

Incentives for CCS and Regulatory Requirements

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POLICY & REGULATION: CRUCIAL ROLE

1. Strategic vision and defining the role of CCS
 - Enabling CCS as part of energy portfolio
2. Development of a legal framework
 - Making CCS a legal activity & clarifying responsibilities
 - Ensuring safety and environmental viability of operations
3. Providing incentives for demonstration and deployment
 - Business models & financing of projects
4. Information, education, discussions
 - Contributing to public acceptance



SETTING STRATEGIC POLICY DRIVERS & DIRECTION

- Making firm decisions to address **climate change**
- Improving **understanding of CCS** and its role within the broader technology portfolio
- **Recognition** of the role of CCS
- **Planning** for the future
- More attention to **industrial CCS** applications

**CARBON CAPTURE
AND STORAGE**

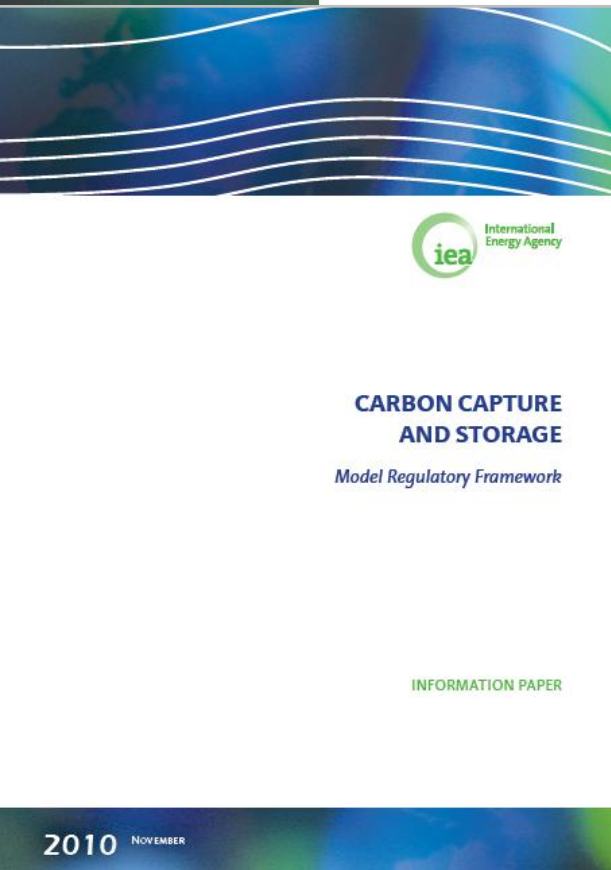
LEGAL/REGULATORY FRAMEWORKS

- Many OECD countries have implemented, or are implementing, **legal & regulatory frameworks**
 - Safety & environmental effectiveness
 - Long-term liability
 - Ensuring public engagement
- Many **non-OECD countries** are lacking CCS-related regulations
- Dealing with outstanding **international legal issues**
 - ratification of the London Protocol and OSPAR amendments
 - Inclusion of CCS in CDM activities under the UNFCCC

