

Climate action and renewable energy package

Enabling legal framework for carbon capture and storage

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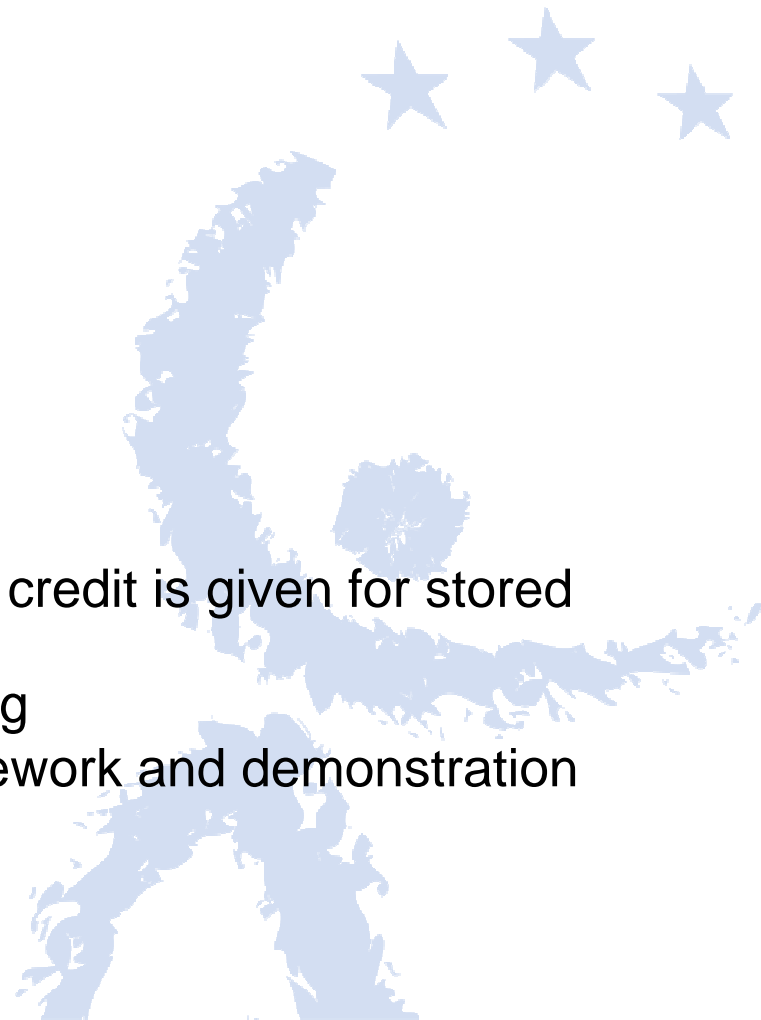
Identifying the key issues

Preparatory discussions

- ECCP Working Group III on CCS
- Internet consultation (787 responses)
- Stakeholder meetings (8 May 2007)

