

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 CO₂ 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 Climate Action	SDG 9 Industry & Innovation	SDG 12 Responsible Consumption	SDG 7 Affordable Clean Energy	SDG 17 Partnerships for Goals
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Measurable sustainability outcomes assessed:

- Deep decarbonisation of hard-to-abate industry and power
- Lower-cost, higher-rate engineered capture
- A captured CO₂ 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 CO₂-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 • CO₂-storage & transport build-out	• High capture cost & energy penalty • CO₂ 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.

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- › Chapter 2. Industry Discovery Summary — Carbon Capture Units
- › Chapter 3. Executive Intelligence and Decision Dashboard
- › Chapter 4. Strategic Findings, Materiality and Investment Verdict Preview

Part II — Market Intelligence, Sizing, Forecasting and Segmentation

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- › Chapter 6. Market Dynamics
- › Chapter 7. Global Market Size and Forecast, 2020–2032
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- › Chapter 53. Reference Annexes

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 (MtCO₂/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, CO₂-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.