

Sustainable Energy Week: The path to a carbon neutral Europe

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Opinion

As European Sustainable Energy Week 2019 kicks off, we begin with Dominique Ristori who explains how clean green hydrogen can help the EU reach its long-term decarbonisation goals



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The transition away from fossil fuels towards a carbon-neutral economy is one of the greatest challenges of our time.

The EU is setting out on this journey through the clean and fair energy transition, creating growth and jobs, increasing our quality of life and putting the European Union in the lead in the fight against climate change.

It is clear that major efforts are required to limit the temperature increase to well below 2 degrees Celsius and possibly to 1.5.

For Europeans, the only way to do so is by shifting towards a modern and climate-neutral economy by 2050.

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This will be done by transforming the economy, empowering citizens and ensuring social fairness.

This needs to be combined with aligning action in key areas such as industrial policy, finance and research. Above all, we must invest in innovative technological solutions.

One of these is hydrogen, particularly when produced from renewable energy sources.

Hydrogen is one of the fuels of the future, one that will help us reach our long-term decarbonisation goals cleanly and cost-effectively.

One way of doing this is to establish a smart regulatory framework that encourages private investment into clean hydrogen and gives businesses the right incentives.

Preliminary studies by the European Commission show that sectorial integration and making use of different storage technologies such as hydrogen could reduce emissions by up to 96 percent by 2050.

Hydrogen will therefore play a crucial part in the EU's future energy policy mix. As a staging post towards 2050, the EU has recently adopted ambitious targets for 2030.

These are based on greater deployment of renewable energy sources (at least 32 percent of our energy demand in 2030) and putting energy efficiency to the fore, with energy savings targets of at least 32.5 percent by 2030.

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Implementing these targets would allow the EU to reduce its 2030 greenhouse gas emissions beyond our current 40 percent target compared to 1990, to around 45 percent.

To achieve this ambition, renewables need to be at the centre of the energy mix. Currently, the renewables electricity share is about 30 percent and we expect this to increase to 55 percent by 2030.

However, in important sectors such as transport and industry, the share of renewables is not as high. Green hydrogen can play an important role helping integrate renewables into the energy system and can help decarbonise these carbon-intensive sectors.

Recently, we have seen the emergence of new and promising hydrogen technologies, ranging from fuel cell vehicles to the refining industry, fertilisers and all the way to the steel industry. Mass-scale deployment of these technologies is vital.

For this, the gas network can accommodate large amounts of hydrogen as a way of storing energy and transporting it over long distances at lower costs than the electricity grid.

By decarbonising our gas infrastructure by injecting green hydrogen along with synthetic and biomethanes, we can increase the integration of renewables in the grid.

Member States recently signed the 'Hydrogen initiative', a political declaration launched by the Austrian Presidency of the EU in September last year, and the 'Sustainable and smart gas infrastructure declaration', launched in April.

The EU has created a robust enabling regulatory framework to foster hydrogen development. The Alternative Fuels Directive created an important first basis for using hydrogen in transport.

The 'Clean Energy for All Europeans' package has taken major steps, with energy storage (including hydrogen) treated in a non-discriminatory way.

In recasting the Renewables Directive, we have focused on non-biological renewable fuels and supporting storage technologies by improving the design of the electricity market.

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We have also proposed a clear definition of energy storage that refers to both Power-to-Power and Power-to-X (mainly Power-to-Heat and Power-to-Gas).

In so doing, we are trying to instil a wide range of flexibility and storage technologies, where each can contribute at the right place and moment based on their specific potential.

Nevertheless, it is also important to look at other sectors, such as gas. Moreover, it is also of paramount importance to invest in research and development to reduce costs and make innovative solutions more profitable.

We see a key role for hydrogen in fulfilling the goals of the Paris Climate Change Agreement.

Looking to 2050, we need to transform our economic development model to deliver both climate neutrality and prosperity and fairness for European citizens.

It should be a model that is both sustainable and fair. Europe is also keen to build its industrial competitiveness in hydrogen technologies and capitalise on its strengths at global level.

To do so, we are collaborating closely with key partners such as the US and Japan and have agreed to lead international collaboration activities on hydrogen with the International Energy Agency as well as within the Clean Energy Ministerial partnership.

About the author

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