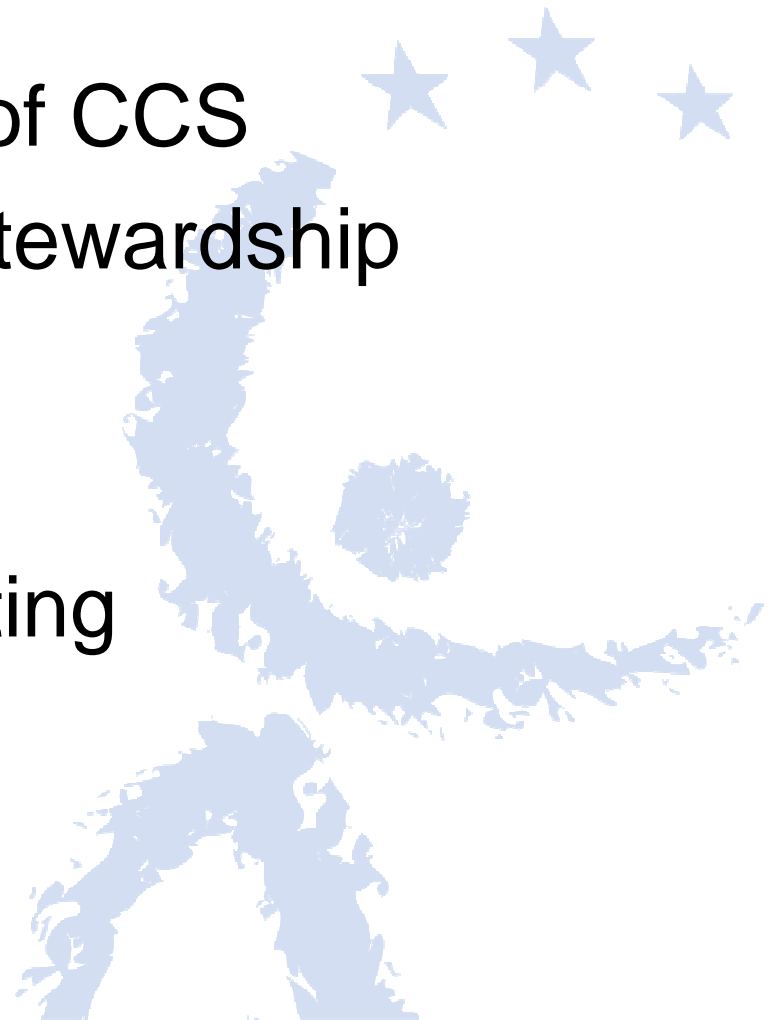
Key issues raised

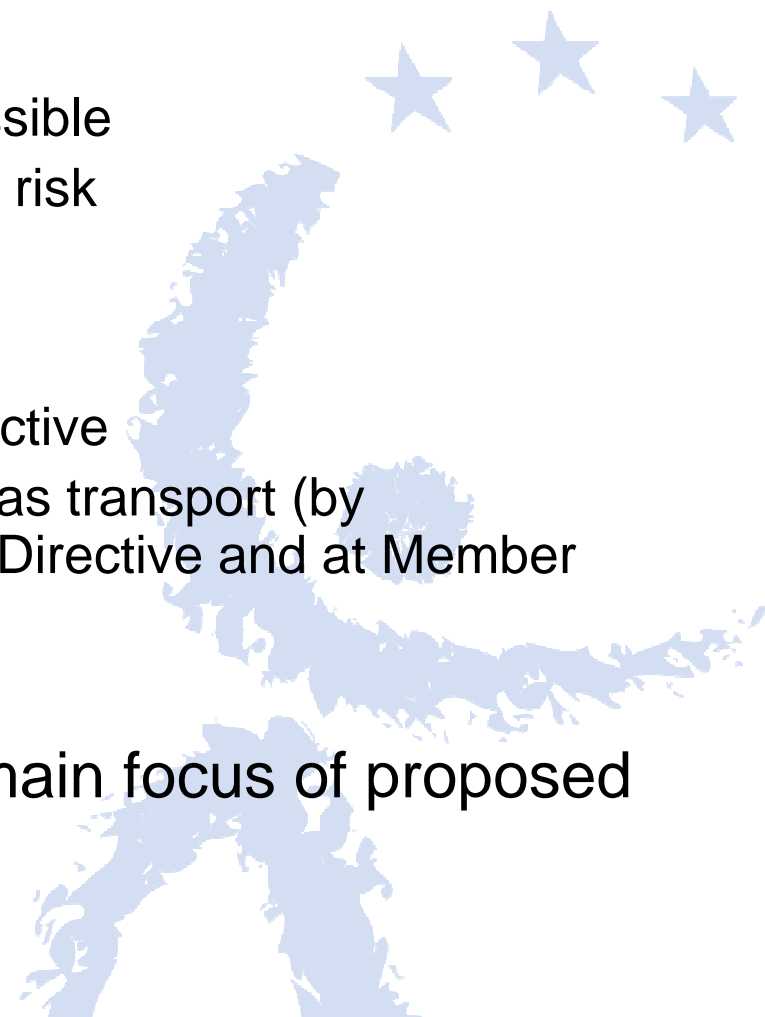
- Purity of the CO₂ stream
- Whether to make CCS mandatory
- Liability for leakage, particularly where credit is given for stored emissions under the ETS
- Need for dialogue & information sharing
- Support for a European enabling framework and demonstration programme

