

WORLD ENVIRONMENT DAY · GLOBAL DIALOGUE ON OCEANS, CLIMATE & SUSTAINABLE FUTURES

Corporate Net-Zero Commitments and the Legal Challenges of Carbon Capture and Storage

*Following a single tonne of CO₂ across four regulatory handoffs:
capture and accounting, cross-border transport, sub-seabed storage, and long-term liability.*

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FACULTY
OF LAW

THE CREDIBILITY GAP

7%

of Forbes Global 2000 net-zero targets meet minimum integrity criteria: a disclosed plan, interim targets, and limited offsetting.

70%

of these companies' revenue is covered by a net-zero target.

Coverage is near-universal; substantive integrity remains rare.

THE ARGUMENT

A net-zero commitment is a legal claim about residual carbon.

A net-zero commitment promises that the carbon a firm cannot eliminate will be captured, transported, stored, and contained over the long term. Its credibility therefore depends on the legal regimes governing each stage.

At each handoff: the governing instrument, and whether it is enforceable.



Both advisory opinions originate in initiatives by small island states.

ITLOS · 2024

Advisory opinion on states' climate-change obligations under UNCLOS, requested by the Commission of Small Island States (Antigua & Barbuda and Tuvalu, 2021).

ICJ · 2025

Advisory opinion on states' climate obligations, initiated by Vanuatu and Pacific Island law students; affirmed equity and common but differentiated responsibilities.

These are instruments of general international law, advanced principally by states of the global South.

A single tonne of CO₂ across four regulatory handoffs

GLOBAL LAW

REGIONAL INSTANCE

EU: the most developed implementation

01 CAPTURE

- ISSB · IFRS S1/S2
emerging global disclosure baseline

EU ETS · India BRSR
divergent national methodologies

02 TRANSPORT

- London Protocol 1996
sole multilateral instrument (IMO)

2009 export amendment: not in force
~12 of two-thirds; provisional

03 STORAGE

- UNCLOS · ITLOS ¶231
duty not to transfer pollution

EU CCS Directive 2009/31
permitting and monitoring

04 LIABILITY

- No dedicated regime
a lacuna in international law

CCS Directive, Art. 18
post-closure transfer to the state

THE LIMIT

- **A finite, unevenly distributed storage resource**
≈ 1,460 Gt of prudent capacity (~0.7 °C); allocation raises distributive and intergenerational equity. (Gidden et al., 2025.)

CAPTURE

CO₂

Capture and accounting

TRANSPORT

STORAGE

LIABILITY

THE LIMIT

GLOBAL LAW

ISSB · IFRS S1/S2

emerging global disclosure baseline (30+ jurisdictions)

REGIONAL INSTANCE

EU ETS · India's BRSR

divergent national measurement regimes

Every layer of accounting depends on metering at the point of injection.

At Sleipner, the most-monitored site, injected volumes were misreported for years.

MEASUREMENT

106,000

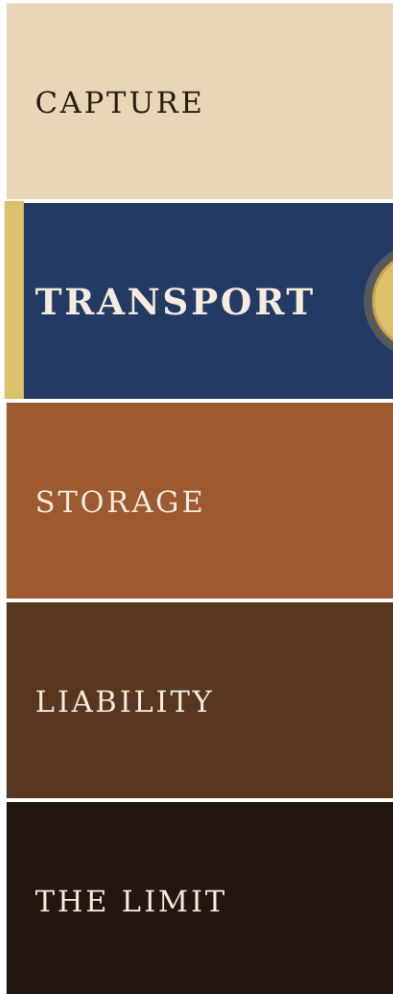
tonnes injected at Sleipner in 2023, once corrected.

~1,000,000

tonnes per year, as long reported.

At the world's longest-running storage project, a faulty flow transmitter produced years of over-reporting, undetected externally until corrected.

THE CHAIN



HANDOFF 02

Cross-border maritime transport

GLOBAL LAW

London Protocol 1996 (IMO)

