

## BRIEFING FOR COMMISSIONER KADRI SIMSON

### Meeting with ENTSOG

16 January 2020, 11:00, Brussels

#### DELEGATION FROM ENTSOG:

- **Stephan KAMPHUS** – ENTSOG President, Chairman of the Board of Management of Vier Gas Transport GmbH (VGT), the sole owner of Open Grid Europe GmbH (German TSO)
- **Jan INGWERSEN** – ENTSOG General Director, seconded from Energinet (Danish gas and electricity TSO)

#### AGENDA:

1. Gas and gas-related initiatives in the Green Deal
2. Sector integration
3. TEN-E review

## **SCENE SETTER**

ENTSOG has requested a meeting to discuss about the gas related initiatives in the Green Deal, sector integration and infrastructure initiative.

You are meeting the President, Mr Stephan Kamphus and the General Director, Mr Jan Ingwersen.

ENTSOG published on 11 December 2019 its “ENTSOG 2050 Roadmap for Gas Grids” setting out its view on TSOs’ role in the energy transition. The topics listed by ENTSOG correspond to a high degree to those we identified as relevant for the initiative on a decarbonised gas market design.

In our view, the future role of TSOs in a decarbonised energy system has to be carefully considered respecting the main principles of the 3<sup>rd</sup> Energy Package, in particular the unbundling rules.

### **POSITION OF ENTSOG:**

ENTSOG published its 2050 Roadmap for Gas Grids in December 2019 as contribution to the European Green Deal. In this, ENTSOG calls for:

- Creating one EU gas market, i.e. inclusion of hydrogen and strengthening biomethane in existing legislation combined with including and remunerating new TSO services (blending, conversion, digitalisation);
- Establishing a regulatory framework for a hybrid energy system, i.e. for a coupled electricity and gas system with coordinated planning of electricity and gas infrastructure investments;
- Ensuring unhindered cross-border flow of hydrogen blended into natural gas (alignment of the threshold/gas quality at cross-border Interconnection Points);
- Defining the role of system operators in owning and operating Power-to-Gas facilities, offering regulatory flexibility for TSO pilot projects and considering Power-to-Gas as conversion facility.

## **LINES TO TAKE**

- Welcome the very good cooperation between the Commission and ENTSOG in:
  - the **development and implementation of our gas acquis**,
  - its work on **infrastructure** for the European internal gas market and
  - **gas security of supply**, in particular the support you provided ahead of this winter prior to reaching an agreement on supplies through Ukraine.
- Decarbonising the EU's economy and energy system means a fundamental change for the gas sector. I am convinced, that gas will play a role in the energy transition and contribute to the decarbonisation of the EU's economy. I am aware of the key role of the TSOs and ENTSOG and look forward to working with you.
- Our common goal of European Green Deal and a climate neutral Europe by 2050 requires: putting **energy efficiency** first, a power sector largely based on renewable sources, a rapid phase out of coal and an increasingly decarbonised gas sector.

### **1. Smart sector integration, the role of the gas sector:**

- We see the benefits of linking the various components of our energy system:
  - First, it **helps decarbonising sectors that are more difficult** to decarbonise (e.g. transport or industrial processes) by linking them with sectors that are easier to decarbonise (in particular electricity);
  - Second, it provides the necessary **flexibility for more renewables** in the electricity sector, for storing or transporting energy – in particular here, the **gas sector can play a key role**;
  - This will help to **lower the overall cost** of the clean energy transition – for the benefit of people.

- For the gas system to play this role credibly, we need to:
  - First, make sure that gases do not escape and address the issue of **energy-related methane emissions** (improve measurement and reporting).
  - Second, the gas system must increasingly decarbonize the gas sector through clean gases like biogas or hydrogen. We are looking **which market rules** can make this happen.
  - At the same time, we want to ensure **the resilience and competitiveness** of the current and the future decarbonised gas market.
- In this work we will look at the opportunities of closer **linking the electricity and gas markets and their infrastructure**. This will allow Member States to benefit from the synergies across these two sectors.
- [ENER will be meeting with ENTSG end of January for a detailed exchange on these issues.]

