

Carbon Capture, Utilization, and Storage Market by Service (Capture, Utilization, Storage, Transportation), Technology (Chemical Looping, Solvents & Sorbents, Membranes), End-use Industry (Oil & Gas, Power Generation, Chemical & Petrochemical, Cement, Iron & Steel), and Region - Global Forecast to 2030

Market Report | 2025-09-09 | 318 pages | MarketsandMarkets

AVAILABLE LICENSES:

- Single User \$4950.00
- Multi User \$6650.00
- Corporate License \$8150.00
- Enterprise Site License \$10000.00

Report description:

The carbon capture, utilization, and storage (CCUS) market is estimated at USD 5.82 billion in 2025 and is projected to reach USD 17.75 billion by 2030, at a CAGR of 25.0%. Capture services account for the largest share of the CCUS market since capturing CO₂ is the most challenging, capital-intensive, and essential step in the value chain, the primary gateway anywhere that leads to utilization or storage activity. This demand formulation, being the costliest segment, requires heavy investments in specialized systems and technologies, such as post-combustion, pre-combustion, and oxy-fuel, not to mention its integration into existing industrial processes. That is how capture services themselves generate the highest revenues for the CCUS sectors, and since there is no capture, the subsequent stages in CCUS cannot commence; therefore, demand is generated by such industries as power generation, cement, steel, and chemicals seeking to meet emissions targets, regulations, and attain low-carbon labels.

<https://www.marketsandmarkets.com/Images/carbon-capture-utilization-storage-market-Overview.webp>

"Chemical loop is projected to be the fastest-growing form during the forecast period."

Chemical looping is the fastest growing technology that, through the improved energy efficiency and low operation cost in comparison to conventional capture processes, utilizes metal oxides to shuttle oxygen for fuel combustion and thus inherently separates CO₂ without using solvent regeneration, which is very expensive. This is the reason why the technologies maintain a lower energy penalty; allow the integration of various fuels (such as coal, natural gas, and biomass); and are even enticing in

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

cases where they can co-produce some of the valuable outputs like hydrogen for both power and industrial applications. The propensity for dramatic growth witnessed in R&D and pilot-to-commercial scale demonstrations, as well as its ability to meet stringent decarbonization goals, catalyzes its global adoption.

?

"The power generation segment is projected to register the second-highest growth rate during the forecast period."

The power generation segment is the second fastest-growing end-use sector in the CCUS market due to coal and gas-fired plants being large global CO₂ sources and best candidates for retrofitting with capture equipment to comply with tightening climate policies and net-zero targets. Several governments provide significant incentives, tax credits, and funding schemes for decarbonizing electricity generation, whereas utilities are making investments in CCUS to keep existing assets viable and facilitate low-carbon baseload power together with renewables. Moreover, large-scale utilization of CCUS within power facilities delivers instantaneous, high-level emission cuts, promoting quick uptake compared to slower-developing industrial sources.

"Europe is projected to register the second-highest growth rate in the CCUS market during the forecast period."

Europe is anticipated to record the second-highest CAGR within the CCUS market by virtue of its aggressive climate policies, such as the EU Green Deal and legally binding 2050 net-zero targets, which are urging massive deployment of carbon capture initiatives in the power, cement, steel, and chemical sectors. The area is favored by robust state support, carbon pricing in the EU Emissions Trading System, and cooperative cross-border projects such as the Northern Lights and Porthos ventures that combine capture, transport, and storage facilities. Europe's established industrial base, supportive regulatory landscape, and low-carbon innovation focus provide a fertile breeding ground for explosive CCUS expansion.

This study has been validated through primary interviews with industry experts globally. The primary sources have been divided into the following three categories:

-□By Company Type: Tier 1 - 40%; Tier 2 - 33%; and Tier 3 - 27%

-□By Designation: C-level - 50%; Director-level - 30%; and Managers - 20%

-□By Region: North America - 15%; Europe - 50%; Asia Pacific - 20%; the Middle East & Africa - 10%; and Latin America - 5%

The report provides a comprehensive analysis of the following companies:

Prominent companies in this market include Fluor Corporation (US), Exxon Mobil Corporation (US), Linde plc (UK), Shell Plc. (UK), Mitsubishi Heavy Industries, Ltd. (Japan), JGC Holdings Corporation (Japan), Schlumberger Limited (US), Aker Solutions (Norway), Honeywell International (US), Equinor ASA (Norway), TotalEnergies SE (France), Hitachi Ltd (Japan), Siemens AG (Germany), GE Vernova (US), and Halliburton (US).

