Gas Infrastructure Europe

GIE contribution to the European Commission's public consultation on Renovation Wave Initiative for the Building Sector

GIE has 70 members from 26 European countries. They operate the European gas infrastructure (LNG terminals, gas storages 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.

GIE welcomes the Commission's intentions as outlined in the Renovation Wave roadmap to draw on Member States' National Energy and Climate Plans (NECPs) and Long-Term Renovation Strategies (LTRSs), to incorporate elements from other Commission initiatives, and to foster deeper renovation and decarbonisation rates in view of the 2050 climate neutrality objective.

The energy transition will require significant investments, new technologies adapted to local needs, effective policies and behavioral changes. The future of heat needs to have a lower carbon footprint and to be affordable and convenient for consumers. To deliver net zero, reducing the carbon intensity of our heating, both for homes and the industry is a must.

There is no single solution for the decarbonisation of heat.

How we heat (and cool) our homes are an essential source of wellbeing in society and matters to all 450 million EU citizens. Therefore, involving all EU citizens to become agents of positive change and to achieve the 2050 climate objectives is vital. Heating accounts for a third of EU GHG emissions and half of final energy demand.[1] Coupling the sectors electricity, gas, and heat— by linking their markets and their respective infrastructure in a better coordinated and integrated way—provides great overall benefits for the European energy system. However, there is no single solution for the decarbonisation of heat – there will be a broad mix of solutions, including both electricity and renewable and low carbon gases and decarbonised natural gas, while considering the switch from coal to gas as a potential first step in some areas. The best solution will be serving the aim of decarbonisation in the most cost-effective way to meet the needs of consumers and industry across the different EU regions.

EU Member States face different challenges with reducing emissions from heating, and it is therefore important to offer a wide range of realistic, affordable heating alternatives. Gas can, for example, provide peak heating and back-up services in countries where a large share of the electricity comes from renewable generation, for example via hybrid heating systems where a heat pump and gas boiler are combined to provide heating. In their NECPs, Bulgaria, Greece, Slovakia and Spain further outline that their heating sectors will rely, inter alia, on natural gas or natural gas-based CHP to reach 2030 targets[2]. Furthermore, in Central-Eastern European countries where heat production is mainly based on coal, a 60% CO2 reduction can be achieved by switching from coal to gas at affordable costs. For example, the Polish government launched the programme "Clean Air", designed to reach 4.5 million households around Poland over the next 10 years and to replace their older and sub-standard boilers with gas boilers, new-generation solid fuel boilers or heat pumps. Field tests, in the U.K., the Netherlands, France and Germany, are currently looking at blending up to 20% of hydrogen with natural gas in existing pipes for more climate-friendly heating in buildings with affordable investments, without a need for costly and intrusive changes in houses. For dedicated pipelines, work is currently on-going to consider converting existing natural gas pipes or creating dedicated ones to transport

[1] European Commission (2019).
[2] Sedigas, 2014; CEGIBAT, 2019.

decarbonised gases. On appliance side, first tests show that today's gas heating appliances, with minor technical adaptations, can process significant part of hydrogen admixtures to natural gas, without compromising safety, functionality and durability. In addition, hydrogen ready appliances are being developed that can installed with minimal consumer disruption. A technology neutral approach is therefore needed to allow the best solutions for each consumer to be determined dependent on their specific circumstances.

New technologies will allow as well to use an existing process for further heat production while industrial process heating operations are responsible for more than any other of the manufacturing sector's energy demand, accounting for approximately 70% of manufacturing sector process energy end use. A large amount of energy is used for process heating by the European manufacturing sector, in the form of fuels, electricity, and steam.

An increasing share of renewable and low-carbon gases in the existing gas infrastructure contributes to a climate neutral residential, commercial, and industrial heating in Europe.

GIE is convinced that the gas infrastructure can deliver further emission reductions in the European heating system by integrating increasing shares of renewable and low-carbon gases such as synthetic methane, hydrogen, biomethane and biogas. Hydrogen and biomethane will have a valuable role to heat buildings that have gas grid connections with hybrid heating solutions and can provide high temperature heat in energy-intensive heavy industry[3].

Decarbonised natural gas, renewable and low-carbon gases can be transported over long distances and can easily be stored for longer periods while being used by end-use sectors for which full electrification is challenging. For instance, the High-Level Group on Energy-intensive industries states that their sector will require increasingly higher shares of climate-neutral energy, including both electricity and hydrogen.[4]

The European gas infrastructure plays a crucial role in storing the energy required to secure affordable heating during the winter season and can enhance energy security. Moreover, in the areas with no access to the national distribution network, liquified natural gas (LNG) can be supplied to regasification stations that feed off-grid 'island' gas networks.

GIE's recommendations to strengthen the Renovation Wave initiative

Policies that focus on whole system efficiency will form part of the solution for most consumers. The transition to lower carbon heating will require different changes to most homes, and industrial processes. Therefore, any policies must be supported by strong public and industrial engagement strategy and high-quality protections, standards and advice services. **Near-term action**:

- The Renovation Wave should be aligned with the upcoming Energy Sector Integration strategy to enable an increasing share of renewable and low-carbon gases in the existing gas infrastructure, that will contribute to achieving a climate neutral residential, commercial and industrial heating in Europe. To achieve the progressive decarbonisation of the gas sector, encouraging the EU to support research and development of renewable and low-carbon gases in residential, business and industrial heating systems is key.

[3] Gas For Climate, March 2019: https://gasforclimate2050.eu/wp-content/uploads/2020/03/Navigant-Gas-for-Climate-The-optimal-role-for-gas-in-a-net-zero-emissions-energy-system-March-2019.pdf

[4] High-Level Group on Energy-intensive Industries (2019). Masterplan for a Competitive Transformation of EU Energy-intensive Industries Enabling a Climate-neutral, Circular Economy by 2050: https://ec.europa.eu/docsroom/documents/38403

- Develop and implement a public engagement strategy and plan on the need for the energy transition including the decarbonisation of heat based on the NECP's
- Improve the coordination across complementary vectors that support the delivery of low carbon heat. For example, building standards, energy efficiency of appliances, local area planning and energy delivery should be supplemented by the implementation of policies such as improving energy efficiency while keeping the goal of the decarbonisation at minimum costs of new and existing homes.
- Inform the development of future policy, innovation and trials needed now to further explore the potential options and their impact.
- Take into consideration the regional approach while the specifics of high industrialised areas will bring tailored made solutions towards replacing fossil fuels by natural gas and low emission gases.
- In the longer term, the interaction between the gas and electricity systems will result in the need to look at improved optimisation across gas and electricity.
- Provide incentives for the installation of energy efficiency measures and low carbon heating systems.
- Develop regulations to ensure the timely phasing out of high-emitting heating technology.
- Propose a renewable / low carbon gas option on suppliers to support the development of a market and end-to-end supply chain, according to the European Sustainable Finance Regulation.
- Develop guarantees of origin schemes for renewable and low-carbon gases.