



Directorate-General  
for Energy  
and Transport



EUROPEAN  
COMMISSION

● ***Supporting Early Demonstration  
of Sustainable Power Generation  
From Fossil Fuels in the EU***

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# ● Commission Initiatives on CCS

## ● CCS a technology of strategic importance => SET Plan

- » Commercial viability possible by 2020 (already technically viable/safe)
- » Benefits for economy & environment (=> sustainability)
  - Allowing further reductions of CO2 emissions
  - Reducing marginal costs of significant carbon abatement
  - Enlarging options for diversification of the energy mix

## ● Early demonstrations the next milestone => focus of CCS EI

- » Project network for early starters
- » Synergies with continued R&D
- » Underpinning public acceptance and international actions
- » Success-driven process towards a European exercise

# ● Inter-institutional Cooperation Crucial

## ● EP / Council / Commission:

- » CCS regulatory framework (« CCS Directive »)
- » CCS in ETS
- » Integration of CCS in TEN policy, state aid rules
- » European Industrial Initiative (EII) on CCS: major financial commitments needed
  - Now: Decisive commitments from industry to trigger public contribution
  - Next: National support schemes by Member States
  - Possible: Assessing options at EU level

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 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**

# ● 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
- **Summer-Autumn 2007**
  - » Evaluation and Impact Assessment period
- **November 2007: Strategic Energy Technology Plan**
  - » R&D efforts to focus on low carbon technologies
  - » CCS one of strategic technologies: large-scale demos next priority
- **23 January 2008:** Commission adopts a set of proposals including the CCS Communication and the CCS Directive

# ● Costs and benefits of CCS

## ● Costs:

- » R&D (€1bn) and demonstration (€10-20bn) to reduce costs
- » further investment to roll out CCS on a wide-scale

## ● Benefits:

- » 20-28% of the achievable global CO<sub>2</sub> emission reductions by 2050 (IEA)
- » solution for both power generation and energy intensive industries
- » for managing future CO<sub>2</sub> emissions of dynamically developing coal users (China, etc.)

## ● Policy goal = CCS commercially feasible by 2020:

- » CCS in retrofits and newbuild thereafter
- » capture-readiness in the meantime

# ● Overcoming obstacles

## ● Legislative hurdles

- » CCS Directive: comprehensive regulatory framework designed to
  - ensure public confidence in CCS installations
  - provide legal certainty to operators
- » International regimes accepting CCS

## ● Non-legislative hurdles

- » Economics
- » General and industry awareness
- » Public acceptance

# ● Communication's Key Points

- Focus on non-legislative issues
- Demonstration in power generation as next milestone
- Outlines initiatives to stimulate early large-scale CCS demonstration projects:
  - » an EU structure to support CCS demonstration projects
  - » catalyzing the finance for CCS
    - industry commitment
    - Member States' involvement
    - EU-level financing
  - » preparing infrastructure needed for wide-scale deployment



# ● An EU structure to stimulate the demonstration of CCS power plants

- **SET-Plan: proposes European Industry Initiatives (EII) in technologies needed for a decarbonized baseload**
- **Commission action:**
  - » proposes launching EII on CCS
  - » will launch a support action under FP7 to establish « project network »
    - joint platform for individual *early, large-scale demos in power plants*
    - close inter-action with ZEP TP, focus on projects
    - value to be generated through European approach:
      - Visibility and marketable identity (European logo) of projects
      - Mechanism for sharing information, know-how/experience exchange
      - Common actions: general public, third countries
    - can develop further into a financial-support tool

# ● Catalyzing the finance for CCS

## ● Economics of early demonstration

- substantial capital requirements
- increased operating costs

## ● Sources of financing

### » Industrial commitments

- ETP-ZEP: a vital initiative with commitments to the issue
- still needed: clear, early and decisive commitments by individual players to concrete large-scale demonstration

### » Member States' involvement

- MS-level crucial given budgetary reality and size of challenge
- Commission guidelines facilitate state aid to CCS
- ETS revenues + structural policies hinted as suitable

### » EU-level financing

- limited availability for the time being
  - FP7 + EU structural funds
  - EU financial institutions for specialized cases
  - Communication on financing low-carbon technologies – end 2008

# ● Early start to infrastructure for wide-scale deployment

## ● New infrastructure

- » storage of CO<sub>2</sub>
- » transport of CO<sub>2</sub>
- » linking in of emission sources

## ● European dimension in these networks

- » revision of TEN-E guidelines to include CO<sub>2</sub> infrastructure