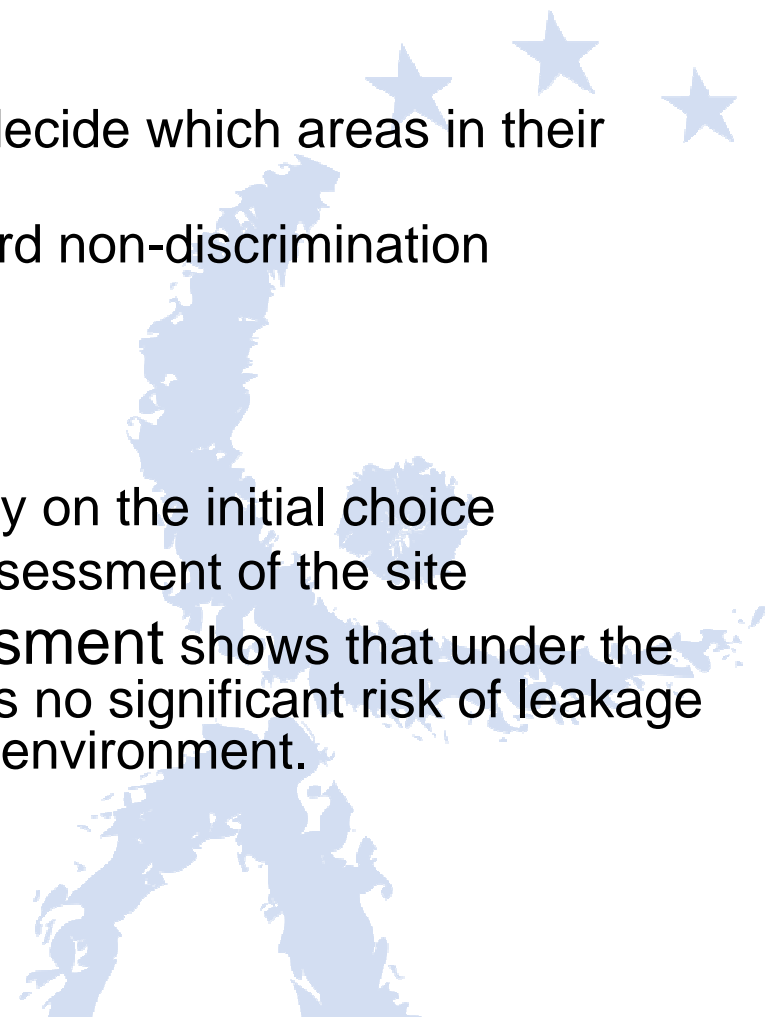


Main concerns addressed in the enabling legal and regulatory framework

- Environmental security of CCS
- Liability and long-term stewardship
- Removing barriers
- Providing incentives
- Enabling versus mandating