## 2. Ten Year Network Development Plan / TEN-E review:

- ENTSG's **ten-year network development plan** (TYNDP) constitutes the basis for gas network planning and for the European Union list of projects of common interest (PCI).
- We have started preparing the revision of the **TEN-E Regulation to make a proposal by the end of this year**. This framework should foster the deployment of innovative technologies and infrastructure, such as smart grids, hydrogen networks, energy storage or carbon capture, storage and utilisation, also enabling sector integration.
- Gas will be an important debate in the TEN-E review. We welcome in this context that ENTSG has already started collecting Energy Transition Projects for the TYNDP 2020.

## **DEFENSIVES**

### ***Do you plan to present a strategy on smart sector integration? When?***

- The Clean Energy Package already sets the foundation to promote sector integration through specific provisions to promoting the linking of the transport and heating and cooling sectors (Renewables Directive) and facilitate renewables integration and the deployment of energy storage into the electricity market (Electricity Regulation). Its timely transposition and implementation by Member States is key.
- Nevertheless, more is needed to facilitate a cost-effective energy transition towards climate neutrality in 2050 and to reap the vast cost-competitive renewable electricity potential.
- The Commission is doing preparatory work on sector integration in order to identify the barriers that prevent further sector integration of the sectors and its infrastructure and identify the opportunities for development of new technologies, services and business models.
- This will serve as an input for a EU Strategy on decarbonising energy through sector integration currently planned to be put forward before the summer as one of the follow-up actions of the European Green Deal.

### ***How does the Commission see the role of TSOs in owning and operating Power-to-Gas facilities?***

- Hydrogen obtained from electrolysis using renewable electricity is a promising enabler for a decarbonised energy system. The large-scale deployment of electrolyzers throughout the EU is one possible

approach to increase domestic hydrogen production to contribute to the decarbonisation of our economy.

- We understand that some TSOs are advocating a central and permanent role for TSOs in the large-scale deployment, ownership and operation of Power-to-Gas facilities.
- However, the Third Energy Package sets out clear rules for the unbundling of energy supply and generation from the operation of transmission networks.
- The most efficient development of new technologies and services is market-based. It has not yet been proven that large-scale Power-to-Gas cannot be brought forward by the market. Indeed, it could help certain electricity producers to manage their impact on the system, e.g. it could complement renewables' installations by helping to evacuate excess generation.
- Allowing Power-to-Gas ownership by TSOs would risk jeopardising market-based and hence market-funded development of large-scale Power-to-Gas.

***How does the Commission plan to follow-up on the Sector Coupling study?***

- The sector coupling study was published in December 2019.
- The study's purpose was the identification of regulatory barriers and gaps preventing closer linking of the EU electricity and gas sectors and hindering the deployment of renewable and low-carbon gases.
- It is just one of a series of studies the we have commissioned; it provides useful background for considerations.

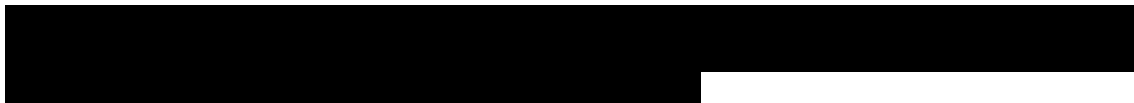
***When will the Commission amend existing gas Network Codes?***

- We have seen calls for amending the existing Network Codes.
- We are studying what changes might be useful in the Network Codes, with an objective to group all revisions at the same time.

***Regarding the TEN-E Regulation, when does the Commission plan to review it?***

- The review process has been launched with the publication of an evaluation roadmap in June 2019. A new legislative proposal is scheduled by end 2020, as announced in the Communication on the Green Deal. My services have already set up a meeting with ENTSOG's team in January for a more detailed exchange.

