



# EUROPEAN ENERGY TRANSITION & HYDROGEN

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## ECRN VISION



## OVERVIEW

In order to achieve climate neutrality by 2050, Europe's energy transition needs a systemic redesign. Energy systems will have to become smart, flexible, robust and renewable, prioritizing energy produced locally. Investments should be driven to low-carbon infrastructure, energy efficiency, and lead markets to boost demand for climate-neutral industry. Thus accelerating renewable energy development and increasing the resilience of key local supply chains. **Investing in the European renewable energy supply chain will provide stimulus for the economy, create future-proof jobs, and make our energy system greener.**

However, electrification and energy efficiency alone are not sufficient to achieve carbon neutrality by 2050. Europe will also need to invest in innovative clean technologies such as electrolyzers for hydrogen production to green its most polluting sectors and become a world leader in hydrogen technology. **Renewable hydrogen is a key component for success for the EU energy transition, both to decarbonise energy-intensive industries, such as the chemical industry, and to phase regions out of coal or natural gas, without jeopardizing economic growth, the competitiveness of our companies or our social prosperity.** In addition, hydrogen has strong potential as energy storage and energy carrier, it can fill the gap between supply and demand of renewable energy and cover the distance between production sites and demand centres. In combination with efficient generation, storage and use of renewable energy and heat, renewable hydrogen will definitely play a crucial role in the energy transition.

As recognised by the European Green Deal (COM 2019, 640), **energy-intensive industries “are indispensable to Europe's economy, as they supply several key value chains”**. In this regards, we welcome the new “EU Strategy for Energy System Integration” (COM 2020, 299) and the “Hydrogen strategy for a climate-neutral Europe” (COM 2020, 301), and **we are pleased to see that the decarbonisation of the chemical industry is at the heart of Europe's future hydrogen economy.** In particular, we appreciate the establishment of the European Clean Hydrogen Alliance and we invite the EU Commission to keep up its ambitions and investments in those key-value chains which are crucial for our future resilience and strategic autonomy, such as the sustainable chemical industry.

Several ECRN regions have already committed to clean hydrogen solutions: they are working on the creation of electrolysis plants and financing cross-border investment projects to increase interregional collaboration, align climate-energy policies and boost innovation and competitiveness of the chemical sector. **We believe that the EU should give extra support to those regions that are making the transition from the production of fossil fuels to alternative fuels. The EU should recognize the important role of regional and local authorities in the energy transition and allocate more resources to support innovative energy projects, from large-scale interregional projects to small-scale initiatives at local level. Regions should have a greater role in the European energy governance to ensure that decisions are taken considering the impacts they will have on the ground.**

## ECRN PRIORITIES

- Hydrogen will be a crucial enabler to achieve Europe's carbon neutrality by 2050, by cleaning hard-to-abate industries. However, for Europe's climate ambitions to be real, hydrogen needs to be clean, produced by electrolysis from renewable energy. Although, low-carbon hydrogen, from natural gas with carbon capture and storage (CCS), can play an important role in the transition phase. In this regard, we welcome the "phased approach" for hydrogen upscaling laid out in the EU Hydrogen Strategy to support the development of a fully functional hydrogen market. Moreover, **we call on the elaboration of a universal definition for "renewable hydrogen", its production and usage, and for establishing a clear regulation with certification system and standards to further stimulate the hydrogen market in domains such as industry, mobility, energy buffering and transport and the built environment.**
- Hydrogen's promise is not limited to a decarbonisation pathway but could become a strategic, transformative industrial sector for Europe boosting innovation, jobs and European competitiveness globally. The Strategic Forum for Important Projects of Common European Interest (IPCEI) has recently identified and recommended hydrogen technologies and systems as one of its six strategic and future-oriented industrial sectors for joint EU-Member State coordination and investment in its value chains. **We are pleased to see that the European Commission will follow up on IPCEI's recommendations and consider the strategic perspective of hydrogen, as well as we welcome the Commission's will to support strategic investments in clean hydrogen through the Strategic European Investment Window of InvestEU.**
- As been mentioned, the EU may become world leader in innovative electrolyzers, which use electricity to split water. Economies of scale are needed to bring costs down for mass market uptake of green hydrogen and support the EU's renewable-energy ambitions. While currently the largest European electrolyser is 10 MW, firms are planning to construct GW-electrolysers (+1000MW) before the end of this decade. This will be achieved gradually by steps of hundreds MW. The amount and the uncertainty of the operational expenditure of projects is still a barrier for investment decisions in large-scale electrolyzers. In this regard, **we appreciate the role given to the ETS Innovation Fund to facilitate demonstrations of innovative hydrogen-based technologies reducing the risks associated to large and complex projects. We ask the EU to make Europe ready for mass market uptake and support the deployment of large scale electrolyzers.**
- Timely availability of new energy infrastructure is a precondition for a successful energy and raw materials transition in industry and it's crucial for the development of a green hydrogen economy. The existing natural gas transport system makes it possible to create simple and cost-effective connections for the transmission of hydrogen. Accordingly, **we ask the EU to ensure a level playing field for upscaling the infrastructure for alternative fuels in Europe, by integrating renewable hydrogen in the EU gas regulatory framework and by creating the possibility to convert national gas pipelines to hydrogen pipelines.** Furthermore, **we ask the EU to stimulate this process by making adaptation of national gas pipelines to hydrogen pipelines and the construction of new hydrogen pipelines eligible under the TEN E scheme.**
- Sufficient renewable energy sources are fundamental for the transition towards renewable hydrogen and for decarbonisation of industrial sectors. The offshore wind strategy could play a vital role here. **We ask the EU to align the offshore wind strategy with its hydrogen ambitions and decarbonization targets.**