Research Coverage

This research report categorizes the CCUS market by service (capture, utilization, storage, transportation), technology (chemical looping, solvents & sorbents, membranes, others), end-use industry (oil & gas, power generation, chemical & petrochemical, cement, iron & steel, other end-use industries), and region (North America, Europe, Asia Pacific, the Middle East & Africa, and South America). The scope of the report includes detailed information about the major factors influencing the growth of the CCUS market, such as drivers, restraints, challenges, and opportunities. A thorough examination of the key industry players has been conducted to provide insights into their business overview, solutions and services, key strategies, and recent developments in the CCUS market. This report includes a competitive analysis of upcoming startups in the CCUS market ecosystem.

Reasons to buy this report

The report will help market leaders/new entrants with information on the closest approximations of the revenue numbers for the overall CCUS market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to better position their businesses and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

opportunities.

The report provides insights on the following pointers:

-□Analysis of key drivers (growing focus on CO2 emissions, increasing demand for CO2 in EOR techniques), restraints (high cost of carbon capture and sequestration), opportunities (large number of upcoming projects in Asia Pacific), and challenges (high initial investments) are influencing the growth of the CCUS market.

-□Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and product launches in the CCUS market.

-□Market Development: Comprehensive information about lucrative markets-the report analyses the CCUS market across varied regions.

-□Market Diversification: Exhaustive information about services, untapped geographies, recent developments, and investments in the CCUS market.

-□Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players like Fluor Corporation (US), Exxon Mobil Corporation (US), Linde plc (UK), Shell plc (UK), Mitsubishi Heavy Industries, Ltd. (Japan), JGC Holdings Corporation (Japan), Schlumberger Limited (US), Aker Solutions (Norway), Honeywell International (US), Equinor ASA (Norway), TotalEnergies SE (France), Hitachi Ltd (Japan), Siemens AG (Germany), GE Vernova (US), and Halliburton (US).

Table of Contents:

1	INTRODUCTION	29
1.1	STUDY OBJECTIVES	29
1.2	MARKET DEFINITION	29
1.3	STUDY SCOPE	30
1.3.1	MARKETS COVERED AND REGIONS CONSIDERED	30
1.3.2	INCLUSIONS AND EXCLUSIONS	31
1.3.3	YEARS CONSIDERED	32
1.3.4	CURRENCY CONSIDERED	32
1.3.5	UNITS CONSIDERED	32
1.4	STAKEHOLDERS	32
1.5	SUMMARY OF CHANGES	33
2	RESEARCH METHODOLOGY	34
2.1	RESEARCH DATA	34
2.1.1	SECONDARY DATA	35
2.1.1.1	Key data from secondary sources	35
2.1.2	PRIMARY DATA	36
2.1.2.1	Key data from primary sources	36
2.1.2.2	Interviews with top service providers	36
2.1.2.3	Breakdown of primary interviews with experts	37
2.1.2.4	Key industry insights	37
2.2	BASE NUMBER CALCULATION	38
2.2.1	APPROACH 1: SUPPLY-SIDE APPROACH	38
2.2.2	APPROACH 2: DEMAND-SIDE APPROACH	39
2.3	GROWTH FORECAST	39
2.3.1	SUPPLY SIDE	39

