


**Development of CCS towards a low-carbon economy**

Directorate-General for Energy

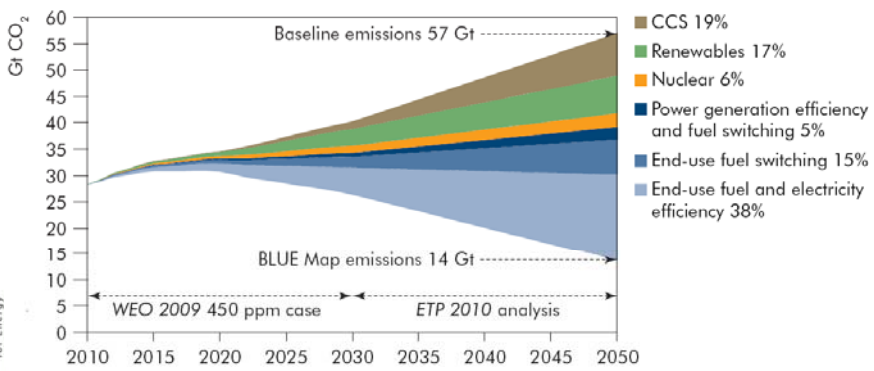
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**Why CCS?**

According to the IEA, 19% of achievable CO<sub>2</sub> reductions by 2050 can be achieved by CCS





Measure	Percentage
CCS	19%
Renewables	17%
Nuclear	6%
Power generation efficiency and fuel switching	5%
End-use fuel switching	15%
End-use fuel and electricity efficiency	38%

Source: IEA



## ● Conditions for Success

- **European Level**
  - » Transposition of CCS Directive into national legislation
  - » Demonstration of CCS by 2015
  - » Knowledge Sharing between projects
  - » Technology Development
  - » CO<sub>2</sub> Infrastructure development
  - » Public Perception
- **Global Level**
  - » Financial incentive to apply CCS in rapidly growing economies
  - » For starters, CCS in CDM



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## ● EU level: Demonstrate CCS by 2015

- €1bn funding for 6 projects committed
- NER 300 Instrument to provide additional financing

**SELECTED PROJECTS  
CO<sub>2</sub> CAPTURE AND STORAGE**

Location	Capacity	Technology
Hatfield, UK	900 MW	pre-combustion
Rotterdam, NL	250 MW	post-combustion
Compostilla, ES	323 MW	oxyfuel
Porto Tolle, IT	250 MW	post-combustion
Jämschwalde, DE	300 MW	post-combustion & oxyfuel, lignite
Belchatów, PL	250 MW	post-combustion, lignite

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## ● CCS Project Network – Knowledge Sharing between projects



- CCS demonstration projects benefit from sharing experiences and good practices
- Collaborative efforts can reduce costs and accelerate CCS development
- Collaborate with other networks/projects globally
- Project Network has been fully operational since early 2010

## ● Public Perception of CCS

- Discussions within the project network have shown: stakeholder awareness is key to implementation
- Only 3% public awareness in the EU
- National administrations and regional and local authorities, inter alia, need to work together
- Open and transparent public dialogue necessary, considering both pros and cons of CCS

## ● CO<sub>2</sub> Infrastructure in Communication “Energy infrastructure priorities for 2020 and beyond”



- Examine and agree modalities of future CO<sub>2</sub> network
- Start CO<sub>2</sub> infrastructure planning at EU level
- Regional co-operation will be supported

## ● Development of 2<sup>nd</sup> generation of CCS technologies

### SET Plan - CCS Industrial Initiative

- Innovative, industry-driven, co-operation
- Growing importance of CCS for gas in the medium term
- Better use of public-private resources

## ● Global level: international uptake Results of UNFCCC – COP 16, Cancun

- Scientific advisory body to Kyoto Protocol Parties agreed to a decision text to adopt CCS
- Text then adopted by Kyoto Protocol Parties
- Outcome: CCS may be included in Clean Development Mechanism (CDM)
- Timetable: technical workshop in 2<sup>nd</sup> half 2011; formal decision at high-level meeting in South Africa, December 2011

## ● Conclusions

Actions to realise all goals need to start now

- Immediate joint efforts of EC, MS and industry are needed to realise CCS demonstration:
  - » CCS Directive has to be transposed quickly
  - » Sufficient funding to support CCS demonstration
  - » Public awareness and perception is important
- Development of CCS infrastructure for deployment phase after 2020 has to start now
- Approx. 3,400 CCS power plants are needed by 2050 worldwide to realise the potential of CCS for mitigating climate change according to our targets

● Thank you for your attention