- In an initial phase demand side support policies will be needed to create a fully functional hydrogen economy. **We appreciate the Commission intention to introduce minimum shares of renewable hydrogen in specific end-use sectors, and we ask the EU to pay greater attention to the consumer side and to put in place incentives to stimulate the demand for hydrogen products.**
- As the number of suppliers and customers grow, the hydrogen market will have to broaden to a free energy market, requiring the establishment of a hydrogen market organization, with its laws and regulations. **No company or sector can develop this market organization itself. We believe that the EU should coordinate national and interregional actions in this regard.**
- As hydrogen production is also possible based on biomass, such as municipal waste, it could offer a response to the challenges of the circular economy. As growing biomass removes carbon dioxide from the atmosphere, the net carbon emissions of this method can be low, especially if coupled with carbon capture, utilization, and storage in the long term.

## SUPPORTING THE INNOVATION POTENTIAL OF SMALL AND MEDIUM ENTERPRISES

- We believe it's necessary to strengthen European industry competitiveness in the field of energy and clean technologies. In this regard, we welcome the EU Commission's communication "A New Industrial Strategy for Europe" (COM 2020, 102) and **we encourage the EU to keep on investing on the consolidation of innovative industrial value chains that transcend the boundaries between sectors, players, technologies and countries. We believe that within the EU industrial strategy, special attention should be given to the establishment of European competitiveness clusters with specific focus on Small and Medium Enterprises, the backbone of Europe's economy.** In this regard we appreciate the Commission's communications on "An SME Strategy for a sustainable and digital Europe" (COM 2020, 103). As SMEs often lack the luxury of long term visions and sometimes lack of innovative power, **we believe that the EU should invest more on the innovation potentials of European SMEs and support them in their energy transition.**
- The EU has made important investments in FCH technologies and has recognised the need to focus and leverage its innovation investment through the public-private partnership of the Fuel Cells and Hydrogen Joint Undertaking (FCH JU), which has been supported with up to €1.3 billion from Horizon 2020, including an EU contribution of around €600 million for the period 2014-2020. Due to the success of FCH JU, upcoming innovations in FCH technologies are expected to be larger and this will be reflected in the calls for proposals of the new partnership. As they may address innovations in for example barges, more funds for the partnership is required. For that reason, **we respectfully ask the EU to double the Horizon Europe contribution to the European Partnership for Clean Hydrogen (from €600m to €1.2 billion for the 2021 - 2027 period).**
- To promote innovation, the regional level is the most appropriate as this is the level on which actors cooperate intensively. Accordingly, **we ask the EU to Increase public funding in innovation in order to achieve the European objective of 3% of GDP invested in research and development, and bring the European target to 4% by 2035 and 5% by 2050, a third of which from public financing. Stimulate international and inter-regional cooperation in research.**