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

2.3.2	DEMAND SIDE	39
2.4	MARKET SIZE ESTIMATION	40
2.4.1	BOTTOM-UP APPROACH	40
2.4.2	TOP-DOWN APPROACH	40
2.5	DATA TRIANGULATION	41
2.6	FACTOR ANALYSIS	42
2.7	RESEARCH ASSUMPTIONS	43
2.8	LIMITATIONS	43
3	EXECUTIVE SUMMARY	44
?		
4	PREMIUM INSIGHTS	47
4.1	ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET	47
4.2	CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET BY END-USE INDUSTRY AND REGION	48
4.3	CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET, BY SERVICE	49
4.4	CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET, BY TECHNOLOGY	49
4.5	CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET, BY END-USE INDUSTRY	50
4.6	CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET, BY COUNTRY	50
5	MARKET OVERVIEW	51
5.1	INTRODUCTION	51
5.2	MARKET DYNAMICS	52
5.2.1	DRIVERS	52
5.2.1.1	Growing focus on reducing CO2 emissions	52
5.2.1.2	Increasing demand for CO2 in EOR techniques	53
5.2.1.3	Rising environmental awareness to increase natural gas demand	53
5.2.2	RESTRAINTS	54
5.2.2.1	High cost of carbon capture and storage	54
5.2.2.2	Safety concerns at storage sites	54
5.2.3	OPPORTUNITIES	54
5.2.3.1	Continuous investments in developing innovative capturing technologies	54
5.2.3.2	Large number of upcoming projects in APAC	55
5.2.3.3	Announcement of large-capacity hydrogen projects	55
5.2.4	CHALLENGES	56
5.2.4.1	Reducing CO2 capturing costs	56
5.2.4.2	Transparency & credibility risks: measurement errors, greenwashing, and lobbying	56
5.3	PORTER'S FIVE FORCES ANALYSIS	57
5.3.1	BARGAINING POWER OF SUPPLIERS	58
5.3.2	BARGAINING POWER OF BUYERS	58
5.3.3	THREAT OF SUBSTITUTES	58
5.3.4	THREAT OF NEW ENTRANTS	58
5.3.5	INTENSITY OF COMPETITIVE RIVALRY	58
5.4	KEY STAKEHOLDERS AND BUYING CRITERIA	59
5.4.1	KEY STAKEHOLDERS IN BUYING PROCESS	59
5.4.2	BUYING CRITERIA	60
5.5	ECOSYSTEM ANALYSIS	61
5.6	PRICING ANALYSIS	62

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

5.6.1	AVERAGE SELLING PRICE, BY KEY PLAYER	62
5.6.2	AVERAGE SELLING PRICE TREND, BY REGION	63
5.7	VALUE CHAIN ANALYSIS	64
5.8	TECHNOLOGY ANALYSIS	65
5.8.1	KEY TECHNOLOGIES	65
5.8.1.1	Direct Capture Technologies	65
5.8.1.1.1	Post-combustion Capture	65
5.8.1.1.2	Pre-combustion Capture	65
5.8.1.1.3	Oxy-fuel Combustion	65
5.8.1.1.4	Direct Air Capture	65
5.8.1.2	Transport Technologies	66
5.8.1.2.1	Pipeline	66
5.8.1.2.2	Ship-based	66
5.8.1.3	Utilization Technologies	66
5.8.1.3.1	Direct Utilization	66
5.8.1.3.2	Mineralization	66
5.8.2	COMPLEMENTARY TECHNOLOGIES	66
5.8.2.1	Gas Separation & Purification	66
5.8.2.2	Liquefaction & Phase Change Technologies	66
5.9	IMPACT OF AI/GEN AI ON CCUS MARKET	67
5.9.1	TOP USE CASES AND MARKET POTENTIAL	67
5.9.2	CASE STUDIES OF AI IMPLEMENTATION IN CCUS MARKET	67
5.10	MACROECONOMIC OUTLOOK	68
5.10.1	INTRODUCTION	68
5.10.2	GDP TRENDS AND FORECAST	68
5.10.3	TRENDS IN GLOBAL OIL & GAS INDUSTRY	69
5.11	PATENT ANALYSIS	70
5.11.1	INTRODUCTION	70
5.11.2	METHODOLOGY	70
5.11.3	PATENT TYPES	70
5.11.4	INSIGHTS	71
5.11.5	LEGAL STATUS	71
5.11.6	JURISDICTION ANALYSIS	72
5.11.7	TOP APPLICANTS	73
5.12	REGULATORY LANDSCAPE	75
5.12.1	REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	75
5.12.2	STANDARDS IN CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET	77
5.13	KEY CONFERENCES AND EVENTS, 2025-2026	78
5.14	CASE STUDY ANALYSIS	79
5.14.1	CASE STUDY 1: SHELL QUEST CCS PROJECT	79
5.14.2	CASE STUDY 2: PETRA NOVA CARBON CAPTURE PROJECT	79
5.14.3	CASE STUDY 3: MITSUBISHI HEAVY INDUSTRIES PARTNERED WITH HEIDELBERG MATERIALS TO INTRODUCE CO ₂ CAPTURE TECHNOLOGIES IN CEMENT SECTOR	80
5.15	TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS	81
5.16	INVESTMENT AND FUNDING SCENARIO	82
5.17	IMPACT OF 2025 US TARIFFS-CARBON, CAPTURE, UTILIZATION, AND STORAGE MARKET	82
5.17.1	INTRODUCTION	82