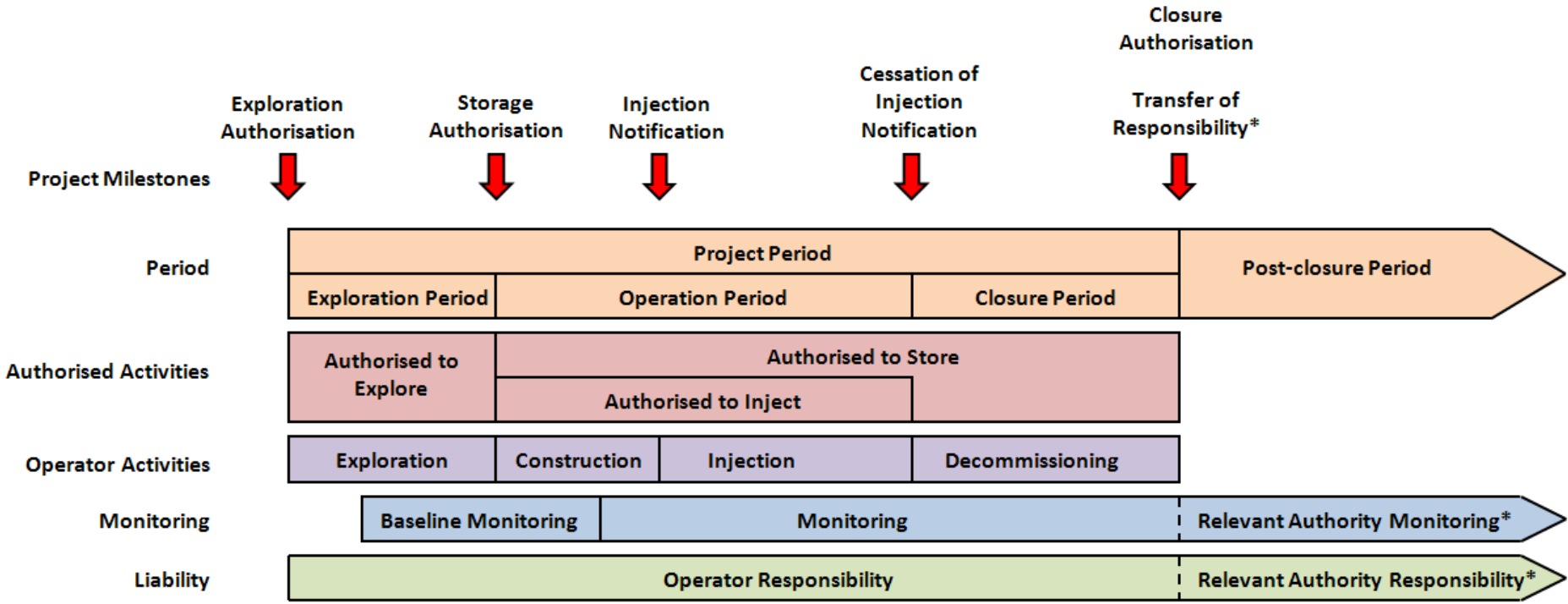


IEA Model CCS Regulatory Framework 2010

- Regulatory development process
- Capture, transport and **storage**
- 29 key issues, including:
- **Property rights; Protecting human health;**
- **Authorisation of storage site exploration activities;**
- **Regulating site selection and characterisation activities;**
- **Monitoring, reporting and verification requirements;**
- **Liability, Corrective measures,**
- **Authorisation for storage site closure**



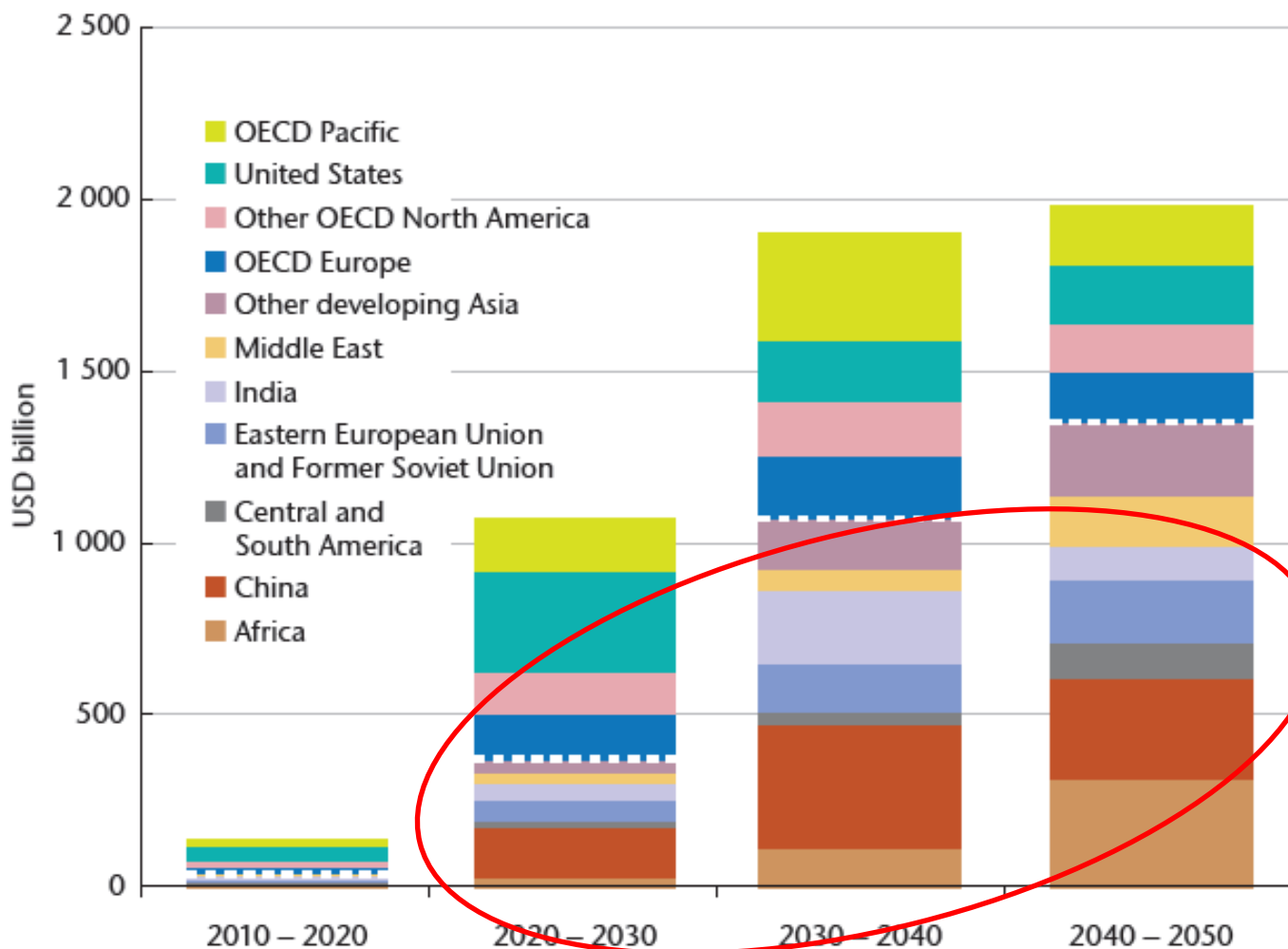
Life-cycle of CO₂ storage in Model Framework