***Contacts:***



## CV OF THE PARTICIPANTS



**Mr Stephan Kamphues** is ENTSOG President since 2009 (currently appointed until end of 2021) and Chairman of the Board of Management of Vier Gas Transport GmbH (VGT), the sole owner of Open Grid Europe GmbH (formerly E.ON Gastransport GmbH). Mr. Kamphues has held various positions at E.ON Ruhrgas AG, which he joined as Head of the Business Law/East European Law Section in 1992 after practicing as a lawyer. In 1996, he took over as Head of the Legal Department at E.ON Ruhrgas International AG (formerly Ruhrgas Energie Beteiligungs-AG) before becoming a member of the Management Board in May 2004. While there, his main focus was on the acquisition and development of the company's foreign shareholdings in Western and Central Europe. During this period, he also served on several supervisory and management boards.



**Mr Jan Ingwersen** is ENTSOG's General Director as of January 2016. He is seconded from Energinet, the Danish gas and electricity TSO.

Mr Ingwersen has been with ENTSOG since January 2014. He has more than 25 years of experience in the gas industry, holding senior positions at Energinet, Gastra, DONG Energy as well as consultancies. He holds a technical MSc from University of Aalborg, Denmark, supplemented with a commercial degree from Copenhagen Business School and an executive programme from IMD, Switzerland.

Mr Ingwersen has been involved in most parts of the gas sector value chain. He was heading the implementation of the gas market liberalization in Denmark for Energinet/Gastra (2000-2005) – including development of network codes. He has been heading DONG Energy's storage and offshore transmission activities (2006-2013), the gas regulatory affairs department and was responsible for DONG Energy's gas release programme. In 1990s he was in charge of DONG's gas purchase & export activities **as well as the system operation.**



# BACKGROUND

## ENTSOG

ENTSOG has been created by the 3<sup>rd</sup> Energy Package in 2009 to better coordinate the activity of the gas Transmission System Operators in the EU, who operate the European (cross-border) gas transmission networks. It is notably tasked to make proposals for market and operational rules, including drafts for the EU-wide network codes, Ten-Year Network Development Plan and Cost Benefit Analyses for planned infrastructure.

ENTSOG contributed to the integration of the EU internal gas market and to the strong EU-level cooperation of TSOs. However, ENTSOG represents the TSOs, i.e. commercial network operators with significant economic interests. In this sense, ENTSOG proposals are not necessarily neutral but often try to limit the risks and costs for TSOs.

ENTSOG's operations are governed by its General Assembly. Nevertheless, the role of the ENTSOG President and the Brussels office is significant in setting the strategic vision for the role of TSOs in the energy transition.

### **ENTSOG Governance**

The ENTSOG General Assembly, comprising all members, is the leading body of the association. The ENTSOG Board, consisting of 13 members including the ENTSOG President, has a significant role in making strategic proposals to the General Assembly and in performing the day-to-day management of the Association, together with the General Director.

The General Director of ENTSOG and the secretariat in Brussels are involved in setting the priorities for the Association and have some pro-European influence.

Developing ENTSOG's position on decarbonisation and green gas issues lead to a certain divide between Western and Eastern European member TSOs. These topics are mostly driven by Western European TSOs while a number of Eastern European TSOs (mainly Visegrad 4) are more interested in increasing the share of natural gas transported as their Member States are replacing more emitting fossil fuels (coal, oil) by natural gas in their decarbonisation efforts.

### **ENTSOG role**

The 3<sup>rd</sup> Energy Package established ENTSOG and gave it a number of important roles, including the development of the EU-wide gas Ten-Year Network Development Plan, CBA for new infrastructure investments and the preparation of draft network codes. ENTSOG also has to develop and run the EU-wide supply and infrastructure disruption simulation under the Gas security of supply Regulation which forms the basis of regional and national risk assessments.

