

EREF Key Messages to European Commission Consultation on Smart Sector Integration

Sector coupling/smart sector integration (SSI) is an important element in the energy transition process towards 2030, which is why **EREF supports the following key features:**

- **Effective decarbonisation will require to significantly increase the use of renewable electricity across sectors**, particularly in the heating and cooling and transport sectors that still rely to a large extent on fossil fuels and which need to be decarbonised much further and faster.
- **Need for efficiency increase of both the internal energy market and its infrastructure**, in order to integrate and transport higher amounts of RES.
- **The necessary phase out of fossils in power and energy production**, required to reach the EU's 2030 and 2050 decarbonisation targets - which necessitates the growth of green storage capacity, especially large-scale projects for long-term, seasonal storage, but also projects in demand side flexibility and other storage options.
- **Integrating the gas and electricity sector by investing in Power-to-Gas technologies** can turn temporarily abundant renewable electricity into green hydrogen – that can be easily stored and reconverted back into electricity, in times of high demand.

From EREF's perspective, the following main barriers need to be addressed:

- **Persisting RES growth/integration problems** related to space planning, tortuous administrative/licensing procedures, new technological and regulatory challenges related to the development of RES projects in more difficult and testing environments.
- **The variability of energy output from variable renewables requires a flexible power system with flexible back-up power sources**, a smart grid to compensate for the variability of renewable energy supply and demand. Yet, overcapacity, especially inflexible overcapacity has negative impacts on all 3 basic principles of EU energy policy: affordability, security of supply and sustainability.
- **Lack of storage/flexibility options for accommodating the increase of RES in Europe's energy systems.** Most of the short- and long-term benefits of storage are not sufficiently (if at all) remunerated in today's market environment nor even appropriately quantified.

- **Co-ordinated infrastructure planning across networks** is particularly important to optimise flexible power demand and generation, and help avoiding the curtailment of wind and solar power. Electricity and gas distribution networks, via local flexibility markets or via injection of green gases could significantly help reduce such constraints.

EREF recommends pursuing e.g. the following objectives and measures:

- **Facilitate and accelerate the deployment of renewable energy in all end-use sectors** is key to Europe's smart energy future. Therefore, market design needs to incentivize sector coupling and sector integration and respective coordination on EU- and national levels.
- **Market design must favour flexibility and clean (renewable) energy**, and/or disadvantage emitting and inflexible energy sources. This can be achieved by meaningful carbon pricing and by incentivising combined renewable energy power/energy production – through virtual powers plants for example.
- **All gases used in the future energy system should be renewable gases:** green hydrogen, sustainable biofuels and synthetic fuels, in particular where direct electrification is not (yet) possible or available. Green hydrogen should be used for processes which cannot be directly electrified and as a storage option for various end-use, from electricity via heating and cooling and for some transport applications.
- **Develop EU Guidelines for establishing a proper, dedicated and effective operational and tariffication framework** for the storage of electricity and gas, to be viable and competitive and allowing storage to participate in the energy market on equal footing with the other service providers, but also **to fairly reward** the broad range of services it can offer to the energy systems.
- **Design and execute storage pilot programs, as well as a detailed analysis, both at the EU and the Member States' levels, to quantify directly or indirectly all the total value of the benefits that storage units offer to the European and national energy systems.**