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 5.17.2 KEY TARIFF RATES 83
- 5.17.3 PRICE IMPACT ANALYSIS 84
- 5.17.4 IMPACT ON COUNTRIES/REGIONS 85
 - 5.17.4.1 US 85
 - 5.17.4.2 Europe 85
 - 5.17.4.3 Asia Pacific 87
- 5.17.5 IMPACT ON END-USE INDUSTRIES 89
- 6 CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET, BY SERVICE 90
 - 6.1 INTRODUCTION 91
 - 6.2 CAPTURE 93
 - 6.2.1 CARBON CAPTURE TECHNOLOGIES 95
 - 6.2.1.1 Post-combustion 97
 - 6.2.1.1.1 Post-combustion offers high CO₂ capture efficiency of 99% 97
 - 6.2.1.1.2 Oxy-fuel 97
 - 6.2.1.2.1 Simplified CO₂ capture compared with conventional processes 97
 - 6.2.1.3 Pre-combustion 98
 - 6.2.1.3.1 Eliminates CO₂ from gas stream before dilution with air or oxygen 98
 - 6.2.1.4 Bio-energy CCS (BECCS) 98
 - 6.2.1.4.1 Use of biomass to store carbon offers stability of more than 1,000 years 98
 - 6.2.1.5 Direct Air Capture 98
 - 6.2.1.5.1 Need for negative emission technology to promote development of DAC technology 98
 - 6.3 TRANSPORTATION 99
 - 6.3.1 PIPELINE TO BE MOST PREFERRED MODE OF CO₂ TRANSPORTATION 99
 - 6.4 UTILIZATION 101
 - 6.4.1 EOR USING CO₂ FROM CAPTURE PROCESSES TO INCREASE CO₂ UTILIZATION 101
 - 6.5 STORAGE 103
 - 6.5.1 GEOLOGICAL STORAGE TO BE MOST PREFERRED METHOD OF CO₂ STORAGE 103
 - 6.5.2 STORAGE SERVICES, BY TECHNOLOGY 105
 - 6.5.3 GEOLOGICAL STORAGE 106
 - 6.5.3.1 Oil & gas reservoirs 106
 - 6.5.3.1.1 Oil & gas reservoirs offer most efficient storage 106
 - 6.5.3.2 Unmineable coal beds 106
 - 6.5.3.2.1 Further research required to optimize storage in coal beds 106
 - 6.5.3.3 Saline aquifers 107
 - 6.5.3.3.1 Less knowledge about saline aquifers' features compared to other storage types 107
 - 6.5.4 DEEP OCEAN STORAGE 107
 - 6.5.4.1 Low preference over geological storage due to associated environmental risks 107
- 7 CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET, BY TECHNOLOGY 108
 - 7.1 INTRODUCTION 109
 - 7.2 CHEMICAL LOOPING 111
 - 7.2.1 COST-EFFECTIVENESS TO DRIVE ADOPTION OF CHEMICAL LOOPING 111
 - 7.3 SOLVENTS & SORBENTS 112
 - 7.3.1 HIGH CAPTURE RATE TO DRIVE DEMAND 112
 - 7.4 MEMBRANES 114
 - 7.4.1 HIGHLY EFFICIENT CARBON CAPTURE TECHNOLOGY 114
 - 7.5 OTHER TECHNOLOGIES 116
- 8 CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET,