The internal ENTSOG business areas are divided into three areas: Market, System Development and System Operation. These areas deal with the many activities with which ENTSOG are tasked - the development and implementation of network codes and guidelines, activities associated with scenario building and future gas infrastructure planning, cooperation for security of supply and providing transparency and technical cooperation.

### **ENTSOG position / Roadmap 2050**

In general, TSOs are interested in transporting high volumes of gases also in the coming decades, be it natural gas, biomethane, synthetic methane or hydrogen. Therefore, ENTSOG is engaged in European level discussions about the future role of gases and advocates for a prominent role of gas TSOs in the energy transition.

At the same time, the positions of TSOs divert, reflecting also the decarbonisation policy of “their” Member States. While a number of Western and South European TSOs fully support the green policy direction, some Eastern European TSOs’ (e.g. the Slovak TSO Eustream) ambition is different. These Member States aim at decarbonising their energy systems partly by replacing more emitting fossil fuels by natural gas. Therefore, these TSOs focus on extending their role in natural gas transportation rather than in exploring and investing in new technologies.

### **Infrastructure planning and TEN-E review**

#### **Ten-Year Network Development Plan**

ENTSOG has the legal mandate [TEN-E Regulation] to deliver the TYNDP every two years. ENTSOG’s ten-year network development plan is crucial, as it constitutes the basis for the future gas network planning and for the list of projects of common interest (PCI), meaning that only the projects that are in the TYNDP can apply for the PCI process and the Commission considers, for consistency reasons, only the ENTSOG projects assessment in the PCI process.

For the first time in 2020 TYNDP ENTSOG has included a number of Energy Transition Projects . We are currently analysing the possibility to consider such projects in the PCI process under the current legal framework. TYNDP 2020 Energy transition projects include, but are not limited to, the following types of projects: e.g. Power to Gas intended for the production of hydrogen and synthetic methane; reverse flow projects between DSO and TSO in order to facilitate flows of renewable/decarbonized gases; upgrading of gas transmission grid to receive blended or pure hydrogen blended or pure; Carbon Capture and Storage - CCS and/or related CO2 transport being national or cross-border.

Cooperation is on-going with ENTSOG for the next TYNDP 2020. Cooperation Platform meetings are currently held before the PCI process 2020-2021 (5th PCI list).

## **TEN-E review**

Given the important progress made in the implementation of trans-European energy infrastructure and considering new policy challenges such as the accelerated take-up of renewable energy sources and smart sector integration, the review of the TEN-E Regulation is timely.

As part of the political agreement on the Connecting Europe Facility (CEF) for the new MFF, the co-legislators agreed that the Commission should evaluate the TEN-E Regulation by end 2020. The Communication on the European Green Deal calls for a review of the TEN-E Regulation to ensure consistency with the climate neutrality objective and the Roadmap foresees that this review should be carried out in 2020 as announced by Commissioner Simson at the ITRE committee meeting on 5 December 2019.

## **Natural gas**

- Gaseous fuels currently account for more than one fourth of total energy consumption in the EU energy mix. They are a major source for heating purposes in a number of Member States and are difficult to replace in industries such as steel or fertilizers. In energy transport terms, gas networks are up to eight times more efficient than electricity networks. Gas power plants are the most flexible source of back-up for intermittent sources of renewable electricity. Replacing natural gas with decarbonized and renewable gases allows persistent reliance on these benefits and brings new advantages not achievable through an electricity-only transition:
  - more flexibility and storage for renewable electricity
  - avoiding complete replacement to end-use appliances in industrial sectors
  - reducing costly and unpopular electricity infrastructure investments
  - securing supply of heat during winter peaks
- The electricity sector with the provisions of the Clean Energy Package, contains provisions inciting and enabling flexibility and short-term markets (such as balancing and intra-day markets, storage and demand response) whereas the gas markets operate in longer-time frames. Further development of the liquid spot markets for gases will enable departure from the long-term gas supply contracts and long-term capacity products that otherwise could reach beyond 2040 and jeopardise the 2050 objectives. In order to match the flexibility of the electricity sector, the gas market needs to:
  - become more flexible across the EU, and more focused on short-term products in order to respond to the general changes in the energy mix and seasonal and short-term variations in demand for gas and electricity.