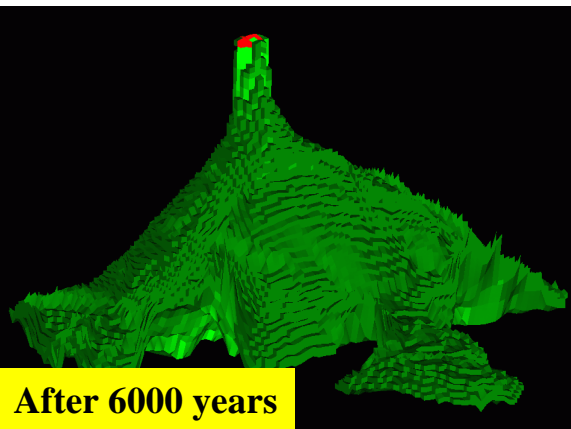
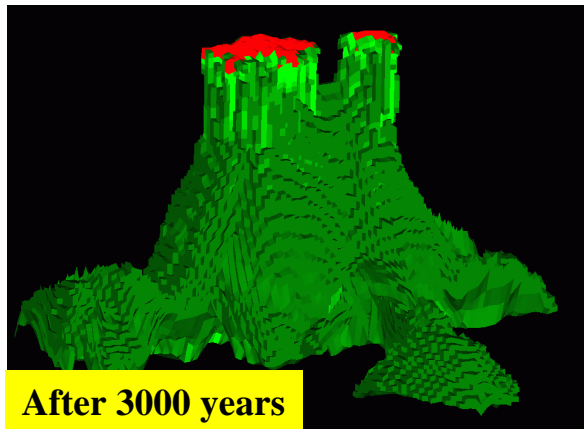
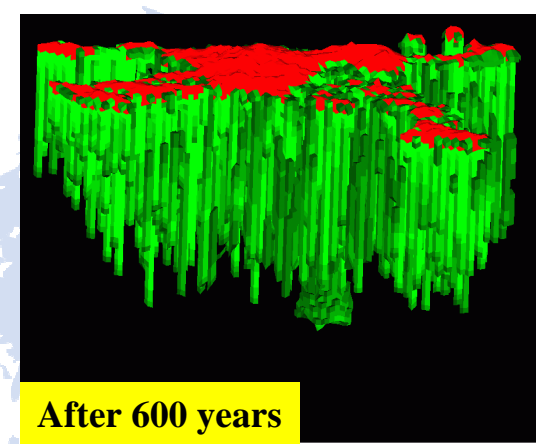
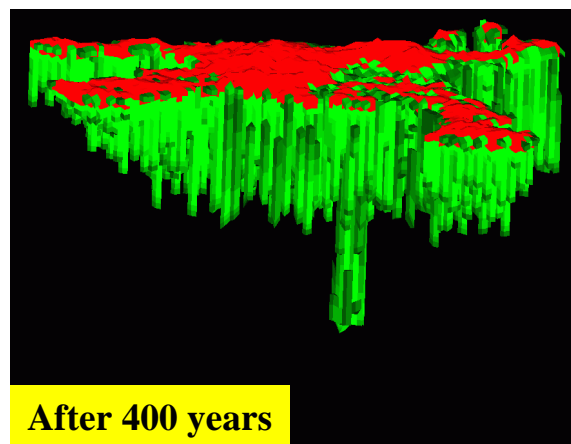
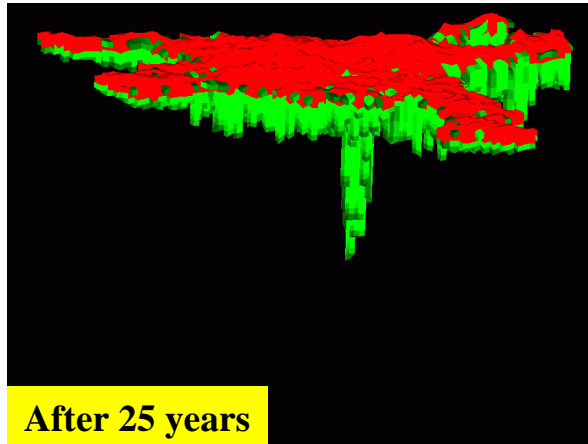


- Principles
 - Use existing frameworks where possible
 - Treat similarly to activities of similar risk
 - Capture and transport
 - Capture regulated by the IPPC Directive
 - Transport regulated as for natural gas transport (by Environmental Impact Assessment Directive and at Member State level)
 - Novel element is *CO₂ storage*, main focus of proposed Directive
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- **Site location**
 - Member States have sole right to decide which areas in their territory to make available
 - Where exploration allowed, standard non-discrimination provisions apply
 - **Site selection**
 - Integrity of project depends crucially on the initial choice
 - Criteria are established for prior assessment of the site
 - Condition of use is that the **assessment** shows that under the proposed conditions of use, there is no significant risk of leakage or impacts on human health or the environment.
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What modelling can achieve

Modelling of the behaviour of CO₂ in the Sleipner storage site showing that trapping mechanisms are expected to make storage progressively more secure with time

