

CO2 reduction for a better climate

The Dutch government regards CCS (carbon capture and storage) as a crucial transitional technology on the road towards more sustainable communities. In this light, the government aims for large-scale corporate application of CCS; first of all in the energy sector, followed later by other sectors, like the chemical industry. Large-scale CCS application will help the Dutch government to fulfil the CO2 emission reduction obligations as allocated to the Netherlands by the European Union in a cost-effective manner. Eventually, CCS may account for one-third of the CO2 emission reduction objectives.

Borg Foundation

In the Northern Netherlands, the corporate and public sector and knowledge institutions have started up the preparations for the first large-scale, integrated onshore CCS project in the Netherlands. To qualify for EU grants, the project should be operational by 2015. The preparations for this project are coordinated by the Borg Foundation, an alliance between the organizations involved in the entire chain of CO2 capture, transport and storage. Borg furthermore provides information on CO2 storage and facilitates the dialogue with all stakeholders.

The project

In the Eemshaven in Groningen, two new CO2 capture-ready power plants are currently under construction. The CO2 will subsequently be transported through pipelines to one or more nearby storage locations – depleted gas fields in the Northern Netherlands. For this project, the Dutch government designated eight different locations where CO2 can be stored. The companies involved are currently investigating which of these sites would be most suitable for CO2 injection, and are preparing the project proposal. The government will coordinate the planning procedure and will eventually decide on the implementation of the project.

Unique conditions

The enormous capacity of the deep subsurface of the Northern Netherlands makes it extremely suitable for CO2 sequestration. Gas has been trapped in hermetically sealed sandstone layers for hundreds of millions of years. The unique geological structure ensures that CO2 can safely be stored here, and the storage capacity is huge, with depleted gas fields offering approximately 850 Mtons of potential CO2 storage capacity. In addition, the Northern Netherlands has a wealth of knowledge and experience when it comes to natural gas. The region holds Europe's largest natural gas reserves. Since the discovery of the presence of natural gas – some 50 years ago – a lot of experience has been gained in gas extraction, transport and storage. Partly with the help of government incentives, the region has been able to develop a cluster of related companies and knowledge institutions. Over the next few years, in the Northern Netherlands companies will be investing approximately 25 billion euros in the energy sector, creating a strong and growing energy position for the region. CCS can deliver a significant contribution to

this effect.

Cooperation

In preparing the CCS project, Borg focuses on four key aspects: the level of public support, the infrastructure, the regulatory framework, and business. Borg is an alliance of eight different organizations: RWE, Nuon, Gasunie, Energie Beheer Nederland (EBN), NAM, Groningen Seaports, Noordelijke Ontwikkelingsmaatschappij (NOM) and Energy Valley. The foundation works closely together with various public authorities, knowledge institutions, NGOs and civil society organizations, including, for instance, the Drenthe and Groningen provinces, CATO-2, the University of Groningen, the Ministry of Economic Affairs, Agriculture and Innovation, and civil society actors such as employers' organizations and societies for the preservation of nature.

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