the EU ETS is necessary.

⁷ European Commission proposal for a Regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law), Legislative Financial Statement, p.13

⁸ German law establishing the National Emissions Trading System for Fuel Emissions, available at the following link: <http://dipbt.bundestag.de/dip21/btd/19/147/1914746.pdf>

3. Utilising market-based mechanisms and adapting market instruments whenever financial support for new, low carbon energy sources is considered, while respecting sectoral unbundling rules

The European Commission's EU Climate Law proposal states that a "... transition to a sustainable, affordable and secure energy system relying on a well-functioning internal energy market is essential."⁹ One of the aims of the IIA, in turn, is to assess the impacts of an increased 2030 climate target "on the energy affordability, sustainability and security, including energy system costs, infrastructure needs considering the role of an effective and efficient internal energy market."¹⁰

We believe that the **energy system integration strategy must rest on a continuation and strengthening of the European Internal Energy Market** (hereafter "IEM"). Especially the preservation of competition and liquidity at the wholesale level of energy commodity and energy derivative markets is essential.

The IEM and the participants in it can be deliverers of a **cost-effective transition to climate neutrality** and can continue to contribute to **the overall efficiency of the energy system**. An essential element of the IEM is the transparent and objective regulation of tariffs and congestion rents recovered by TSOs. Participants in properly functioning wholesale markets in power and gas and attentive regulators of TSOs can make these contributions by means of:

- A) Providing clear price signals to incentivise investment in the most cost-effective decarbonisation solutions and technologies and enabling the deployment in the most cost-effective locations, irrespective of Member State borders.
- B) Underpinning a level-playing field for technology developers, so that cross-subsidisation or subsidy pancaking for particular technologies may be avoided;
- C) Facilitating optimisation of grid infrastructure at transmission and distribution levels and increasing integration of power and gas networks, and at the same time preventing cross subsidisation of power and gas infrastructure.
- D) Ensuring that producers and suppliers using various technologies face whole system price signals reflecting the costs they impose on gas and power networks respectively, and that economic behaviour and commercial decisions are not distorted by misallocation of legacy system costs that have been irreversibly incurred nor by the costs of unwarranted expansion and reinforcement of grids in future.

The integrity and efficiency of current Europe wide markets in energy products and energy contracts at wholesale level can best be protected by ensuring that any support for low carbon solutions is in turn market based. Ideally the **EU as a whole would develop a coherent framework, which rewards carbon abatement using market instruments in a technology neutral way**. A robust framework could eventually work across gas (renewable, decarbonised and low carbon), electricity and other energy carriers (such as liquid fuels).

⁹ European Commission proposal for a Regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law), Recital (6), p.10

¹⁰ Inception Impact Assessment for a 2030 Climate Plan, p.3

3.1. Creating market led decarbonisation incentives and a “common currency” for carbon abatement attributes

In the drive to integration of power and gas systems with decarbonisation in mind, it will be increasingly important to distinguish between the carbon footprints of various energy sources. For the purpose of the EU ETS molecules and electrons qualifying as “renewable” under RED II are already deemed to be exempt from a requirement to obtain or purchase EUAs, even if carbon emissions are involved in their production. In many countries certain renewable sources additionally attract financial support. But what of low carbon sources not deemed to be renewable? Short of giving energy produced from them an advantage through expansion of the ETS into new end use sectors, there are two main market-based methods to bring them a benefit:

- A) The establishment of a **voluntary market in low carbon certificates**, whereby customers, in addition to or in parallel with buying energy, purchase a certificate from a supplier which guarantees derivation from a zero or low carbon production source;
- B) The introduction at EU level or by national governments of targets for carbon abatement in sectors outside the EU ETS currently, pursuant to which they then require suppliers of energy to meet **low carbon quotas** and set up a **certification scheme** for the fulfilment of those quotas.

