CO? Transport & Storage Infrastructure

Source Metadata

Field	Value
source	iea
source_version	ETCS 2025
source_id	IEA-CRS-004
iea_category	cross_cutting
technology	CO2 Transport & Storage Infrastructure
technology_readiness	early_commercial
mitigation	Y
adaptation	N
last_checked	2026-05-26

IEA Technology Definition

The IEA classifies CO2 transport and storage infrastructure as the downstream component of the CCUS chain, covering dedicated CO2 pipelines, ship transport, injection wells, and geological storage in depleted oil/gas fields or saline aquifers. The ETP Technology Guide emphasizes that shared CO2 transport and storage infrastructure (hubs and clusters) is critical to reducing unit costs and enabling CCUS deployment at the scale needed for net zero.

Technology Readiness & Deployment

CO2 pipeline transport is commercially proven, with over 8,000 km of CO2 pipelines operating primarily in North America for enhanced oil recovery. Dedicated geological storage (not EOR) is at early commercial stage, with projects like Northern Lights (Norway) and the Alberta Carbon Trunk Line (Canada) demonstrating shared infrastructure models. CO2 ship transport is emerging as an alternative for regions without pipeline access. The IEA identifies infrastructure development as a critical bottleneck for CCUS scale-up.

Key Metrics & Benchmarks

Global CO2 storage capacity in operation is approximately 50 Mtpa. The IEA Net Zero scenario requires this to exceed 1 Gtpa by 2030. CO2 pipeline transport costs range from USD 2-15/tCO2 depending on distance and volume. Ship transport adds USD 10-30/tCO2. Geological storage site characterization typically takes 3-7 years. Storage costs in well-characterized formations range from USD 5-30/tCO2.

LATAM Relevance

Latin America has significant geological CO2 storage potential in sedimentary basins across Brazil, Argentina, Colombia, and Mexico. Brazil's pre-salt formations already store over 10 MtCO2/year through Petrobras reinjection operations. Colombia's depleted oil and gas fields and Argentina's Vaca Muerta region offer additional storage capacity. Shared infrastructure planning is nascent, and regulatory frameworks for dedicated CO2 storage are still under development in most LATAM jurisdictions.

Critical Minerals Link

CO2 transport infrastructure requires large volumes of carbon steel and specialty alloys for corrosion-resistant pipelines and wellheads. Compressor stations use copper and high-performance alloys. The steel demand for building out a global CO2 pipeline network comparable to natural gas infrastructure would be substantial. LATAM's steel production capacity could serve regional CO2 infrastructure needs.

Cleantech Taxonomy Crosswalk

Maps to Cleantech Taxonomy sectors: IN (Industry) — CO2 pipeline and storage infrastructure; ES (Energy Systems) — CCUS-enabled power generation; XS (Cross-Sectoral) — shared infrastructure planning, regulatory frameworks, geological survey and characterization.

Revisión #2
Creado 2026-05-27 03:38:48 UTC por Gideon Blaauw
Actualizado 2026-05-27 03:50:27 UTC por Gideon Blaauw