

GEOLOGICAL CO₂ STORAGE: A BANKABLE INFRASTRUCTURE ASSET

Geological CO₂ storage is a mature infrastructure asset with a manageable risk profile and is critical for mitigating climate change. It presents an opportunity for multilateral development banks (MDBs) to unlock growth in emerging economies. Its bankability is underpinned by demonstrated technical integrity and an integrated suite of risk-reduction mechanisms that enables secure, long-term stewardship.

The Bedrock for Deep Decarbonisation

Carbon management is essential in every viable scenario to meet global climate goals. Across carbon management pathways – whether CO₂ is captured from heavy industry, at combustion-driven power plants, or removed directly from the atmosphere – safe and permanent CO₂ storage in deep geological formations is crucial to achieving climate targets.

Geological Storage: Essential Across Carbon Management Pathways

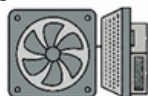
1. CO₂ Capture & Removal



Point Source Capture: Heavy Industry
(e.g., Chemicals, Cement, Steel, Hydrogen)



Point Source Capture: Power Generation
(e.g., Natural Gas, Coal, Bioenergy with Capture)



Engineered Carbon Dioxide Removal (CDR)
(e.g., Direct Air Capture, Bioenergy with Capture)

2. CO₂ Transport



Pipeline



Ship



Rail



Truck

3. Dedicated Geological Storage



Geological storage provides safe, permanent CO₂ storage regardless of its origin or pathway.

An Opportunity for Multilateral Development Banks

While global storage resources are abundant, a lack of developed, ready-to-use sites creates a critical bottleneck across the entire carbon management value chain. MDBs are uniquely positioned to bridge this gap by providing patient equity, offering concessional finance instruments, and institutional capacity support. MDBs can catalyse private investment through:

- **Technical & Regulatory Assistance:** Funding geological assessments and helping governments build frameworks for licensing, monitoring standards, and long-term liability.
- **Regional Storage Hubs:** Prioritising investments in shared infrastructure that serves multiple emitters, spreading out the high upfront costs of site exploration and characterisation across multiple users and facilitating faster deployment for future projects.
- **Cross-Border Frameworks:** Facilitating the legal and technical structures required to transport and store CO₂ across national borders, particularly for countries leveraging Article 6 of the Paris Agreement.

Many resource-rich emerging economies possess newer vintage industrial and power facilities that cannot be retired early without severe economic strain. Geological storage enables these countries to sustain industrial activity, prevent stranded assets, and leverage existing workforce competencies while advancing decarbonisation. The wide prevalence of geological storage in Nationally Determined Contributions (NDCs) reflects this government recognition. However, lower-to-middle-income countries frame development and deployment of geological storage as conditional upon international technical and financial support, highlighting an important role for MDBs.

The Pillars of Geological Storage Bankability

Built on a foundation of storage integrity, institutional bankability rests on three primary pillars:

1. Revenue Certainty

Predictable cash flows via mechanisms like tax credits or contracts for difference

2. Cross-chain Coordination

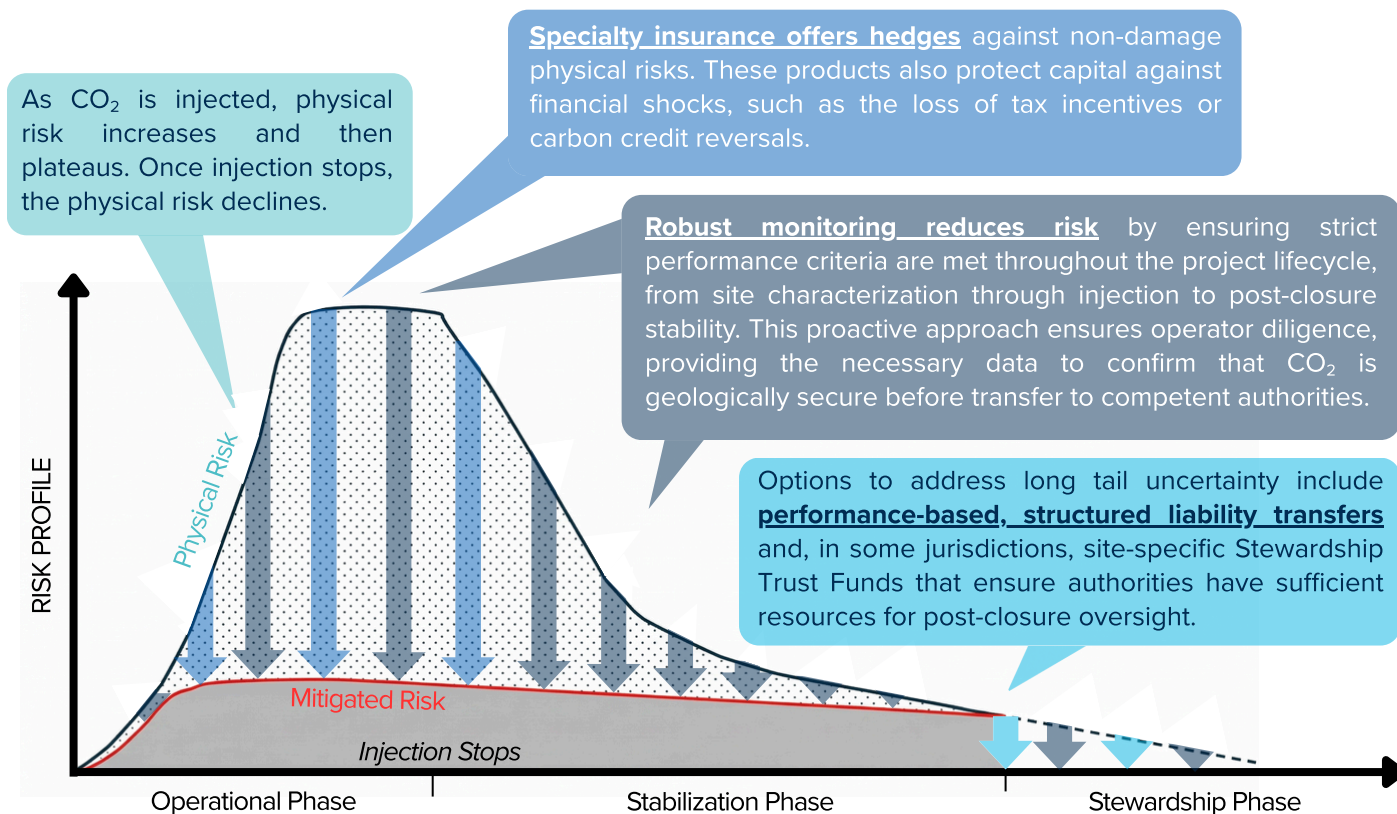
Contractual structures that mitigate risk across capture, transport, and storage

3. Risk Management

Clear legal and regulatory requirements during the project and after injection, including long-term liability management

The alignment of predictable revenue streams with a lifecycle risk management approach ensures that geological CO₂ storage operates as an institutional-grade asset. Matching financial mechanisms with technical milestones provides the transparency and exit strategy required for large-scale capital investment. The result is a high-integrity infrastructure asset that anchors long-term growth, driving national benefits by decarbonising domestic industry and hard-to-abate sectors across emerging economies.

Financial De-risking: The Path to Stability



Over time the probability of leakage approaches zero, as validated by decades of commercial operations and scientific research that demonstrates geological storage is safe and permanent.