- accommodate new forms of gas, i.e. bio-methane, hydrogen (green hydrogen but also hydrogen produced from natural gas and CCUS) and synthetic methane
- The gas market of the future (in which new forms of gases will be present) will be creating price signals for renewable electricity that is characterised by the zero marginal production costs: the mere possibility to produce electricity or gases (hydrogen, synthetic methane) from wind or solar power will create price signals necessary to incite investments in wind and solar power plants whilst improve security of supply by increasing the capacity for demand side flexibility and the storability of energy.

## **Renewable and low-carbon gases**

- **Renewable and low-carbon gases** (in particular biomethane and hydrogen) will increasingly contribute to decarbonisation. Especially the production of hydrogen from renewable electricity offers a key opportunity for fostering smart sector integration, and in particular the coupling the electricity and gas sectors.
- The Commission's Long Term Strategy (LTS) scenarios which achieve GHG neutrality by 2050 (the 1.5 scenarios) project between 200 and 250 Mtoe of gaseous fuels consumption (which represents between 50% and 62.5% of today's consumption of gases), including an important contribution from carbon-free gases such as biogases but also from hydrogen (produced from RES electricity or with CCS/U) and synthetic gases as well as a - relatively more minor - role for natural gas.
- Renewable and low-carbon gases are covered and promoted under the **revised Renewables Directive** for the period 2021 to 2030 (REDII). This is done through a number of measures including a 14 % renewables target for the transport sector and a specific sub-target of 3.5% on advanced biofuels for which biogases from certain residue and waste-based feedstock can count. Furthermore, Member States will also be able to use gaseous recycled carbon fuels (including renewable hydrogen) towards the 14 % transport target.

## **Methane emissions in the energy sector**

- Methane is covered by the Effort Sharing Regulation on Member State level, with binding targets for a variety of sectors. However, there is to date no specific policy or regulatory framework at the company level that would address methane emissions for its climate impact.
- For the energy sector, the key challenge is to accurately measure the real emissions of methane. The numbers reported in the EU under the UNFCCC are in most cases based on standard emission factors multiplied by per kilometre of pipeline or per cubic meter of stored or produced gas, for example, and has no link to real emissions. At the same time, studies from North America show that reported emissions significantly underestimate real emissions (by as much as 60%) and it is often a small number of emitters ("super-emitters") that account for the lion's share of energy-related methane emissions, suggesting the potential for cost-effective mitigation.
- With this in mind, DG Energy launched a study in August 2019 to better understand the size and nature of the methane emissions issue within the EU. A methane strategy could address this key challenge by pushing for actual measurements, transparent reporting and verification (MRV) of methane emissions. This will lead to the identification of major emissions and leaks which then will have to be repaired.

- An ambitious methane policy should also have a strong international pillar. Most emissions happen outside of the EU borders but as a major importer of gas and oil, the EU has a responsibility. Cooperation between major gas importers such as Japan, South Korea or China could have an impact on emissions of the whole energy supply chain. The EU should also continue raising this issue with major producers, such as the US, Canada (and Russia), as part of the EU's energy diplomacy efforts.

## **Energy storage**

- **Energy storage plays an important role in the energy transition** and for a successful European Green Deal as an instrument of security and flexibility.
- With the aim to **identify and exploit the potential of energy storage** in Europe, the Commission is carrying out a **study** to identify the state of play of energy storage facilities and projects in Europe. In addition, the study will quantify the contribution of energy storage to the security of electricity supply in the Member States in the light of the 2030 and 2050 decarbonisation targets.
- Based on the results of the study (finalisation expected by beginning of 2020), the Commission could develop an action plan to facilitate the deployment of energy storage and its role as enabler of the smart sector integration of the energy sector (electricity, gas, heating), transport and industry. This will accelerate the deployment of clean energy across the economy and deliver the transition more cost-effectively.

