

Gas - the cornerstone of the future energy system

Today's European energy market is confronted with both unprecedented challenges and unique market opportunities. We are transitioning towards a low-carbon and increasingly more decentralized energy system. The key issue in the years to come, however, will be how to do it in the most cost efficient and secure manner.

GIE holds a strong belief that gas – be it natural or renewable gas - and its underlying infrastructure, will play a key role in the low-carbon sustainable energy system of tomorrow. Gas will be an enabler and the pivot of the Energy Transition.

Ensuring flexibility of energy systems

Today, consumers expect a robust, flexible and affordable energy system. Gas and gas infrastructure respond perfectly to this requirement. Gas and its underlying assets help mitigate the intermittency of renewable energy sources (such as solar or wind) at affordable costs. And, Europe already benefits from a well-developed gas network, requiring only marginal investments in some parts of the continent.

Whereas gas demand in absolute volumes will decrease by 2050, to unlock the full benefits of gas in the Energy Transition and warrant an optimized energy system, the place of gas in the European energy mix needs to be fully recognized and supported. This calls obviously for an appropriate regulatory framework - one that will ensure, in particular, that the peak capacity provided by gas infrastructure is maintained to help respond to the growing flexibility requirement.

Integrating renewable gases

With technological and new market development, gas itself is becoming increasingly greener. This is thanks to biogas, produced mainly through anaerobic digestion or gasification from organic waste. Biogas helps not only to ensure a virtuous carbon dioxide and nitrogen cycles but it also allows to manage waste in an environmentally friendly way and avoid soil production. On top of that, when treated, biogas – called biomethane – can be injected in the gas grid providing energy to customers.

Another type of green gas which will fast gain ground in the energy system of tomorrow is hydrogen. Obtained from excess renewable energy through electrolysis, it allows to avoid energy loss and provide a new source of energy, which can be either injected into the existing gas grid or combined with carbon dioxide to produce synthetic natural gas.

In the future decarbonized and decentralized energy systems green gases will play an essential role. Biogas and hydrogen will position gas in new low-CO₂ energy chains with versatile uses and applications (green mobility, energy storage, industrial or off-grid uses, to name just a few.).

Fostering innovation

Innovation lies at the heart of the gas industry and gas infrastructure operators are keen on developing new technologies and solutions. Energy storage, power to gas, biomethane, small scale LNG are among the prime examples. In that way, the gas industry creates an efficient bridge between the traditional centralized energy system and the emerging ever more decentralized and local ones. A favourable regulatory framework is key to spurring such development.

We should also not forget about new innovative gas appliances and digital offers as well as green mobility. There is no doubt that the latter will be a crucial driver of the Energy Transition both in and outside Europe. In an optimized and efficient energy world, green mobility can be expected to be a mix of alternative solutions: electric vehicles, CNG for passenger cars, LNG for heavy duty vehicles as well as hydrogen-fuelled engines.

Making regulation fit for the future

We have come a long way in the EU in terms of internal market creation, and the gas industry has been an integral part of this process. The Energy Transition will surely have a dramatic impact on the EU internal gas market. More than ever, we need to assess our regulatory framework and develop a vision for the target market design that will allow to deliver both on the three pillars of the EU internal market - competitiveness, security of supply, sustainability - and our Energy Transition ambitions.

Utmost care should be taken to avoid generating unnecessary costs and suboptimal solutions. We need to adopt a pragmatic and cost-efficient approach to make full use of existing assets and support innovation, both technologically and commercially-wise. The ideal gas market design should allow, in particular, to strike a balance between the level of investments required for security of supply and the associated social costs. It should also facilitate the free flow of energy not only across borders, but also across energy sectors.

Finally, we need to consider that Europe is not homogenous and that regional specificities exist. Copy-paste solutions will not necessarily work all over the EU. The same holds European power and gas sectors as such: whereas they are complementary, the gas and power sectors are not alike – while around 90% of gas consumed in Europe crosses more than one Member State's border, it is only around 10% in the case of electricity.

Embracing a holistic vision of the energy system

To achieve an efficient and flexible low carbon energy system, the energy system can no longer be perceived as a combination of various energy sectors. We need to embrace a holistic vision of the energy system of tomorrow, where gas, power and heating sectors interplay and create synergies.

We need to depart from the purely traditional view – i.e. from production and supply to consumption – to a new one – from users to users and even from users to suppliers. Innovation will no doubt support the emergence of this dual energy scheme and gas and its infrastructure will be key in facilitating this development.



JEAN-MARC LEROY

- Managing Director for Gas Chain, ENGIE
- President, Gas Infrastructure Europe
- Chairman of the Board, ENSEEIHT

Jean-Marc Leroy is Managing Director for Gas Chain at ENGIE, covering the Group's activities from upstream through to gas distribution. Prior to that he was CEO of Storengy, the underground storage arm of ENGIE.

Before that he held several key positions at Gaz de France and, subsequently, GDF Suez: Deputy VP for Transmission, President's Chief of Staff, Deputy VP for Strategy, Head of storage and LNG division.

Since November 2015 he is President of Gas Infrastructure (GIE) – the European association for transmission, storage and LNG terminal operators, gathering 69 members from 25 countries. Between 2008 and 2013, he was President of Gas Storage Europe (GSE), the storage column of GIE. To learn more about GIE: www.gie.eu

Jean-Marc Leroy is also Chairman of the Supervisory Board of ENSEEIHT, an engineering school of Toulouse's University focusing on energy, environment and IT.