

## IFIEC discussion paper on the Cross-sectoral Flexibility Markets<sup>1</sup>

### *Outline structure*

#### *Relevance:*

The EU aims for a competitive and climate-neutral economy by 2050. The European industry, represented by IFIEC Europe, endorses this ambition. In our vision the energy transition cannot be realised without an industry transition, including challenges with regard to disruptive innovations, competitiveness and security of supply.

Competitiveness is challenged by a higher level of price volatility, growing infrastructure costs and non-global CO<sub>2</sub>-costs. The security of Supply (SoS) is challenged by a higher level of intermittency in the European energy system. The EU needs to ensure a necessary level of global competitiveness, given that differentiated views on decarbonisation exist over the world.

The European industry is one of the largest European sectors consuming raw materials (feedstock), electricity and natural gas plays a key role in the energy transition through its contribution to *sector integration* and *sector coupling*. The European Commission (EC) has invited IFIEC to come forward with a decarbonisation strategy that foresees in the needs and demand of industry, given that SoS and competitive prices are secured. *Cross-sectoral* integration (cooperation and coordination) is necessary to obtain the EU's decarbonisation goals. Flexibility (energy supply *and* demand) plays a central role and can be realised with a *sector coupling* of electricity and gas markets, with an efficient mix of electrons, molecules and an increased share of new green energy-carriers, of which hydrogen is the most promising. *Cross-sectoral integration* of energy- and industry markets can lead to more efficient investments in infrastructure and production assets, for instance in applying Demand Side Management (DSM) and hybrid technology, switching from gas to electricity use, vice versa.

#### *Aims of the paper:*

The paper should identify (1) *what is needed to enhance sector coupling* (electricity and gas markets) and (2) *sector integration* (industry – energy) in an efficient and adequate manner.

Consequently, the paper should identify (3) *the impact of decarbonisation of the energy system* (electricity and gas, and possibly other energy carriers e.g. heat and hydrogen) on industrial competitiveness<sup>2</sup> in a global perspective.

The paper should identify (4) *the impact of cross-sectoral integration* between the energy- and industry sectors *on the energy transition in Europe* (examples: demand side management/DSM, technologies/P2H). The energy demand and profiles of industry play a central role in defining both long term energy- and climate policies.

The paper should identify what is lacking in the energy supply system and industrial installations to fulfil the mentioned goals (remaining gaps for industry and what is needed to fill those gaps):

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<sup>1</sup> The key position of the energy intensive industries in delivering flexibility to energy markets

<sup>2</sup> The energy transition goes along with an industry transition, including renewable feedstock.

- Increasing infrastructure capacities (electricity, gas, CCS) as a result of:
  - Locational changes (*supply transformation*: (de)centralization of energy generation, changing production mix);
  - Hybrid energy consumption (*demand transformation*: combination of electrical and gas heating) and;
  - Cost reflectiveness (*supply-demand transformation*: energy consumption level triggered by price signals);
- Regulatory barriers for industry:
  - Infrastructure costs and cost-allocation, taxation, administrative burden;
  - Complexity thresholds: access to information, access to de-risk strategies and tools; access regarding (flex)market and supply;
  - Encouragement and boosting long term technology-innovations;

*Framework/scope:*

- Covers the energy system as a whole (includes all energy carriers, with a focus on electricity and gas);
- Long term (2050) perspective as well as focus on the transition period (2030);
- Global view: takes differentiated views on decarbonisation in the world into consideration.
- Each and every company is unique. The term “industry” is used to broadly define the main needs and demands of IFIEC’s members.

*Paper structure:*

- 1) Integration of - and coordination between - relevant energy markets (flexibility)
- 2) Demand and profiles of industry for 2050 (energy demand, technology-improvements and innovations)
- 3) Recommendations for enhancement of sector coupling (industry – energy) opportunities (offer)
- 4) Gaps and regulatory barriers (ask)
- 5) Conditions and requirements (ask)

*Aimed conclusions:*

The paper will list a number of (e.g. 10?) calls for action, necessary to fulfil the key position of the energy intensive industries in:

- Being able to gain value of a secure (SoS) and efficient climate neutral energy market (prices in coupled electricity and gas markets);
- Being able and encouraged to deliver flexibility to energy markets (sector integration).

The paper could call for (a) stud(y)(ies) that further aim(s) at identifying possible policy solutions, enhancing the integration of cross-sectoral flexibility markets in an effective and adequate manner.