

## **ZEP RESPONSE TO THE [CONSULTATION](#) ON 2030 CLIMATE TARGET PLAN**

The Zero Emissions Platform (ZEP) is a European Technology and Innovation Platform (ETIP) under the Commission's Strategic Energy Technologies Plan (SET-Plan), and acts as the EU's technical adviser on the deployment of Carbon Capture and Storage (CCS), and Carbon Capture and Utilisation (CCU) under Horizon 2020.

**Reaching net-zero greenhouse gas emissions by 2050 in a cost-efficient way remains the primary focus.**

Reaching net-zero GHG emissions by 2050 is the primary goal of the European Union's climate action plans. Meeting this objective poses significant challenges for European citizens, regions and industries, and the industrial transition will require the deployment of readily-available technologies at an unprecedented scale. The European Union will need to preserve existing jobs across key industrial value chains while creating new ones and ensure that European regions and industries become attractive for clean investments, remaining competitive while decarbonising.

With a legally binding objective of climate neutrality by 2050, it is critical that the European Union undertakes prompt action to start a just transition towards 2050 in a cost-efficient manner. The upward revision of targets makes need for CCS at scale even clearer. ZEP looks forward to the presentation of revised intermediate targets towards climate neutrality by 2050 and recommends:

- To put in place an enabling policy framework, making it economically feasible for companies to invest in the whole value chain of CCS.
- To recognise and ensure political support for common infrastructure, both for CO<sub>2</sub> and clean hydrogen.
- To use the green recovery to kick-start projects along the whole value chain of CCS and clean hydrogen now.<sup>1</sup>

### **CO<sub>2</sub> infrastructure – critical to achieve large-scale decarbonisation and deliver carbon dioxide removals**

To reach the objective of climate neutrality by 2050, it is crucial that an effective and enabling policy framework for the development and deployment of low-carbon technologies - such as CCS and CCU - is put in place. This will enable near-ready European CCS projects to become operational in this decade and start to deliver on climate change mitigation. Additionally, shared CO<sub>2</sub> infrastructure – connecting CO<sub>2</sub> industrial emitters and power plants to storage sites – is needed to deliver large-scale decarbonisation of European energy and industrial sectors. The legally-binding European Climate Law for climate neutrality by 2050 acknowledges the role of carbon dioxide removals, stating that, “while greenhouse gas emissions should be avoided at

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<sup>1</sup> [CCUS in the recovery plan](#), 2020

source as a priority, removals of greenhouse gases will be needed to compensate for remaining greenhouse gas from sectors where decarbonisation is the most challenging”<sup>2</sup>.

CO<sub>2</sub> transport and storage infrastructure is therefore instrumental in delivering carbon dioxide removal facilities in industrial hubs that have the potential to turn carbon capture operations to go carbon negative.

### **Clean hydrogen**

Clean hydrogen will also be required in large quantities to meet the needs of European energy-intensive industry, as well as energy, transport, chemical and heating sectors.

Large-scale hydrogen production from reformed natural gas with CCS can be delivered within the decade, supporting the development of necessary infrastructure and kickstart a clean hydrogen economy, paving the path to deploying clean hydrogen by electrolysis of water. This will require substantial investments in CO<sub>2</sub> infrastructure, as well as in hydrogen infrastructure.

Clean hydrogen production from natural gas with CCS is a proven technology with plants operating globally<sup>3</sup> and it is central to the development of several proposed industrial decarbonisation projects in the Netherlands<sup>4</sup> and the UK<sup>5</sup>, which to be operational and provide significant volumes of clean hydrogen by 2030.

In this sense, the European Taxonomy for Sustainable Finance gives guidance on how the financial sector can engage in the energy transition and invest sustainably, acknowledging the role of CCS as a technology that substantially contributes to climate change mitigation and allowing for the retrofit of existing natural gas pipelines for low-carbon gases (including clean hydrogen).

### **Research and innovation activities to reduce costs are hugely important**

The European Union has recently presented a recovery plan to cope with the economic crisis and ensure that a large part of the public investments that will be mobilised will be dedicated to reaching the objectives of the European Green Deal. Supporting pilot projects, early demonstrations and maintaining a focus on R&I activities to reduce the technological costs of CCS, CCU and CO<sub>2</sub> infrastructure – as well as in carbon dioxide removal technologies – is critical to ensure the scale up of the technologies.

An early assessment of the national energy and climate plans (NECP) shows that 4 European countries are planning CCS projects by 2030, and 12 will undertake R&D

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<sup>2</sup> [European Climate Law](#), 2020

<sup>3</sup> [Shell Quest Project, Canada](#).

<sup>4</sup> H-vision, Nuon Magnum, PORTHOS, Athos. Reference: Zero Emissions Platform, [CCS enables clean and cost-efficient clean hydrogen at scale](#), 2020

<sup>5</sup> HyNet, Zero Carbon Humber, Net Zero Teesside, Acorn. Reference: Zero Emissions Platform, [CCS enables clean and cost-efficient clean hydrogen at scale](#), 2020

activities within European research programmes<sup>6</sup>. The attitude of European member states towards clean hydrogen shows that more than 20 member states mention clean hydrogen and among those, 5 are positive to clean hydrogen produced from natural gas with CCS<sup>7</sup>.

The NECPs provide a good overview of measures and policies that will be implemented locally to keep track of the journey towards the 2030 targets. According to the European Climate Law, the NECPs will be assessed on a five-year basis to monitor member states' individual and collective performance. Such timeframe will allow for member states to adjust their trajectory when needed, hence making the NECPs a useful tool in the implementation and monitoring of 2030 targets.

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<sup>6</sup> SET-Plan, ERA-NET CoFund and EEA-grants 2014-2021. Reference: IOGP, [National assessment of National Energy and Climate Plans](#), 2020.

<sup>7</sup> Reference: IOGP, [National assessment of National Energy and Climate Plans](#), 2020.