



NORWEGIAN MINISTRY
OF PETROLEUM AND ENERGY

Norway: Legal and regulatory CCS framework

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CCS directive – draft regulations submitted for public consultation

- **Directive entered into force for Norway on 1 June 2013**
- **Discussion with ESA regarding application of directive (financial security) to existing gas fields (Sleipner and Snøhvit)**
- **Two Ministries responsible for implementation of directive in Norway:**
 - **Petroleum and Energy (resource management)**
 - **Climate and Environment (environmental issues)**
- **Two draft regulations submitted for public consultation on 28 March 2014 – time limit for comments: 28 May**

Transportation and storage of CO₂

- **In Norway, transportation by pipeline for permanent storage in a subsea geological formation on the continental shelf is currently the only feasible solution for storage of CO₂ from industrial plants onshore**
- **Storage of CO₂ is only feasible on the continental shelf – for geological reasons**



CCS directive – draft regulations

- **Resource management:** Based on existing Petroleum Act
- **Licensing system:**
 - Prospecting license (non-exclusive)
 - Exploration license (exclusive)
 - Exploitation license (exclusive) (subject to impact assessment)
 - Post-closure: Transfer of responsibility to State c/o Ministry of Petroleum and Energy (MPE)
 - Financial mechanism
- **Environmental issues:**
- **Storage license (to be submitted to ESA for review)**
- **Financial security (MPE to be consulted)**

Norway: National regulation of CCS as part of petroleum activities: Applicable legislation exists

- **CCS as part of petroleum activities (whether for the purpose of EOR or permanent storage on the continental shelf): Regulated under the existing petroleum regime:**
 - **The Petroleum Act and Regulations (production licence required, conditions for transportation, storage and monitoring as part of approved Plan for development and operation)**
 - **The Pollution Control Act and Regulations (permit to inject CO₂, requirements for the composition of the CO₂-stream, monitoring)**
 - **The CO₂-levies Act**

EU-ETS

- **Norway part of the EU emissions trading system**
- **Applies to emissions of CO₂ – also from petroleum activities**
- **Stored CO₂ is “not emitted” – no obligation to pay quotas for CCS**
- **If leakage: Obligations to pay quotas for all CO₂ emitted**


National regulation of CCS which is not part of petroleum activities

- **Onshore capture plant:**
 - Energy Act/Land Planning Act (**Ministry of Transport**)
- **Building and operation of CO₂ pipeline:**
 - New legislation (**Ministry of Petroleum & Energy/Labour & Social Affairs**)
- **Exploration for, development and use of offshore reservoir for permanent storage of CO₂ (exclusive licences):**
 - New legislation (**Ministry of Petroleum & Energy/Labour & Social Affairs**)
- **Permit to inject CO₂ on the continental shelf:**
 - Pollution Control Act/Regulations (to be amended) (**Ministry of Environment and Climate**)
 - New legislation (**Ministry of Petroleum & Energy/Labour & Social Affairs**)

Norway: National regulation of CO₂ for permanent storage on the continental shelf

- Issues to be regulated by the Ministry of Petroleum and Energy/Labour and Social Affairs (based on existing petroleum legislation and the EU CCS Directive):
 - Licence to:
 - **Explore for subsea geological structures for permanent storage of CO₂**
 - **Develop and use subsea geological structures for permanent storage of CO₂**
 - **Construct and operate pipeline for transportation of CO₂ from capture plant to offshore storage site**
 - Plan for development and operation of an offshore geological formation for permanent storage of CO₂ – subject to Ministry approval
 - Impact assessment – part of the development plan
 - Safety issues – risk analyses
 - Third party access to CO₂ pipelines and storage reservoirs – responsibility for injected CO₂
 - Responsibility for long term monitoring of storage reservoir
 - Transfer of responsibility to the State
 - Dispute resolution

Long-term liability

- **Draft regulations imply transfer of responsibility for the storage site to State twenty years after closure of the storage location..**
 - **..if the operator can demonstrate that the stored CO₂ is stable and that no leakage occurs from the storage location**
- **Operator responsible for the cost of monitoring the storage location for the first thirty years following such transfer**
-  **The issue of financial liability is difficult**

Financial assurance for long-term stewardship

Draft regulations:

- **Security: Parent company guarantee/other security – to be adapted to phases of activities at any time**
- **The operator to insure his CCS activities at all times – at least:**
 - a) **damage to facilities;**
 - b) **pollution damage and other liability towards third parties;**
 - c) **wreck removal and cleanup as a result of accidents;**
 - d) **insurance of the licensee's own employees who are engaged in the activities.**
- **Contractors and subcontractors**
- **Insurance coverage: reasonable in light of risk exposure and premium costs**
- **Insurance report to the Ministry by the end of each calendar year**
- **The Ministry may require further insurance to be taken out**

Public engagement

Draft regulations:

- **Operator to carry out impact assessment (IA) before:**
 - **Development of CO₂ storage site**
 - **Construction of pipelines for transportation of CO₂**
 - **Closure of storage site**
- **IA process:**
 - **Draft IA program – public consultation – all interested parties – at least 6 weeks**
 - **Adopted IA program adapted to comments – to all parties who commented**
 - **IA – public consultation – all interested parties – at least 3 months**
 - **IA adapted to comments – new studies may be required, as appropriate**

Norway: Environmental regulation of CO₂ for permanent storage on the continental shelf

- **A storage license according to the CCS Directive is to be given by the Environment Directorate**
- **The draft license to be submitted to the EFTA Surveillance Authority (ESA) for review**
- **ESA may submit comments to the draft license within a 4 month time limit**
- **Financial security to be decided in consultation with the Ministry of Petroleum and Energy**

Norway: Environmental regulation of CO₂ for permanent storage on the continental shelf

Acceptance criteria based on Directive 2009/31/EC and London Protocol:

- CO₂ stream shall consist overwhelmingly of carbon dioxide
- No wastes or other matter to be added for the purpose of disposal
- CO₂ streams may contain incidental associated substances from the source or capture process, but concentrations of all incidental and added substances shall be below levels that would:
 - **Adversely affect the integrity of the storage site or the relevant transport infrastructure**
 - **Pose a significant risk to the environment or human health, or**
 - **Otherwise breach the requirements of applicable EC legislation**
- Injection of CO₂ streams will be accepted subject to an analysis of the streams, including corrosive substances, and a risk assessment having been carried out, showing that the contamination levels are in line with accepted criteria



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Thank you for your attention