

Shell Exploration & Production

Carbon Capture & Storage Financing Challenges & Opportunities

Regulatory Principles

15th September 2008

Copyright Shell Exploration & Production Ltd.

19/09/2008 File Title



Shell Exploration & Production

The Five CCS 'Must Wins'



Public Acceptance

Financing & Incentives

Regulatory Terms & Conditions

Legal Framework

Technical Issues

Shell Exploration & Production

CCS Regulatory Framework

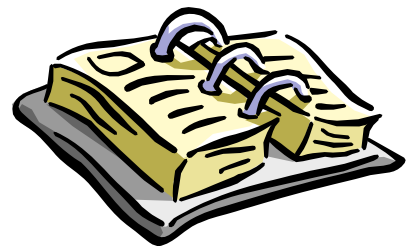
Regulatory Principles

Key principles for CCS regulation

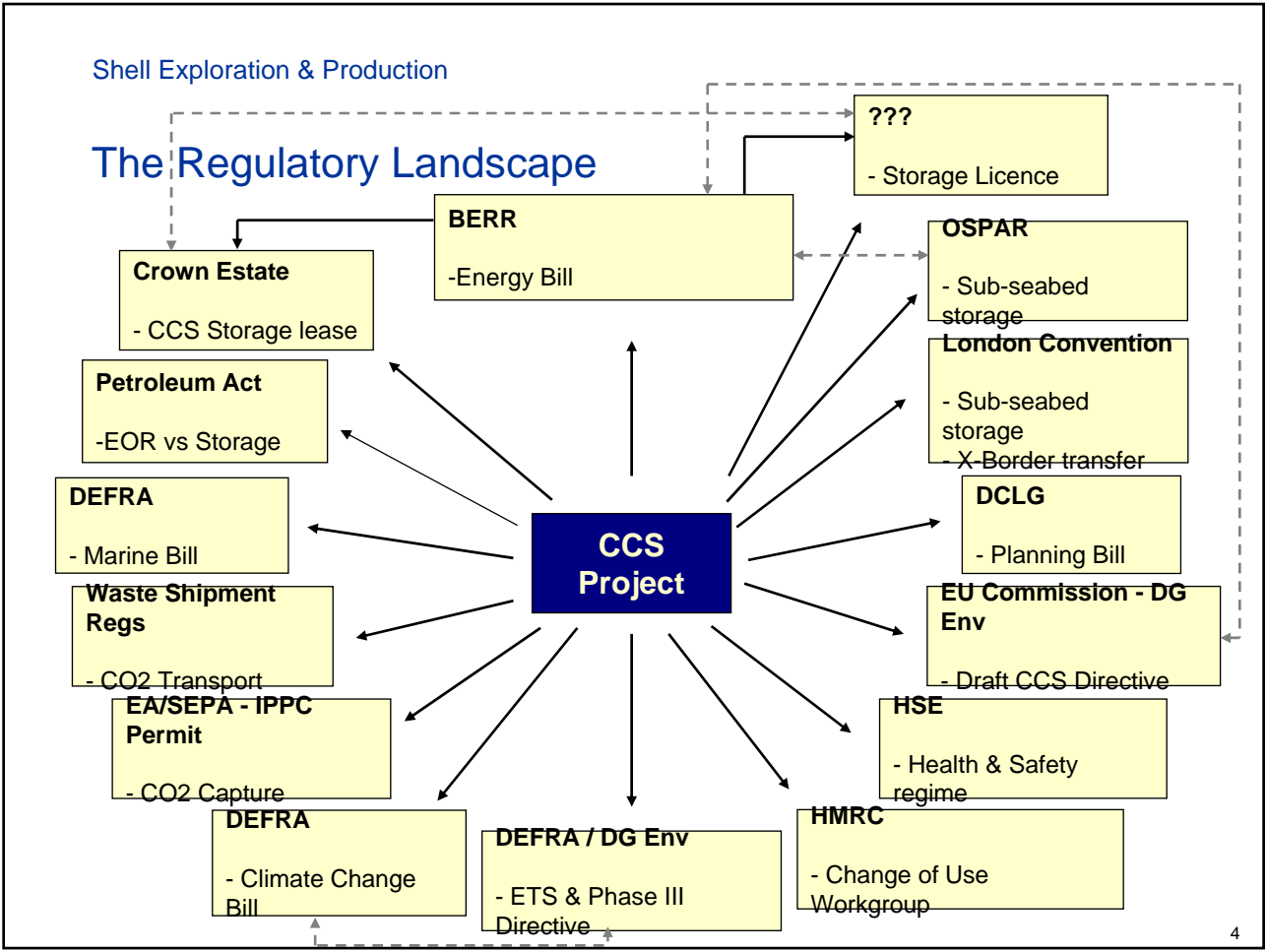
- Workable – A simple, stable and predictable regulatory framework
- Responsive – Evolves as the industry matures
- Proportionate – Regulation only when necessary
- Coherent – Works harmoniously with existing frameworks

