



Directorate-General  
for Energy  
and Transport



EUROPEAN  
COMMISSION

# ● EC's Policy to support Carbon Capture and Storage

Dr. Marion Wilde  
Unite Coal and Oil  
Directorate General for Energy and Transport

17.-18.11.2008 Geneva

# ● Background

## ● 2007 Spring European Council

- » target of 20% cut in greenhouse gas emission by 2020
- » enabling low-CO<sub>2</sub> power generation from fossil fuels by 2020
- » up to 12 CCS demonstration plants in operation by 2015

## ● November 2007: Strategic Energy Technology Plan

- » R&D efforts to focus on low carbon technologies
- » European Industry Initiatives to help accelerate innovation
- » CCS one of strategic technologies: large-scale demonstration next priority

## ● 23 January 2008: Commission adopts a set of proposals including the CCS Communication and the CCS Directive

# ● CCS in the EU

## ● Context:

- » The use of fossil fuels in energy production leads to approximately 40% of all CO<sub>2</sub> emissions in the EU
- » CCS can deliver dual benefit of removing important part of GHG emissions while keeping fossil fuels in the energy mix

## ● Policy goal:

- » First step: to realize the planned 10-12 CCS demonstration projects
- » Second step: commercial deployment of the technology

# ● **Obstacles / EC Proposals**

## ● **Legislative Hurdles**

- **CCS Directive**

## ● **Non legislative Hurdles**

- » Long term economic viability
  - **Emission Trading System (ETS)**
- » Industrial Scale CCS Demonstration Projects (all main technology routes (Pre-, Post-, Oxyfuel-Combustion))
- » General and Industry Awareness
- » Public Acceptance
  - **CCS Communication**



## **Communication on Supporting CCS Demonstration**

- **Part of the Energy and Climate package of January 2008**
- **Outlines the key challenges to early demonstration**
- **Presents costs and benefits**
- **Calls for policy support to make CCS commercially feasible by 2020**
- **Proposes an EU structure to stimulate the demonstration of CCS in power generation**
- **Calls for the commitment of the industry and EU Member States**
- **Suggests new infrastructure to enable transport and storage of CO<sub>2</sub>**

# ● Further European CCS related activities

- **Draft directive on the geological storage of CO<sub>2</sub>**
  - » Also part of the January 2008 package
  - » Legislative framework for CCS
  - » Currently debated in the European Parliament and Council
- **ZEP Platform (European Technology Platform for Zero Emission Fossil Fuel Power Plants)**
  - » Unites the European Commission, European industry, NGOs, scientists and environmentalists
  - » Goal: to enable European fossil fuel power plants to have zero CO<sub>2</sub> emissions by 2020

# ● Research under FP7: Clean Coal Technologies

## ● Overall Aim:

- » To support R&D needed for
  - successful demonstration projects in Zero Emission Power Plants by 2015, and
  - for commercial adaptation from 2020 onwards

## ● Priorities in FP7 Clean Coal Technologies (DG TREN):

- » Efficiency increase in coal combustion processes
- » Development of value chains (for by products)
- » Policy support / regulatory aspects

## ● CCS (DG Research)

- » Capture / Storage / Assessments

# ● Project network / Demo Program

## *An immediate EU structure*

### ● Main goal:

- » to stimulate the demonstration of CCS power plants

### ● Envisaged Model:

- » The contractor shall assist the Commission in establishing the CCS project network by complementing general Commission capacities through the provision of specialised technical expertise
- » The project network may later develop further into a fully fledged EII and financial-support tool

### ● Launch expected:

- » Project Network Secretariat will be launched before end 2008

# ● CO2 Infrastructure

## **New EU-wide infrastructure necessary for transport and storage of CO2**

- Call for tender published: 4 Q 2008
- Project execution 2009/2010

## **Our goals**

- to develop a complete and integrated database of European CO2 sinks and sources and identify the main outline of CO2 transport infrastructure for different scenarios
- Revision of the TEN-E guidelines to include CO2 infrastructure

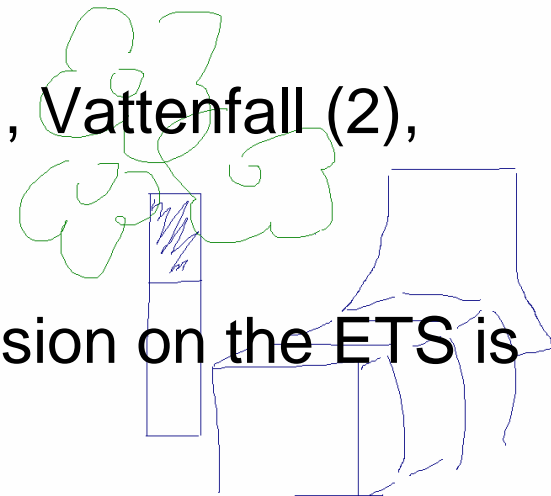


# ● Outlook

- **Next milestone: CCS demonstrations**
  - » **Key: financing**
    - **Solid financial commitment necessary from the industry and Member States**
    - **28 potential projects announced across Europe (changes likely with the ETS decision)**
    - **A group of companies already announced over 11 bn euros for CCS**
    - **UK announced a concrete support scheme**
    - **Outside the EU: Norway pledged substantial support**
    - **Environment Committee of the EP proposed an EU-level funding mechanism to subsidise the building of CCS-equipped coal plants**
  - » **Welcome developments but more is needed in order to see the planned number of CCS demonstrations**

# Potential large-scale CCS demonstration projects

- 28 potential projects across Europe at different stage of realisation;
- Projects spread across 12 countries but out of 28 as far as 9 tabled in the UK;
- Most active in planning are EON (4), Vattenfall (2), RWE (2) and GassNova (2);
- List may radically change once decision on the ETS is reached







## **Conclusion**

- **CCS makes our ambitious climate goals achievable**
- **To prove CCS economically viable by 2020 we urgently need demonstration plants**
- **CCS offers an outstanding investment opportunity from a long- term perspective**

A wide-angle photograph of a vast field of bright yellow flowers, likely rapeseed, stretching to the horizon. The sky is a deep blue, filled with scattered, soft white and grey clouds. The foreground shows the green stems and leaves of the plants. The overall scene is bright and cheerful.

**Thank You for Your Attention**