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- BY END-USE INDUSTRY 118
- 8.1 INTRODUCTION 119
- 8.2 OIL & GAS 121
 - 8.2.1 CO2 MOSTLY EXTRACTED FROM NATURAL GAS PLANTS 121
- 8.3 POWER GENERATION 123
 - 8.3.1 FOSSIL FUEL POWER PLANTS SIGNIFICANTLY CONTRIBUTE TO MARKET GROWTH 123
- 8.4 CHEMICAL & PETROCHEMICAL 124
 - 8.4.1 AMMONIA PRODUCTION PLANTS CONTRIBUTE SIGNIFICANTLY TO MARKET 124
- 8.5 CEMENT 126
 - 8.5.1 GOVERNMENT REGULATIONS FORCING CEMENT INDUSTRY TO ADOPT CARBON CAPTURE TECHNOLOGY 126
- 8.6 IRON & STEEL 128
 - 8.6.1 STEEL INDUSTRY ACCOUNTS FOR LARGE SHARE OF ANTHROPOGENIC CO2 EMISSIONS 128
- 8.7 OTHER END-USE INDUSTRIES 129
- 9 CARBON CAPTURE, UTILIZATION, AND STORAGE MARKET, BY REGION 132
- 9.1 INTRODUCTION 133
- 9.2 NORTH AMERICA 135
 - 9.2.1 US 142
 - 9.2.1.1 Government support for implementation of CCUS to drive market 142
 - 9.2.2 CANADA 144
 - 9.2.2.1 Carbon storage projects to drive CCUS market 144
 - 9.2.3 MEXICO 146
 - 9.2.3.1 Need for transportation of carbon to offshore storage facilities to drive market 146
- 9.3 EUROPE 148
 - 9.3.1 NORWAY 155
 - 9.3.1.1 Increase in natural gas demand for power generation to drive market 155
 - 9.3.2 UK 157
 - 9.3.2.1 New regulations announced by government to boost CCUS market growth 157
 - 9.3.3 FRANCE 159
 - 9.3.3.1 Announcement of new projects to boost market 159
 - 9.3.4 NETHERLANDS 160
 - 9.3.4.1 Transportation segment to grow fast owing to CATO-2 project in Netherlands 160
 - 9.3.5 ITALY 162
 - 9.3.5.1 Government regulations to push market growth 162
 - 9.3.6 REST OF EUROPE 164
- 9.4 ASIA PACIFIC 166
 - 9.4.1 CHINA 172
 - 9.4.1.1 Collaborations between Chinese government and companies and organizations to drive market 172
 - 9.4.2 JAPAN 174
 - 9.4.2.1 Availability of major technology providers and strong industrial base to support market growth 174
 - 9.4.3 INDIA 176
 - 9.4.3.1 Industrialization and emission regulations to drive market 176
 - 9.4.4 AUSTRALIA 177
 - 9.4.4.1 Transportation segment to witness high growth 177
 - 9.4.5 REST OF ASIA PACIFIC 179
- 9.5 MIDDLE EAST & AFRICA 181
 - 9.5.1 GCC COUNTRIES 187
 - 9.5.1.1 UAE 187

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

9.5.1.1.1	Carbon utilization for EOR to drive market	187
9.5.1.2	Saudi Arabia	189
9.5.1.2.1	Growing number of CCUS projects to drive market	189
9.5.1.3	Rest of GCC Countries	191
9.5.2	REST OF MIDDLE EAST & AFRICA	193
9.6	SOUTH AMERICA	195
9.6.1	BRAZIL	200
9.6.1.1	Government initiatives to drive the market	200
9.6.2	ARGENTINA	202
9.6.2.1	Growing hydrocarbon sector to drive the market	202
9.6.3	REST OF SOUTH AMERICA	204
?		
10	COMPETITIVE LANDSCAPE	206
10.1	OVERVIEW	206
10.2	KEY PLAYER STRATEGIES/RIGHT TO WIN	206
10.3	REVENUE ANALYSIS, 2020-2024	208
10.4	MARKET SHARE ANALYSIS, 2024	209
10.5	BRAND/PRODUCT COMPARATIVE ANALYSIS	212
10.6	COMPANY EVALUATION MATRIX: KEY PLAYERS, 2024	215
10.6.1	STARS	215
10.6.2	EMERGING LEADERS	215
10.6.3	PERVASIVE PLAYERS	215
10.6.4	PARTICIPANTS	215
10.6.5	COMPANY FOOTPRINT: KEY PLAYERS, 2024	217
10.7	COMPANY EVALUATION MATRIX: STARTUPS/SMES, 2024	221
10.7.1	PROGRESSIVE COMPANIES	221
10.7.2	RESPONSIVE COMPANIES	221
10.7.3	DYNAMIC COMPANIES	221
10.7.4	STARTING BLOCKS	221
10.7.5	COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES	223
10.7.5.1	Detailed list of key startups/SMEs	223
10.7.5.2	Competitive benchmarking of key startups/SMEs	224
10.8	VALUATION AND FINANCIAL METRICS	225
10.9	COMPETITIVE SCENARIO	226
10.9.1	DEALS	226
10.9.2	EXPANSIONS	234
11	COMPANY PROFILES	235
11.1	KEY PLAYERS	235
11.1.1	FLUOR CORPORATION	235
11.1.1.1	Business overview	235
11.1.1.2	Products offered	236
11.1.1.3	Recent developments	237
11.1.1.3.1	Deals	237
11.1.1.3.2	Other developments	237
11.1.1.4	MnM view	238
11.1.1.4.1	Right to win	238
11.1.1.4.2	Strategic choices	238

