



3rd General Assembly · Exhibition · Drive&Ride, 4-6 October 2006, Brussels

Towards Hydrogen and Electricity Production with Carbon Dioxide Capture and Storage



Objective

To prepare the ground for large-scale European facilities producing hydrogen and electricity from fossil fuels with CO₂ capture and permanent storage.

Challenges:

Fossil fuels will remain the prevalent energy source for Europe over the foreseeable future despite their drawback in the context of the climate change issue. In order for Europe to comply with the Kyoto Protocol there is a need for new low-emission technologies - including decarbonised fossil fuels and the use of hydrogen as an energy vector.

In this perspective it becomes mandatory to enable efficient ways of isolating the CO₂ and storing it safely for thousands of years at reasonable cost and efficiency.

DYNAMIS undertakes to investigate viable routes to large-scale cost-effective co-production schemes for hydrogen and electricity with fully integrated CO₂ management.

Expected achievements:

DYNAMIS undertakes by 2008 to substantiate the following targets to be achievable for practical operation by 2012:

- Large scale power generation using advanced power cycle(s) with hydrogen-fuelled gas turbines, or other decarbonised power schemes. Gas or coal as fuel.
- Hydrogen export corresponding to 0 - 50 MW
- Produced hydrogen to comply with the specifications of the European infrastructure
- 90% CO₂ capture rate envisaged with 50% capture cost reduction

Budget : 7,4 M€ **Time span:** 2006 – 2009 (3 years)

Instrument: Integrated project

Project co-funded by the European Commission 019672

Co-ordinator: SINTEF Energy Research, Norway

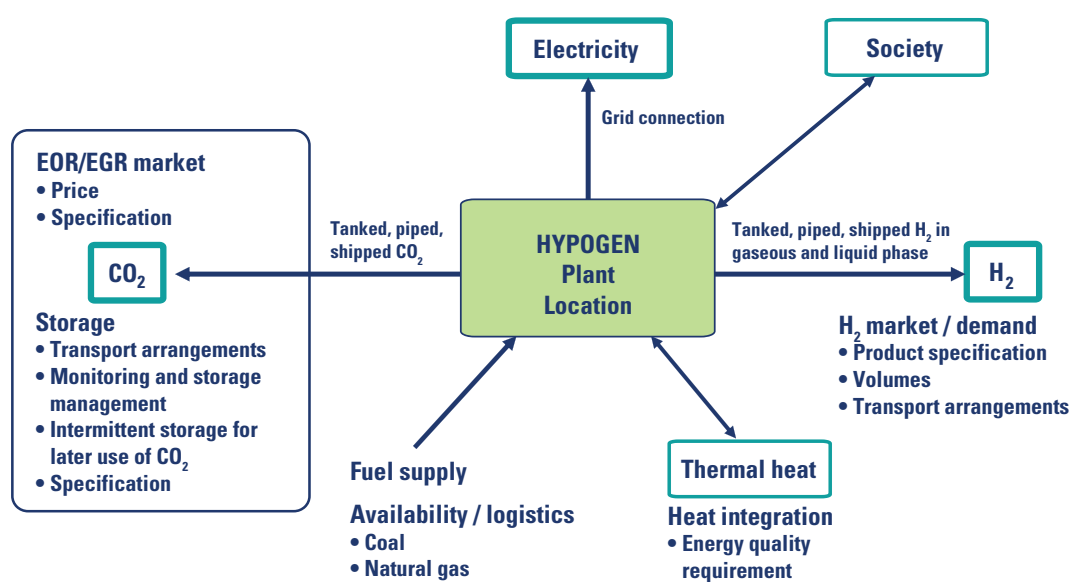
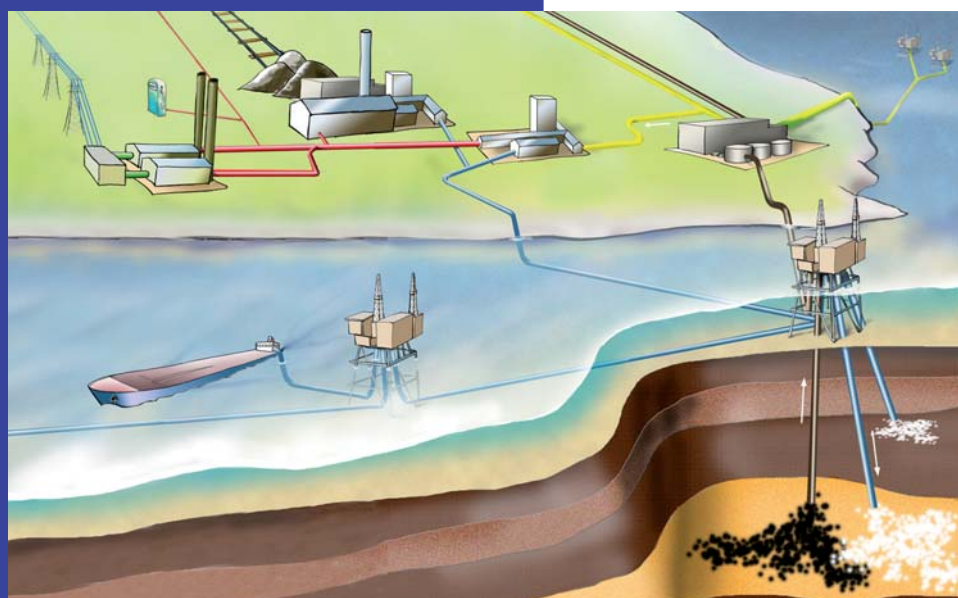
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Partners:

- RTD providers
- SINTEF Group
 - SINTEF Energy Research
 - SINTEF Petroleum Research
 - JRC- Institute of Energy
 - Fraunhofer ISI
 - Vattenfall Research and Development
 - Institut Français du Pétrole
 - British Geological Survey
 - ECOFYS
 - Geological survey of Denmark and Greenland (GEUS)
 - TNO
 - IEA GHG
 - Bundesanstalt für Geowissenschaften und Rohstoffe (BGR)
 - Technical University of Sofia
 - Norwegian University of Science and Technology (NTNU)
- Technology providers
- ALSTOM
 - SIEMENS
 - AIR LIQUIDE
 - Etudes et Productions Schlumberger
 - Progressive Energy
- Energy providers (in power generation and fossil fuel supply)
- STATOIL
 - BP International
 - Store Norske Spitsbergen Grubekompani (SNSK)
 - E.ON UK
 - ENDESA
 - ENEL
- Financing institution
- Société Générale

Associated partners:

- Vattenfall AB
- Hydro



www.dynamis-hypogen.com

Co-ordinator:



SIXTH FRAMEWORK PROGRAMME



European Commission