

Deliver CCS Demonstration, Enable Widespread Deployment

Delivered by John Loughhead
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European Technology Platform for Zero Emission Fossil Fuel Power Plants

ETP Role:

define a strategic agenda for the development and deployment of technologies in the EU involving major economic or societal challenges.

Founded
in 2005

UNIQUE coalition of stakeholders:

European utilities,
petroleum companies,
equipment suppliers,
scientists, academics
and environmental
NGOs

Over
300
members
from 19
countries

Zero Emissions Platform - Objective



**Enable commercial availability
of CCS by 2020 and kick-start
widespread deployment**

IEA: Tracking Progress in CCS

(April 2012)

Deployment rates for large-scale integrated projects are off pace



Not seeing the necessary rate of investment into full-scale demos



Business case lacking for deployment beyond demonstration

Global efforts ≠ significant emission reduction ambitions associated with CCS

CCS in the EU

EU Energy Roadmap 2050: “CCS will have to be applied from 2030 onwards in the power sector”

- Majority of Member States with CCS demos in preparation have transposed EU CCS directive (8 to date)
- UK relaunches CCS demo competition + CCS roadmap
- Financial /political support from Member States essential
- Global CCS knowledge sharing takes 1st step (USA - May)
- Confidence in CCS remains high – but weak carbon price threatens EU demonstration *and* deployment:
 - **No long-term business case? No demos**
 - **No demos? No commercial deployment**
- Onshore CO₂ storage remains key



Three Phases of CCS – What's Required?



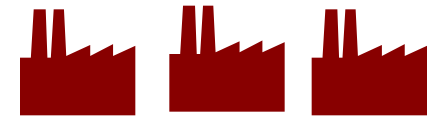
Demo Phase

- **Business case**
- **MS backing**
- **Support NER300**
- **Knowledge sharing**



Early Commercial

- **ETS recalibration**
- **CO2 Storage/Transport**
- **Clusters**
- **R&D**



Widespread Deployment

- **Commercial**
- **Large-scale infrastructure**
- **Industry/power**

ZEP's Areas of Focus

Making the
business case
for CCS



Investor confidence
yields CCS
demos/deployment

Supporting the
EU CCS demo
programme



Drives down costs;
accelerates
learnings; secures
CCS deployment

Delivering
CO2 Storage;
Transport &
R&D

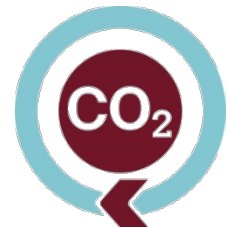


Ensures successful
demonstration &
deployment of CCS

Making the business case for CCS

Need to recalibrate EU ETS now!

- ▶ Ground-breaking work on CCS-specific carbon market conditions to accelerate deployment
- ▶ As CCS deployment requires a strong carbon price, correction and recalibration of current model required
 - CCS can deliver, but threatened by weak EUA
 - Policy framework correction to give a strong price signal
 - Urgent, short-term measures needed for demo FID
 - CCS is on the critical path with no margin for delay!
- ▶ ZEP recommendations published



Supporting the EU CCS Demo Programme

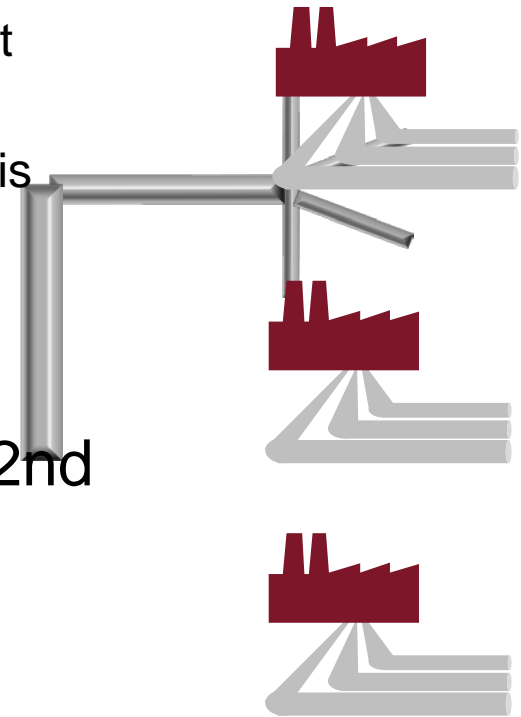
➤ Support NER300 projects/CCS demos:

- Make the micro- and macroeconomic case for CCS in MS – National CCS Roadmaps
- Support the projects themselves, as appropriate.
- Options for interim measures to enable project developers to take FID...
- ...while the long-term business case for CCS is established
- Increase communications in MS with CCS stakeholders

➤ Complementary selection criteria for 2nd tranche NER300

➤ Global liaising

➤ Develop CO₂ transport infrastructure



Delivering CO₂ Storage, Transport & R&D

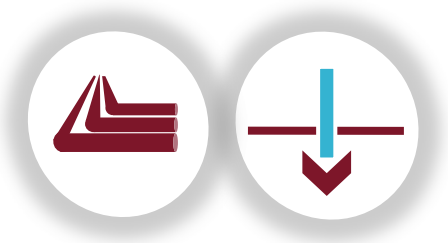
› Develop large CO₂ storage pilots:

- Due to smaller EU CCS demonstration programme
- Onshore storage key to long-term business case
- Maximise CCS benefits for local communities
- Financing from a combination of sources
- Maximise EU/International knowledge-sharing
- ZEP to deliver report in 2H 2012

› Develop storage infrastructure

› Cooperation with other industries (EBTP on Bio-CCS)

› Update ZEP long-term R&D plan



The To-Do List

- › EU CCS demo programme crucial to delivering commercially viable CCS...
- › ...and meeting EU climate targets!
- › CCS deployment requires clear business case with appropriate support mechanisms
- › MS active involvement (funding/regulation) critical
- › KS essential to maximise public funding
- › ZEP leading on CO₂ storage requirements
- › CO₂ Transport and R&D work to progress
- › Widen discussion to include other industries
- › Support & clarity over business ensures delivery
- › **Need to deliver the doable!**





European Technology Platform for Zero Emission Fossil Fuel Power Plants

www.zeroemissionsplatform.eu

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