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## The role for CO<sub>2</sub> Capture and Storage (CCS) in meeting global climate targets

**Climate targets can only be achieved by using all the tools we have at our disposal. CO<sub>2</sub> Capture and Storage (CCS) can be used alongside and synergistically with renewables and energy efficiency, to rapidly reduce emissions. CCS is also an enabler of negative emissions, i.e. taking CO<sub>2</sub> out of the atmosphere.**

The IPCC 1.5C report (2018) and the IEA Energy Technology Perspectives (ETP) (2017) indicate that meeting our climate targets without capturing and storing CO<sub>2</sub> will be almost impossible. The Strategy for long-term EU greenhouse gas emissions reductions underlines the importance of CCS to achieving the net-zero emissions goal in Europe. The latest IEA calculations also indicate that considering all the CO<sub>2</sub> that will be emitted by existing/under construction power and industrial plants, our carbon budget for the Sustainable Development Scenario will be used up by 2040. This leaves no headroom for new industrial plants or new infrastructure that requires steel and cement and does not include the increase in electricity production to meet growing energy needs, including for the almost 1 billion people globally who do not yet have access to electricity.

CCS supports a just transition and can bring significant value to national and global economies. CCS is a highly versatile technology that can be adapted to best fit the local conditions and meet the needs of the local economy and society.

CCS is the only viable mitigation option to deeply decarbonise the production of commodities such as cement, iron and steel that will likely remain irreplaceable for the global economic growth in the medium to long term including for the deployment of renewable energy technologies.

CCS on natural gas can also produce hydrogen, which provides a low-cost and large-scale solution for deep decarbonisation of harder-to-reach sectors such as heating, industry and transport, with minimal disruption to existing gas infrastructure.

CO<sub>2</sub> storage is essential for Negative Emission Technologies (NETs) to be effective. Combining the conversion of sustainable biomass for products and/or energy and capturing and storing the associated CO<sub>2</sub> in deep geological formations offers real and immediate opportunities to take CO<sub>2</sub> out of the atmosphere. Moreover, storing CO<sub>2</sub> from the use of sustainable biomass appears to be the only currently available technology capable of delivering large-scale negative emissions of CO<sub>2</sub>.

CCS is a proven technology with projects such as Sleipner (Norway) and Boundary Dam (Canada) already storing CO<sub>2</sub>. There are 23 large scale CCS projects worldwide in operation or under construction. These facilities can store over 40 Mt CO<sub>2</sub> per year, captured from natural gas processing, power, fertiliser, steel-making, hydrogen-production, plastics and chemical plants (GCCSI 2018). These projects show that it takes time to develop a storage project from concept to reality and also offer valuable lessons to make the next generation of projects even more efficient and cost-effective.



Representatives from CO<sub>2</sub>GeoNet, the European Energy Research Alliance CCS Joint Programme, the Global CCS Institute, the UK Carbon Capture and Storage Association and the European Zero Emission Technology and Innovation Platform are working to raise awareness of the important role of CCS as a key emission reduction option. It is important to act now in order to create the conditions for the widespread deployment of CCS, which is necessary to avoid CO<sub>2</sub> levels rising above the Sustainable Development Scenario (1.7 – 1.8°C average temperature rise) or 2 Degrees Scenario from the IEA World Energy Outlook (2018) and IEA ETP (2017). Therefore we call for positive action by the Parties of the United Nations Framework Convention on Climate Change (UNFCCC).

CCS is already recognised as an environmentally sound technology by the Convention. It is critical that CCS development maintains momentum and support at the highest levels, including within the UNFCCC, so that CCS can be rolled out at commercial scale in a timely manner. In order to achieve widespread deployment of CCS, we firmly recommend that the following positive actions are enacted:

1. **Provide a clear message of long-term political support for CCS deployment** by assessing and specifying the role for CCS in achieving national 2030 and 2050 emission targets (including NDCs);
2. **Offer policy predictability and confidence** by including CCS, where appropriate, in climate plans to give a clear message of long term support, enabling CCS project developers to make critical investment decisions;
3. **Provide equal inclusion and support for CCS as a mitigation option** alongside other low emission technologies;
4. **Provide national support for projects that use international funding mechanisms** (e.g. Green Climate Fund, CTCN, the World Bank and other international financial institutions);
5. **Support the development of private-public partnerships** to build a trust-based relationship between CCS project developers and the national government to help drive projects forward

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