

CO₂ Capture and Storage at ECN Policy Studies

Carbon dioxide Capture and Storage (CCS) is one of the options in the portfolio of greenhouse gas reduction technologies. CCS may allow economies world-wide to phase out fossil fuels more gradually while reducing their climate impact. Although lower energy consumption and renewable energy technologies are fundamental to a sustainable long term energy supply, CCS could play a bridging role in most recent climate change mitigation scenarios. Through research and knowledge dissemination, ECN contributes to CCS nationally, within the European Union and internationally.

CCS as a mitigation option

In the context of climate mitigation scenarios, the role of CCS needs to be analyzed. ECN studies the cost-effectiveness of CCS as a mitigation option in the national, European and global context. In addition, we study the road towards 2020 and 2050, what policy options and other measures are required and what the interaction of the option of CCS is with other energy and industry options. This is done in Policy Roadmaps, option documents and reference projections.

More information: <http://www.ecn.nl/units/ps/themes/carbon-dioxide-capture-and-storage/>

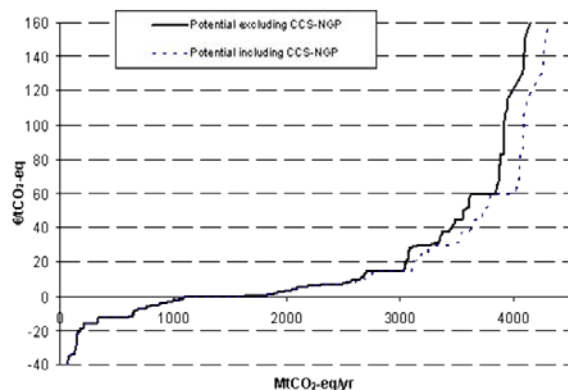
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Public participation processes for CCS

Public awareness of CCS is relatively low in Europe, and some CCS development projects have encountered public opposition. From a communications and consultation perspective, CCS presents a significant challenge. ECN Policy Studies is involved in research to derive the most effective methods to both communicate CCS to the public, and also how to facilitate the participation of communities local to potential CCS projects in decision-making processes.

Report: <http://www.ecn.nl/units/ps/themes/ccs/carbon-dioxide-capture-and-storage-public-perception-of-ccs/>

Contact: Marjolein de Best-Waldhober (debest@ecn.nl)



CDM Marginal Abatement Cost Curve



Participants to the 2007 workshop in Dakar.

CCS in Africa

In order to mitigate climate change, CCS needs to be deployed globally. Raising awareness and building capacity in developing countries is therefore essential. Since 2007, ECN has organized workshops on CCS in Senegal, Botswana, Mozambique and Namibia. The workshops provided independent information and generally raised significant interest. Reports of the workshops contributed to the understanding of the potential long-term role of CCS in Africa.

More information: <http://www.ecn.nl/units/ps/themes/ccs/ccs-in-the-global-context/>

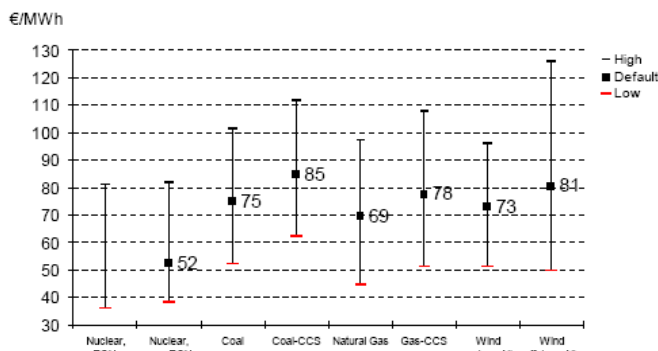
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CO₂ReMoVe: Monitoring and Verification of CO₂ storage operations

As part of the CO₂ReMoVe project, an integrated project in the European Commission's FP6 programme, ECN with partners such as TNO, the British Geological Survey and SINTEF is drawing regulatory lessons from operational CO₂ storage projects. The projects studied include In Salah, Ketzin, Sleipner and Snøhvit. ECN is helping provide input in regulatory processes such as the Clean Development Mechanism and Member State implementation of the EU CCS Directive.

Website: www.co2remove.eu

Contact: Heleen de Coninck (deconinck@ecn.nl)



Projections on the cost of electricity in 2020

CO2Europe (FP7)

This project aims at paving the road towards large-scale, Europe-wide infrastructure for the transport and injection of CO₂ from zero-emission plants. The project will prepare for the optimum transition from initial small-scale, local initiatives towards large-scale CO₂ transport and storage that is to start around 2020, with key stakeholders in the field of carbon capture, transport and storage.

More information: <http://www.ecn.nl/units/ps/themes/ccs/ccs-in-the-energy-system/>

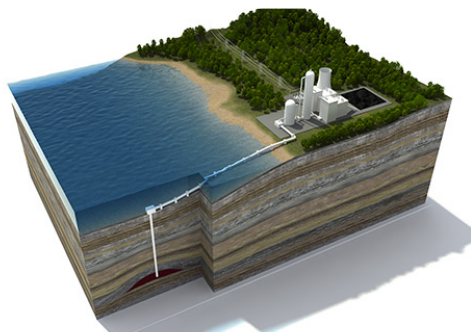
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CCS in the climate negotiations

The inclusion of CO₂ capture and storage (CCS) in the Kyoto Protocol's CDM is subject to much discussion. In addition, climate negotiations are moving on. New international instruments, such as nationally appropriate mitigation actions and the Technology Mechanism, are emerging. ECN, as part of the CATO-2 project, studies CCS in the international negotiations, mapping new international policy instruments and doing quantitative studies on CCS potential in developing countries.

Report: <http://www.ecn.nl/units/ps/themes/ccs/ccs-in-the-global-context/>

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Source: Bellona

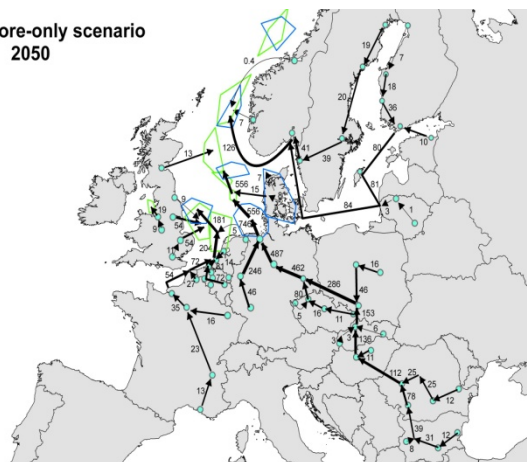
SiteChar: social and site characterization

SiteChar will examine the whole site characterization process integrating site characterization, risk assessment and development of monitoring plans. The role of ECN is to perform a relatively new but important task of developing methodologies for social site characterization and public engagement processes. As several CCS projects have been cancelled as a result of public resistance, this is increasingly seen as an essential step in geological storage of CO₂.

Website: <http://www.sitechar-co2.eu/>

Contact: Marjolein de Best-Waldhober (debest@ecn.nl)

Offshore-only scenario 2050



Possible CCS infrastructure 2050

UNIDO Global technology roadmap for CCS on industrial sources

Approximately 40% of global CO₂ emissions are attributed to industrial processes, and such CO₂ emissions are expected to increase substantially over the next 50 years. The application of CCS in industry has significant potential, however most research and development has been targeted towards the power sector. ECN is leading the development of a global technology roadmap, investigating the technical potential, economics and possible barriers for CCS deployment in industry.

More information: <http://www.ecn.nl/units/ps/themes/ccs/ccs-in-the-global-context/>

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