* Where long-term responsibility is transferred to the Relevant Authority

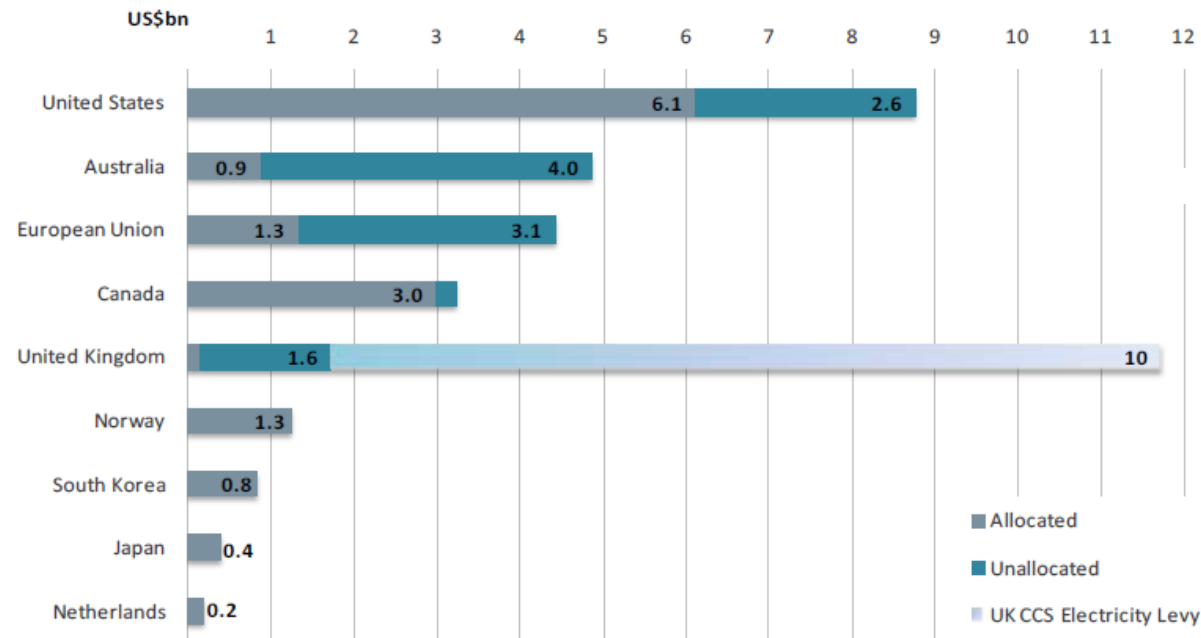
CREATING INCENTIVES (1)

- **Long-term: mobilising 2500 – 3000 bn USD investment in capture plant, transport and storage between 2010-2050**
- **1400 bn USD investment in non-OECD countries 2010-2050**