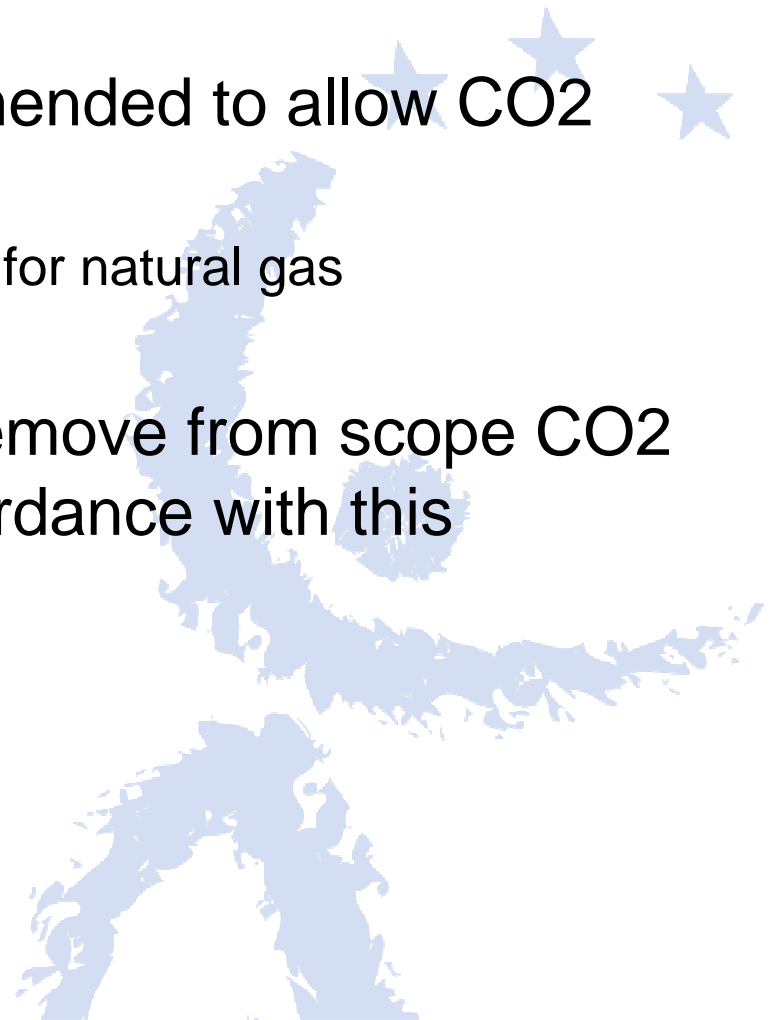


Kilde: Gemini No. 1, 2004
(NTNU and Sintef)

- Monitoring plan to confirm expected behaviour of CO₂ in site and detect leakage
- Monitoring plan integrated with monitoring and reporting guidelines under EU-ETS in order to quantify any leaked emissions (currently under preparation; proposal expected end 2008)
- Commission may review the permits but final decision on permitting remains with competent authority

- **Liability measures in case sites do leak**
 - Competent authority immediately notified and corrective measures taken
 - Environmental Liability Directive applies for any local damage
 - ETS allowances must be surrendered for any leakage
 - Financial provision for future liabilities
- **Transfer of responsibility to the state under clear conditions to avoid distortion of competition**
 - The site must be safely closed and sealed
 - While site represents a significant risk it remains the operator's responsibility
 - Transfers to the state when all available evidence indicates complete containment of CO₂ for the indefinite future

- Water Framework Directive amended to allow CO₂ storage in saline aquifers
 - Same environmental conditions as for natural gas
- Waste legislation adapted to remove from scope CO₂ transported and stored in accordance with this framework



- Under the ETS:
 - CO₂ captured, transported and safely stored considered as not emitted
 - No allocation to capture, transport and storage
 - ETS allowances must be surrendered for any leakage
 - Monitoring and reporting guidelines under preparation.
- ETS auctioning revenues major potential source of funding for CCS demonstration
- Measures to ensure a fair market in transport and storage
 - Principle is fair and open access to transport and storage
 - Embryonic market so light touch appropriate
 - Member States to determine modalities, and can limit access in certain cases

- Enabling
 - Member States determine whether and where CCS will happen
 - Companies decide whether to use CCS on the basis of conditions in the carbon market
- Capture-ready assessment required to avoid lock-in of high-emissions technology
- No mandatory CCS at this stage:
 - Let the market work: The revised ETS will ensure a robust carbon price and action on demonstration will bring CCS costs down

- Some impact already in 2020 but major contribution comes after that.
- In 2030:
 - A 32% reduction in 2030 would be **€60bn (40%) more expensive without CCS**
 - **Carbon price in 2030 would be 46% higher than would otherwise be the case**

- Clear enabling legal framework that can serve as an international model on risk management, liability, long-term stewardship and other management issues
- Market-driven deployment
- Impact assessment evidence shows that CCS can make a substantial contribution towards reducing the cost of major CO₂ reductions.
- Substantial finance available from ETS auctioning revenues, including for CCS demonstration

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