In either case, a standard methodology to ascertain and certify the carbon footprint would be needed. In a fairly simple scheme applying to hydrocarbon fuels, including gases, the actual carbon intensity of the fuel would be the measurement criterion. In a more complex evolution, consumers might want to obtain information about the full carbon footprint of a chosen energy production source, whether the energy carrier is electrical, liquid or gaseous (i.e. including carbon emissions involved in antecedent equipment manufacture, in a facility construction phase, and in fuel transportation.) Then schemes would provide for tradable certificates to evidence “carbon intensity”, based on lifecycle analysis and overall sustainability information.

Certainly, for relatively simple certification schemes, whether voluntary, or regulated based on fulfilment of quotas, the industry and/ or regulator would have to develop a kind of “**common currency” of carbon content**. It would help determine the extent to which different gases as energy carriers, for example, should be rewarded or not under the scheme, according to their respective carbon intensity as primary fuels. This common currency could (together with the respective market-based support mechanisms) eventually **be extended to electricity and other energy carriers**, becoming one of the enablers for energy system integration.

With careful planning the design of such a common currency could be aligned with the operation of the EU ETS, in order to avoid double counting the deemed “green value” of the certified sources, especially in end use sectors not currently covered by EUAs such as heating and transport.

Use of a “common currency” makes the development of a pan-European system of **low carbon quotas for gas suppliers** feasible. The Frontier report to EFET describes how such a system of quotas might work across the EU, with retail suppliers needing to fulfil them by buying, trading and redeeming standard certificates. These quotas would need to be allocated on the basis of either an EU wide target or coordinated national targets for carbon reduction in specified gas end use markets. This type of early stage market-based support mechanism could help kick start a market in renewable and sustainable gas in Europe. It would thereby help governments avoid handing out arbitrary subsidies for switching to low carbon fuels, thus minimising distortions to competition, precluding any temptation to breach unbundling principles and preserving the integrity of price signals in existing energy commodity markets.

We observe that incidentally a European market-based support scheme, which would recognise the emission abatement element of methane reformation with CCS as well as of hydrogen produced through electrolysis (and indeed the double-benefit of reformed bio-methane with CCS), could be instrumental in promoting a **pan-EU hydrogen market** beyond the existing market for hydrogen as chemical feedstock.

3.2. Whole system effects and the regulatory framework for transmission of gases

A comprehensive policy framework for energy system integration should include further measures to level the playing field between the gas and power systems. This is a crucial prerequisite to allow the correct price signals to emerge and to drive consumer and producer investment decisions. Some such measures would entail adjustments to the degree and incidence of cost recovery by transmission operators.

- **Gas transmission regulation and network codes**

In order to ensure a harmonised regulatory framework for the future gas market in Europe, where hydrogen, as well as other low carbon, renewable and decarbonised gases, are set to play a more prominent role, the European Network Codes should be reviewed and adapted accordingly.¹¹

The Agency for the Cooperation of European Energy Regulators (ACER) has recently voiced criticism over the implementation of the European Commission Regulation 2017/460 establishing a network code on harmonised transmission tariff structures for gas (NC TAR). In particular, ACER pointed out that Germany, as well as Belgium are applying a transmission discount to entry points from biogas and Power-to-Gas facilities, while according to ACER, NC TAR does not provide for the application of such a discount¹². This case exemplifies the need for ensuring that harmonised tariff rules are applied across all EU Member States.

- **Ensuring that project developers face the right whole system price signals**

At present, the costs, tariffs and charges faced by market participants (for example, connection charges, grid tariffs and imbalance charges), and the revenue streams they can earn (for example ancillary service revenues), often do not reflect the wider costs and benefits their actions have on the energy system. The consequences of this situation may be exacerbated by the roll out of solutions designed to contribute to Europe's decarbonisation objectives (not least, in hard-to-abate sectors) and which provide the additional benefit of facilitating the integration of power and gas systems. For example, this applies to PtX installations and their potential impacts on future network reinforcement costs and balancing costs across the electricity and gas grids.