Other important issues

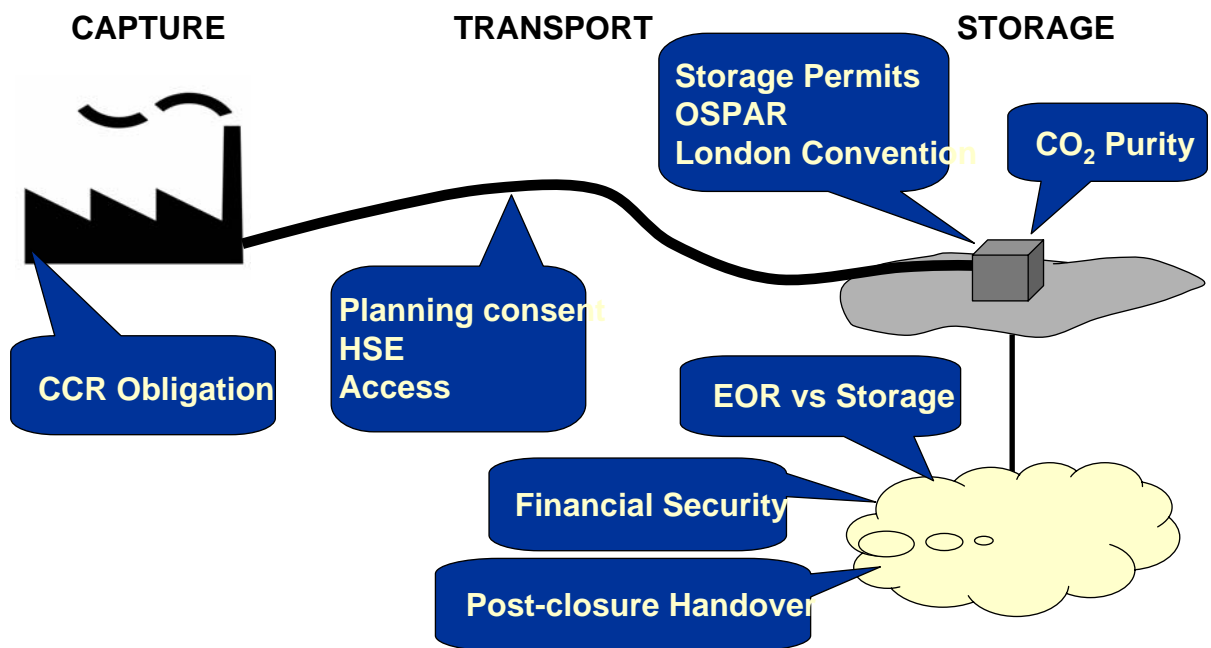
- Regulatory scope: environmental vs. economic
- Regulatory competence
- The 'need for speed'



The Regulatory Landscape



Key Uncertainties & Challenges



Shell Exploration & Production

CCS Regulatory Principles

CO₂ Capture

- Capture Ready Obligation – the cost of doing nothing
- A CCR obligation or a CCS obligation..??
- Power generation only ...?
- A regulatory burden It's not for free!



Shell Exploration & Production

CCS Regulatory Principles

CO₂ Transport

- Network versus point-to-point – is regulatory intervention required?
- Planning & consents – ‘smoothing the way’
- HSE aspects
- Third-party access – balancing priorities

Shell Exploration & Production

CCS Regulatory Principles

CO₂ Storage

- Legal Framework
 - OSPAR
 - London Convention
- EU Commission Permit Review
 - A step too far..?
- Multiple subsurface users
 - Permitting concurrent activities vs. protecting the rights of existing users

Shell Exploration & Production

CCS Regulatory Principles

Financial Security

- No automatic presumption of financial provisions during CO₂ storage operations.
- Tailor requirement for security to the changing project risk profile
- Acceptance of a broad range of security instruments, particularly Parent Company Guarantees
- Benefits of insurance or pooled funds need to be explored
- Contingent liabilities – a diminishingly small issue



Shell Exploration & Production

CCS Regulatory Principles

EOR vs. Storage

- Optionality for CO₂ allowances; but ...
- The challenges of parallel licences
- Draft CCS Directive definition of 'Leakage' remains a problem

Shell Exploration & Production

CCS Regulatory Principles

CO₂ Purity

- A legitimate need for technical specifications
- Balancing environmental concerns with technical and commercial capabilities
- Balancing costs and benefits
- A waste or not a waste? Removing limits on cross-border transfer

Shell Exploration & Production

CCS Regulatory Principles

Post-Closure & Handover

- The need for a clean break
- What are we trying to achieve?
- Defining a handover framework:
 - Time based – the risk of perverse incentives?
 - Criteria-based – managing risks we understand?

Shell Exploration & Production

CCS Regulatory Principles

Conclusions

- Welcome progress at both EU and UK level but
- There remains much to be done, and time is pressing!
- Key amongst the principles is that regulation should be *proportionate*

- This is not the beginning of the end ... it's just the end of the beginning



Shell Exploration & Production



Shell Exploration & Production



Shell Exploration & Production

