Carbon Capture Units

ANMD-MRS14-131 · Carbon Management & Climate Technologies

A Global Sustainability Due Diligence & Market Research Study

History 2020–2024 · Base Year 2025 · Forecast 2025–2032 · Outlooks 2035 / 2040 / 2050 · Currency US$

WHY THIS REPORT

Carbon capture units separate CO_2 from power-plant and industrial flue gas before it reaches the atmosphere — the foundational hardware of carbon capture, utilisation and storage (CCUS). The technology spans post-combustion amine systems, pre-combustion, oxy-fuel and modular skid-mounted designs with advanced solvent regeneration. This decision-grade study sizes the global market three ways — value, capture/abatement capacity and units deployed — across capture technology, configuration, application and end-user, across seven regions and four scenarios to 2032, with outlooks to 2050.

SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

Sustainability is this report's backbone, not an afterthought. Carbon capture enables deep decarbonisation of hard-to-abate emitters with few alternatives, while higher capture rates, lower energy penalties and modular cost discipline strengthen the bankability and climate-integrity story.

Mapped Sustainable Development Goals:

SDG 13	SDG 9	SDG 12	SDG 7	SDG 17
Climate Action	Industry & Innovation	Responsible Consumption	Affordable Clean Energy	Partnerships for Goals

Measurable sustainability outcomes assessed:

- Deep decarbonisation of hard-to-abate industry and power
- Lower-cost, higher-rate engineered capture
- A captured CO_2 stream for durable storage or use
- Energy penalty, storage permanence and fossil lock-in as material risks

Framework alignment: Double materiality mapped to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, with greenwashing and SDG-washing screens applied throughout.

WHAT'S INSIDE AT A GLANCE

53 Chapters	**9** Report Parts	**7** Regions Covered	**40+** Country Markets
2025–32 Forecast Horizon	**4** Forward Scenarios	**25+** Companies Profiled	**5** SDGs Mapped

REPORT COVERAGE

Geographic scope: North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. North America is the deployment leader (United States) on tax-credit-driven projects; Europe is the ETS-and-storage leader (Norway, United Kingdom, Netherlands); Asia Pacific is the fastest-growing engine; other regions assessed on their own merits.

MARKET OVERVIEW

From demonstration to commercial deployment — where capture goes modular and lower-cost.

Carbon capture is moving from demonstration to commercial deployment, propelled by tax credits and corporate net-zero pressure. Demand is driven by hard-to-abate industry, policy incentives and CO_2-storage build-out, against high capture cost, energy penalty and first-of-a-kind financing risk. The market is read three ways — value, capture capacity and units — and forecast under four scenarios, each region reported separately.

- **North America leads deployment** — United States and Canada, on the 45Q tax credit, DOE hubs and large capture projects
- **Europe scales on ETS and storage** — Norway, the United Kingdom and the Netherlands, on carbon pricing and North Sea storage hubs
- **Asia Pacific grows fastest** — China, Japan and Australia, on heavy industry and national CCUS programmes
- **Cost per tonne is the differentiator** — solvent advances, modularisation and heat integration drive the levelised cost of capture

REGIONAL OUTLOOK

Across seven reporting regions, the report separates deployment leaders from high-growth and emerging markets — each profiled in full rather than aggregated into Rest of World.

Region	Stage	Lead Country Markets & Drivers
North America	Deployment leader	United States, Canada — 45Q tax credit, DOE hubs, corporate offtake
Europe	ETS & storage-led	Germany, United Kingdom, Netherlands, Norway — EU ETS, CBAM, storage hubs
Asia Pacific	Fastest growth	China, Japan, India, South Korea, Australia — industrial decarbonisation, storage
Middle East	Oil-and-gas CCUS	Saudi Arabia, UAE — oil-and-gas CCUS, sovereign investment
Latin America	Emerging	Brazil, Chile — bioenergy, nature-based and industrial projects
Africa	Frontier	South Africa, Egypt, Kenya — industrial emitters, removal potential, blended finance

KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restraints
• 45Q, ETS & carbon-pricing incentives • Hard-to-abate industrial decarbonisation • Corporate net-zero & offtake demand • Solvent & modular capture-cost gains • CO_2-storage & transport build-out	• High capture cost & energy penalty • CO_2 transport & storage dependency • Project financing & first-of-a-kind risk • Permitting & public-acceptance hurdles • Policy-incentive durability uncertainty

SEGMENTATION SNAPSHOT

By Capture Technology	Post-combustion · pre-combustion · oxy-fuel · modular / skid-mounted · solvent-regeneration
By Configuration	Retrofit · new-build · modular / containerised
By Application	Power · industrial · atmospheric / removal
By End User	Industrial emitters · corporates · project developers · governments
By Business Model	Equipment sales · EPC · Capture-as-a-Service
By Scale	Pilot · demonstration · commercial / megatonne-scale

TABLE OF CONTENTS — PARTS & CHAPTERS

The full report is organised into nine parts across 53 chapters, listed below. Detailed sub-headings, country tables and directories are provided in the full report.

COMPETITIVE & INVESTMENT SNAPSHOT

The competitive field spans dedicated capture specialists, industrial-gas and engineering majors, and licensed-solvent providers. Deal activity — M&A, technology acquisition and platform expansion — signals a market consolidating around scalable, bankable, deployment-ready solutions.

Representative players profiled in the full report:

Aker Carbon Capture ASA · Mitsubishi Heavy Industries, Ltd. · Shell plc (CANSOLV) · Linde plc · Honeywell International Inc. (Honeywell UOP) · and further profiled players across specialists, licensors and challengers

Investment intelligence: venture, infrastructure, development, climate and blended finance, green bonds and sustainability-linked loans — culminating in a bankability assessment and a clear investment verdict.

KEY QUESTIONS THIS REPORT ANSWERS

- ? How large is the global carbon capture unit market, and how fast will it grow to 2032?
- ? Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- ? How do capture cost, energy penalty and storage dependency change the bankability case?
- ? Who leads, and where is the competitive and patent white space?
- ? Is the investment case bankable — and under what conditions?
- ? How does the category align with the SDGs, climate-integrity and disclosure regulation?

WHY ANMD — THE DIFFERENCE

Most market studies stop at tonnes and revenue. This report is built as a sustainability due diligence instrument — fusing market sizing with ESG, SDG, climate, carbon-integrity and natural-capital intelligence and a decision-ready bankability verdict in a single architecture.

- **Triangulated sizing** — every market read three ways (value (US$), capture/abatement capacity ($MtCO_2$/yr) and units) so value, capacity and volume views reconcile rather than conflict.
- **Region-honest forecasting** — Latin America, Africa and the Middle East reported in full, never hidden inside Rest of World, every forecast resolved to the 2025 base year.
- **Integrated evidence base** — company, patent and project databases linked to the analysis, with published-filing patents and FTO treated as an indicator, not a legal conclusion.
- **No-fabrication discipline** — every estimate carries a data-confidence rating and disclosed sources; gaps are flagged for further diligence, never filled with invented numbers.
- **Anti-greenwashing rigour** — SDG-washing and greenwashing screens plus claim-substantiation checks built into the ESG and project analysis.
- **Decision-first structure** — 9 Parts and 53 Chapters culminating in stakeholder playbooks and a clear, conditions-based investment verdict.

WHO SHOULD BUY THIS REPORT

Investors and infrastructure / PE funds, industrial emitters and power utilities, capture-technology vendors and EPCs, project developers, CO_2-storage and transport operators, policymakers, lenders and ESG teams, plus strategic corporate planners and decision-makers.

Access the Full Report

The complete report delivers all 53 chapters in full, with every sub-heading, country table, company and patent directory, forecast model and due diligence checklist.

Purchase at **www.anewmarketdynamics.com** · Standard & Premium licences · Single-Site (SSL) and Global-Site (GSL) options at checkout.

Want the Complete Detailed Table of Contents?

This prospectus lists the nine parts and 53 chapters. The complete detailed table of contents — every sub-heading, country table, exhibit, company and patent directory and annex — is available on request to registered users. To receive it, register with your official company email at **www.anewmarketdynamics.com**. The full detailed table of contents will be sent directly to your registered company email address.