sole multilateral instrument on dumping at sea

REGIONAL INSTANCE

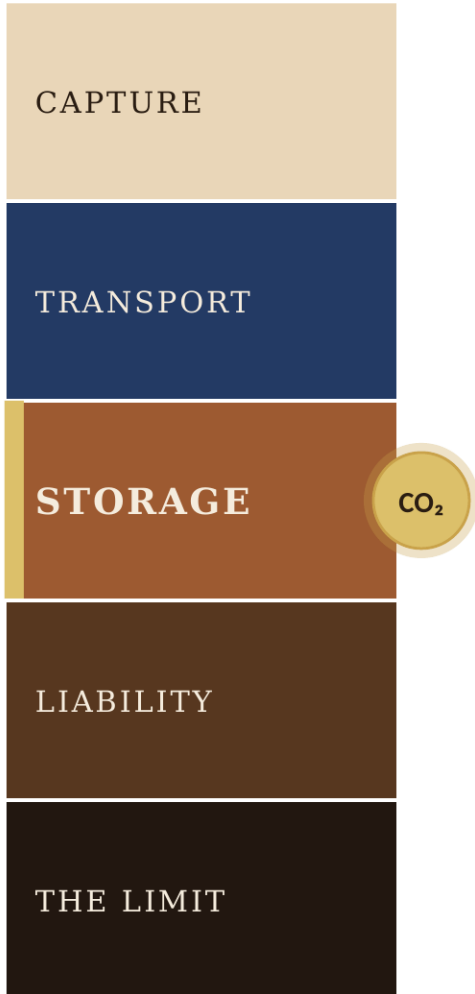
2009 export amendment (Art. 6)

not in force; applied provisionally since 2019

After seventeen years, the amendment authorising cross-border CO₂ transport has not entered into force.

Provisional application only; first arrangement Denmark-Belgium, 2022.

THE CHAIN



HANDOFF 03

Sub-seabed storage

GLOBAL LAW

**UNCLOS · ITLOS (2024),
¶231**

duty not to transform one pollution into another

REGIONAL INSTANCE

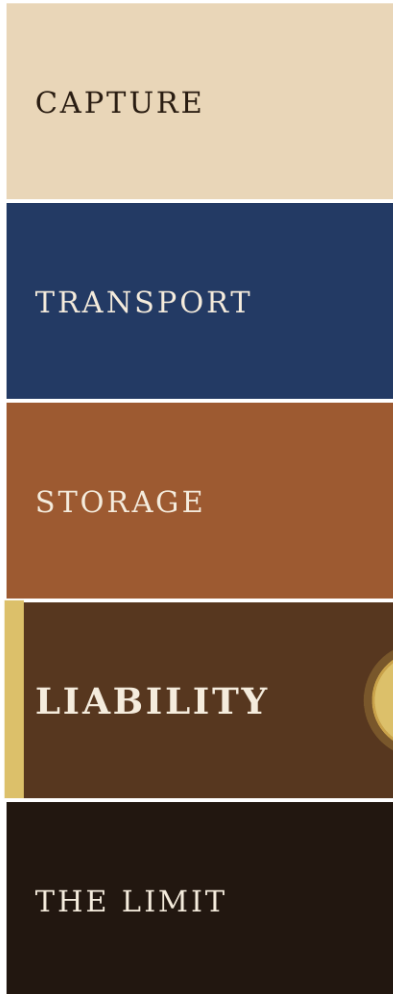
**EU CCS Directive
2009/31/EC**

permitting, monitoring, and closure

Whether sub-seabed storage is mitigation or the relocation of pollution remains legally unresolved.

Extending ¶231 to CCS is my own argument by analogy; the ICJ did not address it.

THE CHAIN



HANDOFF 04

Long-term (post-closure) liability

GLOBAL LAW

No dedicated regime

a lacuna in international law

REGIONAL INSTANCE

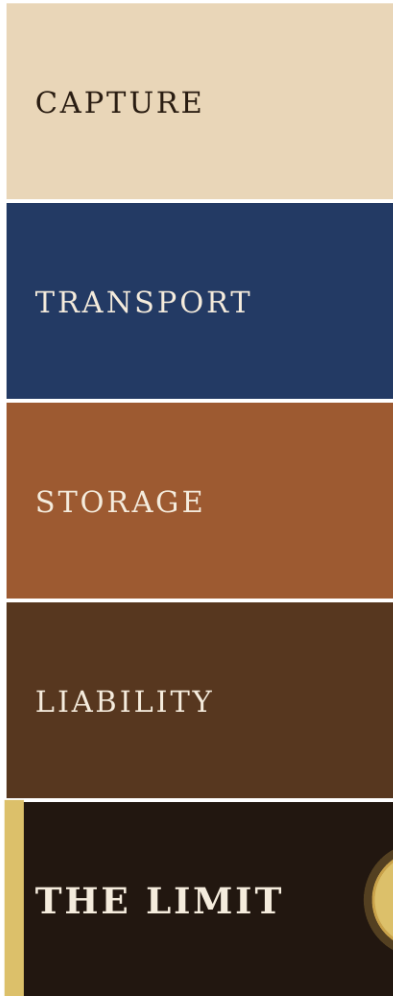
CCS Directive, Art. 18

post-closure liability transfers to the state

The most developed liability-transfer mechanism has never been invoked.

No EU site has completed post-closure transfer to the competent authority.

THE CHAIN



THE PHYSICAL LIMIT

A constraint that legal reform cannot remove

≈ 1,460 Gt

prudent global geologic storage capacity

≈ 0.7 °C

maximum avoided warming if fully used

Allocating a finite resource raises distributive and intergenerational equity.

The best-placed storers are largely the historic emitters; cf. common but differentiated responsibilities. (Gidden et al., Nature 2025.)

Four dimensions for assessing any net-zero commitment.

- 1 Measurement: is the captured volume verifiably accounted for?
- 2 Transport: is the cross-border movement lawfully authorised?
- 3 Liability: who is responsible once the operator no longer exists?
- 4 Capacity: does sufficient prudent storage remain?

*Across all four, the governing law is fragmented and, in key respects, untested. **Thank you.***