

# IOGP feedback to the roadmap for a Renovation Wave initiative for public and private buildings

The International Association of Oil & Gas Producers' (IOGP) member companies account for approximately 90% of oil and gas produced in Europe. The European upstream oil and gas industry shares the world's ambition to reach climate neutrality in the framework of the Paris Agreement and supports the EU's objective to reach climate neutrality by 2050 upon the implementation of enabling measures. There are many challenges on the road to meet this objective, as the energy transition will require significant investments, new technologies, effective policies and behavioural changes.

**IOGP 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.** Achieving affordable, efficient heating with a lower carbon footprint will require investments in a wide range of technological solutions adapted to local needs.

IOGP recommends to strengthen the Renovation Wave initiative by:

- **Focusing on cost-effectiveness** in building renovation by ensuring competition between projects and technologies delivering energy savings, CO<sub>2</sub> emissions reductions, improvement of air quality and other environmental benefits.
- **Incorporating elements of the Energy System Integration strategy** to enable an increasing share of hydrogen and low-carbon gases in the existing gas infrastructure and contribute towards climate neutral residential, commercial and industrial heating in Europe.
- **Supporting the EU industrial sector** and enabling the deep decarbonisation of the construction industry through incentivising the decarbonisation of industrial processes and the uptake of low-carbon construction materials.

## 1. Focusing on cost-effectiveness

Heating accounts for a third of EU GHG emissions and half of final energy demand<sup>1</sup>. In Poland, half of the housing stock is still heated with coal, while the renovation rate still needs to be improved to reach the desired 2.5% of floor area p.a.<sup>2</sup> 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. **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<sup>3</sup>.** For example, replacing inefficient and carbon-intensive heating technologies with condensing gas boilers is one solution that can immediately reduce CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub> and PM emissions, improve air quality and increase efficiency at a significantly lower cost than alternatives. Analyses by the IEA, which take into account both CO<sub>2</sub> and methane emissions, show that coal-to-gas switching in heating reduces emissions by 33%<sup>4</sup>. An overview of scenarios for technology and market development for gas appliances in residential, commercial and industrial sectors is provided by GasNaturally<sup>5</sup>.

<sup>1</sup> European Commission (2019).

<sup>2</sup> BPIE (2018) Financing renovation of buildings in Poland - An overview of public funding allocation for the renovation of buildings in Poland.

<sup>3</sup> Sedigas, 2014; CEGIBAT, 2019.

<sup>4</sup> IEA (2019) The Role of Gas in Today's Energy Transitions: <https://www.iea.org/reports/the-role-of-gas-in-todays-energy-transitions>.

<sup>5</sup> GasNaturally (2020). Gas Appliances: Robust technologies for a carbon neutral future: [https://gasnaturally.eu/wp-content/uploads/2020/04/Gas-Appliances-Brochure\\_08042020.pdf](https://gasnaturally.eu/wp-content/uploads/2020/04/Gas-Appliances-Brochure_08042020.pdf)

The European Court of Auditors have recently assessed whether EU co-funded energy efficiency investments in buildings have cost-effectively helped the EU toward its 2020 energy saving target<sup>6</sup>. The auditors concluded that operational programmes and project selection have not been driven by a cost-effectiveness rationale. Because of a lack of comparative assessment, projects delivering higher energy savings or other benefits at a lower cost have not been prioritised. In order to achieve affordable, efficient heating with a lower carbon footprint, a wide range of technological solutions must be enabled to compete.

**The Renovation Wave presents an opportunity to bring a greater focus on cost-effectiveness in building renovation by ensuring greater competition between projects and technologies that deliver energy savings, CO<sub>2</sub> emission reductions, improvement of air quality and other environmental benefits.**

## 2. Incorporating elements of the Energy System Integration strategy

The Renovation Wave roadmap states that *“In order to reach climate neutrality by 2050, deep renovation should also address building integrated renewables and efficient renewable heating and cooling systems, waste management, sustainability, mobility and circularity principles”*. The Renovation Wave should in addition to this incorporate elements of the Energy System Integration strategy, which aims to achieve the progressive decarbonisation of the gas sector<sup>7</sup>, to ensure that hydrogen and low-carbon gases associated with natural gas infrastructure (adapted where necessary) can create synergies and thereby significantly contribute to deep renovation and the decarbonisation of the heating sector.

Natural gas, hydrogen and low-carbon gases can be transported over long distances and stored for longer periods, and be used in sectors in which full electrification is challenging. Today, the gas infrastructure plays an important role in storing the energy required to secure affordable heating during the winter season, and as such in enhancing energy security. Existing gas storage facilities reported on the AGSI+ platform hold up to 1440 TWh of gas<sup>8</sup>. In areas with no access to distribution networks, liquified natural gas (LNG) can be supplied to regasification stations that feed off-grid “island” gas networks. The scale-up of hydrogen and low-carbon gases in heating would allow for drawing on the current strengths of the European gas infrastructure towards 2050.