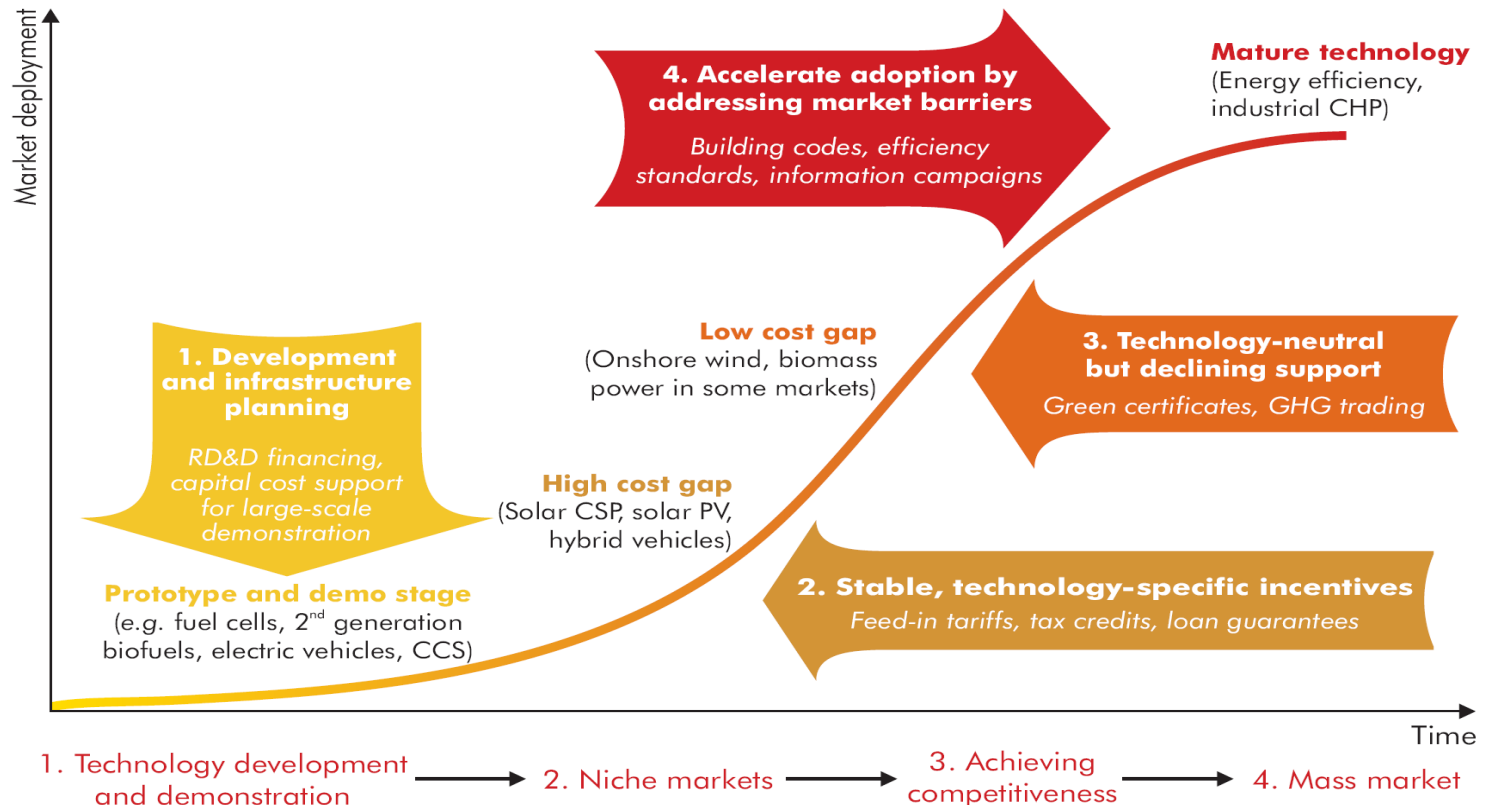
CREATING INCENTIVES (2)

- ❑ Short-term: accelerating financing by industry and governments for large-scale demonstration
- ❑ Creating incentives for commercial-scale deployment
- ❑ Creating mechanism for financing CCS in non-OECD countries



CREATING INCENTIVES (3)

- Time dimension: R&D → Demonstration → Deployment
- Geographic dimension: OECD vs. non-OECD world



Policy Incentives in Early Stages of Technology Development

- CCS mandate or emission performance standard
- Grants or tax breaks
- CCS quota obligation with or without trading
- Price-based support schemes (like feed in tariffs)
- International cooperation

Policy Incentives for a Mature Technology

- Operating incentives
- Carbon price



Thank you!

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**CARBON CAPTURE
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