In order to ensure that the developers of projects aimed at fostering links between power and gas sectors (e.g. low carbon gas production facilities and PtX installations) **face the right whole system price signals** (i.e. in the form of connection charges, grid tariffs, congestion pricing ancillary service revenues and/ or imbalance charges), a number of policy measures and further reforms are required at both EU and national level, that is:

¹¹ See EFET response to European Commission consultation to establish the priority list of network codes, available at the following link:
https://efet.org/Files/Documents/Electricity%20Market/General%20market%20design%20and%20governance/EFET_response_EC_priority_list_14052020.pdf

¹² <https://www.acer.europa.eu/Media/News/Pages/The-European-Gas-Market-analysing-the-role-of-transmission-tariffs.aspx>

- A) Ensuring the value of all types of flexible assets in the gas system used for the purpose of congestion management and system balancing by TSOs and DSOs is signalled correctly;
- B) Ensuring that asset owners in the electricity system, which are subject to curtailment or redispatch measures, are compensated in such a way that they are left financially indifferent, taking account of opportunity costs as well as actually incurred costs;
- C) Implementing changes to grid tariffs across electricity and gas to better ensure they reflect the costs imposed by participants;
- D) Avoiding the adverse consequences of recovering sunk network costs and renewable and low carbon energy support costs - cost recovery should not lead to inefficiencies in the energy system and market distortions (e.g. through creating incentives for charge avoidance, or through disincentivising uptake of renewable or decarbonised gas technologies requiring them to bear the legacy costs of past investment in the gas grid);
- E) Ensuring that the determination by regulators of permitted cost recovery by TSOs and DSOs is clearly separated from the internalisation of environmental externalities (which is done through the EU ETS) and from support schemes, in order to avoid distorting the price signals.

- **Relying on the market to deliver the right mix of flexible capacity**

An efficient energy market delivers the right mix of flexible capacity – production, demand and storage. The operation of the market in this respect should be free of regulatory interventions, so as not to prevent prices from reflecting the true value of any capacity scarcity in the system. Access to and use of storage facilities should remain commercially driven.

The flexibility services provided by all types of energy carriers and technologies (including P2X), **must therefore be procured on the market and delivered by market players** following a competitive, open, fair, and transparent tendering process. This market-based approach will deliver optimisation of the overall system cost and maximise social welfare.

- **Respecting the unbundling principle**

Regulated system operators should maintain their role of neutral market facilitators and similar principles should be extended to new services and technologies such as P2X. The construction, ownership and operation of P2X installations should therefore be provided by the market to ensure optimal use of such assets.

4. Ensuring pan-European coordination and cross-border implementation of any financial support schemes for renewable, decarbonised and low carbon gases, especially in case national end-use prohibitions of hydrocarbons should be foreseen

As stated above, we believe that Europe's well-functioning energy markets must be recognised as enablers for efficient system integration and the deployment of the most efficient technologies in the most cost-effective locations, irrespective of Member State borders (see section 2). At the same time, a strengthened and expanded EU ETS should be seen as the long-term driver for decarbonisation across the EU economy, facilitating the uptake of least cost emission reductions solutions (see section 3).

While ultimately unlikely to be as efficient as a long-term credible carbon price, market-based support mechanisms for new technologies, such as low-carbon gas production, may constitute an interim solution.

We recognise that support schemes for new or non-mature decarbonisation technologies and services may be considered at the outset, in order to help these solutions reach maturity.

At the same time, we strongly believe that the design of support mechanisms must draw on learnings from the past experience of RES-E support schemes.

This means that if any national schemes prove to be necessary to support the uptake of technologies and energy carriers facilitating the decarbonisation of the energy system, it must be ensured that such schemes adequately take into account the CO₂ abatement and sustainability characteristics of the technologies and are:

- A) **Strictly market-based, technology-neutral, non-distortive, tradable and open across EU borders, and harmonised** as early as possible;
- B) Taken into account in the framework of the EU ETS for their carbon abatement effect to ensure that the **integrity of the EU ETS is preserved and strengthened**.

A truly pan-European, cross-border approach to achieving energy system integration and climate neutrality which would prevent cross-subsidization also requires policy measures to ensure optimisation of infrastructure use and development. This can be achieved by way of introducing EU wide, **cross-sector, cost-benefit analyses**, which would ensure network infrastructure development and use is optimised across electricity and gas at national and EU levels.

