

RGI Response to Roadmap for the development of the EU hydrogen strategy

The Renewables Grid Initiative (RGI) fully supports the objective to reach climate neutrality by 2050 by a massive increase of renewable energy sources (RES), in particular solar and wind, and recognises the urgent need for a strategy to accelerate their full integration into the energy system.

A RES-based energy system will need not only grids in order to make electricity available to decarbonise the EU economy, but also to provide the required system flexibility and other services. With increasing amounts of RES in the system, the electricity that cannot be integrated should be stored or made available for those energy sectors that cannot be easily electrified. The production of hydrogen (H₂) using the expected surplus of RES electricity would allow long term (seasonal) storage, add flexibility to the energy system and contribute to the decarbonisation of other sectors.

In our view, the Commission should develop a comprehensive and holistic approach to 'sector integration' which does not only include electricity and gas, but also all sectors which have the potential to provide flexibility and optimisation opportunities for the system. A **smart** sector integration implies coherence and optimisation across a variety of policy objectives including climate protection, energy security, ecosystems priorities and social justice. Moreover, a smart sector integration should deliver an optimisation of use of resources and faster decarbonisation in all sectors involved.

RGI fully supports the preparation of a H₂ strategy for Europe. From an RGI perspective, the following aspects have to be taken into account:

- **Variable RES (vRES) will be the most important energy source in the future, therefore, the future energy system has to be designed to make the best use out of them.**
- **The phrase 'Green hydrogen' should be reserved exclusively for gases produced from electricity generated by vRES. Consequently, operation patterns have to be adapted to the vRES production.** This will support quick decarbonisation, reduce lock-ins and provide flexibility to support a secure operation of the electric system.
- **Power-to-Gas (P2G) and using/upgrading existing gas infrastructure should help to optimise the use of all infrastructure (with regard to costs, efficiency and impacts)** and reduce the need for future development. When the location is properly planned, investment savings as well as low operation costs can be achieved, and environmental impacts minimised.
- Future regulation should consider and include integrated **collaborative planning to best utilise future opportunities while driving decarbonisation.** Under the right legislative conditions, collaborative planning can facilitate reaching multiple political objectives by addressing them, on an equal basis, in the very early stage of planning.
- **P2G should provide clean gases/products that make it possible to store and defer use of renewable energy, thus also providing options for seasonal storage.** Short

term storage needs can be met by other technologies which appear to be more cost efficient.

- **P2G plants intended for the production of hydrogen should have a market-based open access** so that all players active in the energy market can make best use of it. It is important that a **‘green hydrogen’ market** is established for sector integration and grid stability.
- **The scale up of technologies for P2G is needed to deliver several GW of capacity by 2030.** Pilot projects developed in collaboration between electricity and gas TSOs can be useful to support technology scale up during their early stage.

The combination of vRES with P2G should help in delivering climate neutrality as early as possible, at the latest by 2050, and reduce emissions in accordance with the Paris Agreement. In this context, electrification is a key measure because of the maturity and efficiency of technology options already available in the power sector. Similarly, to achieve flexibility for successful vRES integration and for sectors more difficult to electrify such as heavy industry, long-haul transport and aviation, P2G and in particular hydrogen with the use of existing infrastructure can make a valuable contribution. At the same time, it is important to ensure that all energy carriers are climate neutral to avoid sector coupling becoming a driver for a new lock-in that will hinder and finally jeopardise full decarbonisation across the broad energy sector.

About the Renewables Grid Initiative (RGI):

RGI is a unique collaboration of NGOs and TSOs from across Europe engaging in an ‘energy transition ecosystem-of-actors’. We promote fair, transparent, sustainable grid development to enable the growth of renewables to achieve full decarbonisation in line with the Paris Agreement. RGI Members originate from a variety of European countries, consisting of TSOs from Belgium (Elia), Croatia (HOPS), France (RTE), Germany (50Hertz, Amprion, TenneT and TransnetBW), Ireland (EirGrid), Italy (Terna), the Netherlands (TenneT), Spain (Red Eléctrica de España), Switzerland (Swissgrid) and Norway (Statnett); and the NGOs BirdLife Europe, Climate Action Network (CAN) Europe, Friends of the Earth Ireland, Fundación Renovables, Germanwatch, Legambiente, NABU, Natuur&Milieu, the Royal Society for the Protection of Birds (RSPB), Transport & Environment (T&E), WWF International and ZERO. RGI was launched in July 2009.