## **Sector Integration**

### **1. Definition of sector integration**

Energy “sector integration” can be broadly defined as the holistic linking, through a set of technologies, processes and business models, of components of the energy system (in-between primary energy production and final energy consumption<sup>1</sup>), that were previously separated or not sufficiently integrated. Sector integration encompasses several concepts:

- The **electrification** of certain end-uses in buildings, transport, industry, that were typically relying on fossil fuels. Examples: heat pumps for heat in buildings; electric vehicles for transport; electrification of certain industrial processes.
- The **decarbonisation** of these end-uses through the consumption of liquid or gaseous fuels that qualify as renewable or have been

produced using low carbon electricity. Examples: green hydrogen used in industrial processes; synthetic liquid fuels used in transport, sustainable biomethane and biofuel.

- The mobilisation across sectors of **(waste) resources** for energy production, in a more “circular” energy system. Examples: industrial waste heat or waste heat from data centres used in district heating; production of biogas from agricultural residues.
- The **“upward” integration of energy supply at local and distribution level**, moving away from a purely ‘centralised supply to decentralised demand’ flow to a system allowing also smaller units to become active component of the energy system. Examples: bi-directional flow of heat between industrial, commercial and residential energy consumers in smart district heating and cooling systems; vehicle-to-grid use of EV batteries; reverse flow from gas distribution to gas transmission networks to allow integration of biomethane injected at local level.

## 2. Benefits of sector integration

Sector integration essentially allows pursuing Energy Union objectives by:

- a. **Achieving higher levels of decarbonisation in the electricity sector in the first place**, as such linking with other sectors allows integrating higher shares of variable renewable energy sources (by absorbing excess renewable electricity when it is abundant and cheap, by providing flexibility/storage when renewable electricity is scarce, including from other progressively to be decarbonised energy sectors such as those for gases);
- b. Facilitating **energy savings** and reducing the cost of the energy transition by **avoiding an over-sizing of the energy system** and the associated investments in infrastructure and production installations;
- c. **Speeding-up the deployment of clean energy across the economy by decarbonising sectors that are more difficult** (considering costs, technology, public acceptance and implementation) **to decarbonise** (e.g. transport or industrial processes) **by linking them with sectors that are easier to decarbonise** (in particular electricity);
- d. Promoting the **competitiveness of the European economy** by promoting new more efficient technologies, production and consumption methods, their standardisation and market uptake



enabling sector coupling, which are expected to play a growing role in the energy systems worldwide;

- e. Developing a more **resilient, adaptive and resource-efficient energy system**, resulting in higher energy security and lower consumption of land and other resources.

Overall, sector integration allows achieving higher levels of decarbonisation for given total system costs (or the same decarbonisation at lower costs) relative to a scenario where each sector is decarbonised separately and energy markets are not integrated deeper. All deep decarbonisation scenarios (including in the Long Term Strategy) foresee a significant level of sector integration to decarbonise significantly at a reasonable cost.

For the energy as such, sector integration refers to the **deeper linking of electricity, gas and heat markets** in order to support deep decarbonisation objectives in a cost-effective manner.

### 3. Possible areas of action

Internal scoping work within DG ENER preliminarily concluded that sector integration could be fostered through actions in the following broad areas:

1. **Heating and cooling:** increase the replacement rate of fossil fuel boilers and promote electrification, in particular through heat pumps; foster the deployment of smart district heating and cooling systems; achieve greater mobilisation of waste heat; in the longer term, promote hydrogen fuel cells for heat.
2. **Transport:** accelerate the electrification of transport (in particular light-duty vehicles), including through a faster roll-out of charging infrastructure; provide greater incentives to the penetration of renewables, including in maritime and aviation; in the longer term, promote hydrogen fuel cell vehicles (for heavy duty road transport, maritime and aviation).
3. **Unlocking synergies between electricity, heat and gases:** Penetration of renewable energies becomes feasible and more cost-effective by exploiting the flexibility of different energy carriers and infrastructures. Gaseous energy carriers and heat are much more efficiently transported and stored than electricity. This requires the removal of existing barriers between energy carriers and addressing the regulatory uncertainty preventing investments in and the development of a market for hydrogen. Furthermore, a more holistic planning of different energy infrastructures is needed, as well as infrastructure



development to accommodate new forms of gas (such as biomethane, hydrogen, synthetic methane), possibly in the Trans-European Energy Networks (TEN-E) framework. \

4. **Enabling and incentivising the decarbonisation of gases through gas market reforms:** to harness the flexibility of the gas system on the way to climate-neutrality requires natural gas to be progressively replaced by decarbonised and renewable gases, including hydrogen. Suitable market rules should be developed. This substitution needs to be incentivised through new instruments (such as of guarantees of origin or harmonised taxonomy for green certificates) and by adapting rules to facilitate decentralised gas production and cross-border trade (including gas quality standards). The gas markets need to become flexible and more focused on short-term products. The development of more liquid spot markets for gases will enable a departure from long term gas contracts and long-term capacity products that would reach otherwise beyond 2040 and create a lock-in, jeopardising the achievement of the 2050 objectives. Low-carbon hydrogen – produced using low-carbon electricity and water through electrolysis (instead of using natural gas) – requires addressing the high capital costs of electrolysis; it needs incentives and enabling measures for renewable hydrogen demand (notably in transport and heating and cooling, e.g. through fuelling stations) and foster the use of fuel cells by end users (e.g. long-distance/heavy duty transport).
5. **Energy storage:** incentivising the deployment of storage solutions will facilitate the penetration of renewables, demand side response and smart integration. This requires the removal of existing barriers, facilitation of market access for energy storage and encouragement of innovation and investments.
6. **Agriculture and bioenergy:** incentivise a more optimal use of available biomass for energy purposes; provide incentives to a wider mobilisation of such biomass; accelerate the uptake of renewable technologies (incl. electrification) in agriculture, including through the development of self-consumption and energy communities.
7. **Industry and Carbon capture, storage and utilisation.** Incentivise a greater use of industrial waste (heat) for energy purposes; address the high costs of electrolysis, methanation, and CCS/U; incentivise greater flexibility of industry (electricity) demand.
8. **Taxes and levies:** address the uneven pricing of carbon in various end-use sectors; address the heavy taxation of electricity relative to fossil fuels; assess whether the cost of energy transition borne by electricity charges can be spread out over other energy carriers.

#### 4. Possible next steps

Next steps envisaged are:

1. **Continue the work within ENER** of (i) identifying specific barriers to sector integration and (ii) mapping possible actions. Such work will be supported by a small number of targeted studies, managed by ENER.
2. **Interact with other DGs most relevant to sector integration.** In particular, action may be required in areas dealt with by CLIMA (e.g. ETS, CO2 standards for cars), AGRI (CAP), MOVE (alternative fuels infrastructure), REGIO (use of structural funds), TAXUD (energy taxation), COMP (State aid guidelines), and RTD (Horizon Europe). ENER organised an **Inter-Service meeting on decarbonising energy through sector integration**, on 19 November. This first ISG meeting allowed (i) flagging to other DGs the ongoing work on sector integration, and (ii) receiving early input in identifying policy areas under the remit of their DG that can contribute to sector integration.
3. Gather input from relevant **external experts**; organise a wider **event with stakeholders**.
4. On the basis of 1 to 2 above: advance work on a possible Communication on energy sector integration to be adopted in Q2 2020, together with a possible action plan and timeline. Relevant actions might be brought forward by a combination of legislative measures, through a potential revision of some existing ENER and non-ENER legislation, and non-legislative measures, including financing.