5. Insisting on technological neutrality of measures, to include a level playing field between power and gas systems, so that users face a cost reflective allocation of costs across both types of grid, without cross-subsidization

The Climate Law proposal suggests that “in taking the relevant measures at Union and national level to achieve the climate neutrality objective, Member States and the European Parliament, the Council and the Commission should take into account [...] **cost-effectiveness and technological neutrality** in achieving greenhouse gas emissions reductions and removals and increasing resilience.”¹³

While recognising different carbon abatement and sustainability characteristics of the decarbonisation technologies and solutions available, we fully support the commitment to **technological neutrality** in delivering Europe’s decarbonisation objectives. We therefore believe that the principle of technological neutrality should be **featured as part of the overall policy approach in a future energy system integration strategy**.

Furthermore, we reiterate the need for ensuring a level-playing field for technology developers and **a framework that recognises the environmental benefit of a wide range of available technologies and rewards carbon abatement in a market based, technology neutral way**.

As the Frontier report indicates, ideally this framework could eventually work across gases, electricity and other energy carriers (such as liquid fuels) so that a consistent framework is applied across multiple fuels. Such a framework should comprise elements that provide a “pull” for demand for cost-efficient carbon abatement as well as a “push” for the supply of low-carbon energy, or ideally, a combination of the two. This again points to the need for expanding and reforming the EU ETS in the medium to long term, so that an EU wide carbon price scheme may become the long-term driver for decarbonisation across the European economy.

¹³ European Commission proposal for a Regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law), Recital (15), p.12

ANNEX

EFET main recommendations formulated as answers to questions listed in the Commission's announcement of a future EU strategy on energy system integration

1. *What would be the main features of a truly integrated energy system to enable a climate neutral future? Where do you see benefits or synergies? Where do you see the biggest energy efficiency and cost-efficiency potential through system integration?*

A truly integrated energy system to enable a climate neutral future must:

- Be based on **clear, long-term economy-wide climate targets set at Union level** (see section 1).
- **Rely on Europe's well-functioning internal energy market** to deliver cost-effective decarbonisation of the EU economy (see section 2). A truly integrated energy system should foster rather than hinder cross-border trade in commodities and services.
- **Be underpinned by a reformed, expanded EU carbon pricing scheme**, delivering greater consistency of carbon pricing across sectors of the European economy and encouraging uptake of least cost emission reduction technologies and solutions (see section 3).
- Benefit from a **pan-European, cross-border approach** (see section 4), which allows for
 - **Optimising infrastructure use and development across the energy system** by way of introducing cross-sector cost-benefit analyses;
 - Securing the right mix of **flexible capacity delivered by the market**;
 - Maintaining **reliable, undistorted price signals in the wholesale energy markets to drive for investment and divestment decisions** in generation and transmission capacity, alongside flexibility and storage solutions and demand-side management.
- Ensure that any **support schemes** for technologies facilitating decarbonisation and energy system integration, if required, are strictly **market-based, technology-neutral, non-distortive, and open across EU borders, harmonised between countries** as early as possible and **aligned with the EU ETS** (see section 4). These schemes could feature a 'common currency' to be used to reflect the carbon reduction contribution of renewable, decarbonised **and low or zero carbon gases - thereby enabling certification of a climate contribution of gases and other fuels on a consistent basis** (see section 2).
- Ensure a level playing field for all energy carriers/ technologies (which entails *inter alia* avoiding tax exemptions or rebates).

2. *What are the main barriers to energy system integration to be addressed?*

- Lack of clear long-term climate targets set at Union level
- Lack on an economy-wide credible carbon price in Europe
- Absence of price signals or imprecise signals in the energy market
- Obstacles to free formation of prices in the energy market

- Lack of a Europe-wide scheme to certify the relative greenhouse gas content of gases on a consistent basis, which would ensure tradability and traceability of the certificates.
- Lack of an effective carbon accounting, allowing to compare carbon footprints

3. *More specifically:*

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

Although electrification is recognised as one of the important means for achieving the climate neutrality objective, alongside *inter alia* the deployment of renewable, decarbonised and low carbon gases, it is crucial to ensure **technological neutrality** of Europe's approach to energy system integration and decarbonisation. A level playing field for technology developers must also be ensured. This can be achieved by way of establishing a framework which recognises the environmental benefit of a wide range of available technologies and rewards carbon abatement in a market-based, technology neutral way.

