



## **GIE contribution to the European Commission's public consultation on Clean energy – Strategy for Energy System Integration**

GIE has 70 members from 26 European countries. They operate the European gas infrastructure (gas storages, LNG terminals and transmission pipelines) and provide citizens with more than fifty thousand jobs, while supplying around 25% of EU's primary energy consumption. GIE shares EU's ambition of reaching climate neutrality by 2050.

While the energy sector is under an extreme pressure from COVID-19, the European gas infrastructure, responsible for more than fifty thousand jobs, has proven to be resilient in these times. It continues to deliver low emission energy to the European industries and services, heat homes of millions of citizens and provide affordable and stable conditions for a sustainable economic recovery.

For a 2050 climate-neutral EU, an integrated system building on the complementarity between electricity and renewable and low-carbon gases, as well as the optimal use of a (futureproof) existing infrastructure are key. Today, the gas system can integrate large quantities of renewable and low-carbon gases with limited technical adaptation depending on the Member States.

**The gas transmission system** is mostly well interconnected across EU's countries and allows for highly economic and efficient supply, transport and storage of enormous amounts of energy from production sites over long distances. Gas grids are already suited for transporting biomethane and can be fit for hydrogen with additional investments.

**Gas storages** can store sustainable and fluctuating energy on a large scale and at low cost, thereby ensuring security of supply. They provide and run flexibility tools from intra-hourly up to seasonal operational requirements from customers enabling a robust and resilient system. Gas storages can also play an important role in storing renewable and low-carbon gases, including hydrogen, in the future: salt caverns, with some retrofitting, are suited for hydrogen and the current assessment on the potential of depleted gas fields is showing their great potential. In a future energy system largely dominated by intermittent energy production from wind and sun, the large flexibility and storage capacity provided by the gas system will be necessary to secure a cost-efficient integration of renewable energy sources.

**LNG terminals** enhance security of supply through source and route diversification and secure access to global and competitive (fossil and renewable) energy sources. They are also an energy flexibility provider. LNG can substitute more polluting fossil fuels, hence reducing CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, noise and particulate matter emissions in maritime and road transport, power and heat generation (i.e. on remote locations not connected to the gas transmission system). LNG terminals can decarbonize by greening the gas upstream, by using low-carbon technologies downstream or can, for example, be the entry door to (imported) hydrogen-based energy carriers.

**The gas and electricity systems complement each other.** The flexibility and resilience provided by the gas system to the electricity one alleviate the stress of the power grid, significantly reduce investments needed and facilitate the integration of large-scale variable renewable energy. As a result, the gas system, which in the future will run on renewable and low-carbon gases, is an enabler of system integration and the economic viability of renewable energy. New business models, support schemes and remuneration are needed to enable this. Renewable and low-carbon molecules will be a structural component of a secure and flexible energy system, in particular for the so-called "hard-to-electrify" sectors.

**Through effective energy system integration, energy infrastructure companies can help create sustainable jobs along today's emerging renewable and low-carbon gas value chain.** New decentralised gas business models are emerging in which energy generation is getting closer to the



end-users. The gas infrastructure will enable the flexibility and link to new energy production and supply (offshore wind, decentral PV, renewable H<sub>2</sub> import, etc.) with key demand centers across Europe. Specifically, as the Industry Strategy sets out, chemical and steel manufacturing are prime examples of such industries.