European decarbonisation scenarios point to a remarkable potential for hydrogen in residential, commercial and industrial heating. For example, the FCH JU Hydrogen Roadmap Europe sees a potential of up to 465 TWh hydrogen for heating households by 2050<sup>9</sup>, whereas research institutes IFPEN and SINTEF sees a potential demand for up to 1503 TWh hydrogen in the residential and commercial sectors combined in addition to 470 TWh hydrogen for medium- and high-grade heat in the industrial sector by 2050<sup>10</sup>. Importantly, such scenarios include both hydrogen produced with renewables and hydrogen produced from natural gas with carbon capture and storage or utilisation (CCUS). The parallel development of a dedicated hydrogen infrastructure and the ability to blend hydrogen with natural gas is important, as blending provides outlet flexibility and builds on existing natural gas assets. In their NECPs, 22 Member States foresee a role for hydrogen in the decarbonisation of their energy systems<sup>11</sup>. The Dutch LTRS already refers to hydrogen as one option for sustainable heating<sup>12</sup>. Trials for hydrogen blending in residential and commercial heating systems are already ongoing in the UK,<sup>13</sup> and further research and development will be needed to scale this solution up in Europe.

**By incorporating elements of the Energy Sector Integration strategy, the Renovation Wave could enable an increasing share of hydrogen and low-carbon gases in the existing gas infrastructure and contribute towards climate neutral residential, commercial and industrial heating in Europe.**

<sup>6</sup> ECA [2020]. Special Report 11/2020: Energy efficiency in buildings: greater focus on cost-effectiveness still needed: <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=53483>

<sup>7</sup> See EC consultation on the Energy Sector Integration strategy: [https://ec.europa.eu/info/news/preparing-future-eu-strategy-energy-sector-integration-2020-apr-14\\_en](https://ec.europa.eu/info/news/preparing-future-eu-strategy-energy-sector-integration-2020-apr-14_en)

<sup>8</sup> AGSI+ gas storage data: <https://agsi.gie.eu/#/>

<sup>9</sup> FCH JU [2019]. Hydrogen Roadmap Europe: [https://www.fch.europa.eu/sites/default/files/Hydrogen%20Roadmap%20Europe\\_Report.pdf](https://www.fch.europa.eu/sites/default/files/Hydrogen%20Roadmap%20Europe_Report.pdf)

<sup>10</sup> IFPEN & SINTEF [2019]. Hydrogen for Europe pre-study: [https://www.sintef.no/globalassets/sintef-energi/hydrogen-for-europe/hydrogen-for-europe-pre-study-report-version-4\\_med-omslag-2019-08-23.pdf](https://www.sintef.no/globalassets/sintef-energi/hydrogen-for-europe/hydrogen-for-europe-pre-study-report-version-4_med-omslag-2019-08-23.pdf)

<sup>11</sup> See IOGP [April 2020] Assessment of National Energy & Climate Plans: <https://www.oilandgaseurope.org/news/iogp-assessment-of-national-energy-and-climate-plans/>

<sup>12</sup> See Dutch LTRS: [https://ec.europa.eu/energy/sites/ener/files/documents/nl\\_2020\\_ltrs\\_en.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/nl_2020_ltrs_en.pdf)

<sup>13</sup> See HyDeploy: <https://hydeploy.co.uk/why-hydeploy/>

### 3. Supporting the EU industrial sector

A significant share of the demand for energy-intensive materials in Europe (e.g. cement, steel, ceramics) comes from the construction sector. In addition to circularity and renewable energy sources, the industrial sector will depend on low-carbon hydrogen, CCUS and natural gas in a transitional period to reach climate neutrality. For example, 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.<sup>14</sup> The recently published 2050 Carbon Neutrality Roadmap of the cement industry shows that different carbon capture techniques will deliver 42% of the sectors' CO<sub>2</sub> emission reductions by 2050.<sup>15</sup>

A market framework which accredits low-carbon industrial products, including construction material, would introduce incentives and business models for energy-intensive industries to develop products and services using CCUS, clean hydrogen and other low-carbon technologies. Such an accreditation scheme could build upon the EU Green Public Procurement framework, which aims to encourage low-carbon development in Europe. Low-carbon industrial products and construction materials could use Guarantees of Origin as a way of improving its competitiveness compared to products with a higher carbon footprint.

**The Renovation Wave presents an opportunity to support the EU industrial sector and enable deep decarbonisation of the construction industry through incentivising the decarbonisation of industrial processes and the uptake of low-carbon construction materials.**

<sup>14</sup> 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>

<sup>15</sup> Cembureau (2020). 2050 Carbon Neutrality Roadmap: <https://cembureau.eu/news-views/publications/2050-carbon-neutrality-roadmap/>