- *What measures should be taken to promote decarbonised gases?*

As mentioned in section 4 of the main paper, any **support schemes** for technologies facilitating decarbonisation and energy system integration, if required, must be strictly **market-based, technology neutral, non-distortive, tradable and open across EU borders, harmonised** as early as possible and **aligned with the EU ETS**.

A European scheme to certify the relative greenhouse gas content of gases on a consistent basis could enable the development of a pan-European system of quotas for retailers (see section 3.1). This type of early stage market-based support mechanisms could help kick starting a market in renewable, decarbonised and low carbon gas, while minimising distortions to competition and preserving the integrity of price signals in existing energy commodity markets.

- *What role should hydrogen play and how could its development and deployment be supported by the EU?*

Decarbonisation by 2050 will be impossible without molecules. Not all industrial use of energy can be electrified, there are not yet efficient mechanisms for storage of electricity over weeks, months and seasons, and the management of intermittency at higher levels of penetration of renewable generation are all challenges that gas system is well-placed to help address. Additionally, the gas system provides a means of transporting large amounts of energy using already-invested assets, rather than replace with significantly higher cost electricity transmission or localised production. Replacement of natural gas with hydrogen allows the gas system to play an ongoing role in a decarbonised framework using existing assets in many cases. Ultimately, there will be dedicated hydrogen grids, but in the interim opportunities may exist for blends or co-transportation, subject to design of new operational frameworks. EU support to kick-start the hydrogen market, and in particular to ensure that hydrogen is not disadvantaged against other technologies through the design of support schemes, will help to achieve a more efficient decarbonisation strategy.

Towards a pan-European hydrogen market

A European scheme to recognise the emission abatement element of methane reformation with CCS as well as hydrogen produced through electrolysis (and indeed the double-benefit of reformed biomethane with CCS) could help to promote a pan-EU hydrogen market in

energy beyond the existing market for hydrogen as chemical feedstock. Such scheme would allow trading environmental attributes of gases initially through GOs but it could ultimately develop into a wider framework that can be traded in a common currency as described in section 3.1 above. Care would need to be taken to avoid national mechanisms that might introduce barriers at borders and undermine the internal gas market in the transition to hydrogen.

Ensuring harmonisation of the regulatory framework for gases at EU and at national level

As mentioned in section 3.2, in order to ensure a harmonised regulatory framework for the future gas market in Europe, where hydrogen, as well as other low carbon, renewable and decarbonised gases, are set to play a more prominent role, the relevant European Network Codes should be reviewed and adapted accordingly.¹⁴

- *How can energy markets contribute to a more integrated energy system?*

Pricing in European electricity and gas wholesale markets is meant to follow the basic economic principle that prices are formed by supply and demand, i.e. that buyers and sellers decide when to buy or sell, at what price, for which volumes and for what delivery period. As a result, prices should be allowed to fluctuate freely and reflect the true value of scarcity during times of system stress and high demand for power; similarly, prices should reflect the value of surplus in times of low demand for power and even go negative. The volatility of electricity prices, when not induced by flaws in the market design, is a sign that the market reacts appropriately and fast to demand and supply signals.

By virtue of Article 3 and Article 10 of Regulation (EU) 2019/943 (the ‘Electricity Regulation’), Member States, national regulatory authorities, transmission system operators, distribution system operators and marketplace operators are obliged to ensure that electricity market rules encourage free price formation and to avoid actions which prevent the formation of prices on the basis of demand and supply.

EFET wholeheartedly welcomes this new provision of the recast Electricity Regulation. Indeed, only undistorted prices give an accurate signal for dispatch on the one hand, and for investment and divestment on the other hand. With an increasing share of intermittent power generation in the European energy mix, precise price signals are more needed than ever to ensure the reactivity of market participants’ dispatch decisions to rapidly changing demand and supply conditions. This massive penetration of intermittent generation will likely also be accompanied by the development of peak generation units, storage solutions demand-side management, and other types of flexible assets and services. Only accurate price signals will allow market participants to identify the need and timing of such investments, alongside more traditional investment in generation and transmission capacity.

When flaws in market design are demonstrated, as has been the case in several EU Member States in recent years, removing those flaws should be a priority.

¹⁴ See EFET response to European Commission consultation to establish the priority list of network codes, available at the following link:
https://efet.org/Files/Documents/Electricity%20Market/General%20market%20design%20and%20governance/EFET_response_EC_priority_list_14052020.pdf

4. *How can cost-efficient use and development of energy infrastructure and digitalisation enable an integration of the energy system?*

It is **important that developers of low carbon gas production facilities face the right whole system price signals**. This is particularly true for power to gas technologies, where whole system price signals are needed both in relation to the electricity and the gas markets.

In the future, this will mean looking at signals across both the electricity and gas systems:

- Market arrangements across electricity and gas should ensure that market participants face the forward looking costs they cause (or the benefits they create) on the energy system. This will involve a mixture of measures such as ensuring complete markets for flexibility services to grid operators and changes to grid tariffs across electricity and gas to better ensure they reflect the costs imposed by players (see section 3.2).
- Other costs (such as ‘sunk’ network costs and low-carbon energy support costs) should be recovered in a way which does not inefficiently distort behaviour (e.g. through creating incentives for charge avoidance, or through disincentivising uptake of low-carbon gas technologies requiring them to bear the legacy costs of past investment in the gas grid). This is primarily the responsibility of national authorities, though should also be borne in mind in the ETD and EEAG revision process, as well as in any revision to electricity and gas network codes covering network charging.

Finally, to ensure more optimal infrastructure investment decisions across electricity and gas, regulatory and institutional arrangements will need reviewing. One possibility is that ACER and/or NRAs ensure that power and gas TSOs consider alternative solutions to their own infrastructure that may help to reduce overall system costs, including through setting appropriate regulatory incentives. Article 32 of the revised Electricity Directive¹⁵ already requires Member States to ensure electricity distribution system operators procure flexibility from sources such as demand-side response and energy storage where this would be more cost-effective than investment in grid infrastructure. This principle should be extended across the energy system: to transmission, to gas networks and across the EU.

Regulated company involvement in certain types of infrastructure (such as networks) may continue to be relevant, and **regulated entities** may have roles **as facilitators** in pilot projects aiming to provide system flexibility and foster system integration. However, as stated in section 3.2, flexibility services provided by all types of energy carriers and technologies (including P2X), **must be procured on the market and delivered by market players** following a competitive, open, fair, and transparent tendering process. This market-based approach will deliver optimisation of the overall system cost and maximise social welfare.

If, on the contrary, TSOs and/ or DSOs are allowed to make investments in assets and/ or to obtain regulated remuneration, outside specific infrastructural areas, it will reduce competition, and as a consequence create a threat to innovation, increase the costs for customers, who would pay for the unnecessary/ suboptimal investments in the wrong/ suboptimal locations.

¹⁵ OJ L 158, 14.6.2019, p. 125–199.

5. What policy actions and legislative measures could the Commission take to foster an integration of the energy system?

Please see the policy priorities and the respective measures we propose in the five sections of the main body of this paper. More specifically, we believe the Commission and national governments could usefully

- Accelerate debate of the proposed EU Climate Law, with a view to adopting it before the end of 2020
- Begin preparation of subordinate legislation under the Climate Law to:
 - Expand the sectoral coverage of the EU ETS in a series of planned steps
 - Revise the EU ETS cap and establish a timeline for progressive adjustment of the MSR intake rate and the LRF in the framework of the upcoming revision of the EU ETS Directive
 - Map out a Europe-wide framework for market-based allocation of any financial support needed in the short to medium term to accelerate a transition to consumption of renewable, decarbonised and lower carbon gases
 - Review the State Aid Guidelines for Energy and Environment, with a view to adapting them to an accelerated decarbonisation of the gas sector relying on market signals