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

11.1.1.4.3	Weaknesses and competitive threats	238
11.1.2	EXXON MOBIL CORPORATION	239
11.1.2.1	Business overview	239
11.1.2.2	Products offered	240
11.1.2.3	Recent developments	241
11.1.2.3.1	Deals	241
11.1.2.3.2	Expansions	243
11.1.2.3.3	Other developments	243
11.1.2.4	MnM view	244
11.1.2.4.1	Right to win	244
11.1.2.4.2	Strategic choices	244
11.1.2.4.3	Weaknesses and competitive threats	244
11.1.3	SHELL PLC	245
11.1.3.1	Business overview	245
11.1.3.2	Products offered	246
11.1.3.3	Recent developments	247
11.1.3.3.1	Deals	247
11.1.3.4	MnM view	249
11.1.3.4.1	Right to win	249
11.1.3.4.2	Strategic choices	249
11.1.3.4.3	Weaknesses and competitive threats	249
11.1.4	EQUINOR ASA	250
11.1.4.1	Business overview	250
11.1.4.2	Products offered	251
11.1.4.3	Recent developments	251
11.1.4.3.1	Deals	251
11.1.4.3.2	Other developments	253
11.1.4.4	MnM view	253
11.1.4.4.1	Right to win	253
11.1.4.4.2	Strategic choices	254
11.1.4.4.3	Weaknesses and competitive threats	254
11.1.5	TOTALENERGIES SE	255
11.1.5.1	Business overview	255
11.1.5.2	Products offered	256
11.1.5.3	Recent developments	256
11.1.5.3.1	Deals	256
11.1.5.4	MnM view	258
11.1.5.4.1	Right to win	258
11.1.5.4.2	Strategic choices	258
11.1.5.4.3	Weaknesses and competitive threats	258
11.1.6	LINDE PLC	259
11.1.6.1	Business overview	259
11.1.6.2	Products offered	260
11.1.6.3	Recent developments	260
11.1.6.3.1	Deals	260
11.1.7	mitsubishi heavy industries, LTD.	261
11.1.7.1	Business overview	261

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

11.1.7.2	Products offered	262
11.1.7.3	Recent developments	262
11.1.7.3.1	Deals	262
11.1.7.3.2	Expansions	265
11.1.7.3.3	Other developments	266
11.1.8	GC HOLDINGS CORPORATION	267
11.1.8.1	Business overview	267
11.1.8.2	Products offered	268
11.1.8.3	Recent developments	269
11.1.8.3.1	Deals	269
11.1.9	SCHLUMBERGER LIMITED	270
11.1.9.1	Business overview	270
11.1.9.2	Products offered	271
11.1.9.3	Recent developments	272
11.1.9.3.1	Deals	272
11.1.10	AKER SOLUTIONS	273
11.1.10.1	Business overview	273
11.1.10.2	Products offered	274
11.1.10.3	Recent developments	275
11.1.11	HONEYWELL INTERNATIONAL	277
11.1.11.1	Business overview	277
11.1.11.2	Products offered	278
11.1.11.3	Recent developments	279
11.1.11.3.1	Deals	279
11.1.12	HITACHI, LTD.	281
11.1.12.1	Business overview	281
11.1.12.2	Products offered	282
11.1.12.3	Recent developments	282
11.1.12.3.1	Deals	282
11.1.13	SIEMENS AG	283
11.1.13.1	Business overview	283
11.1.13.2	Products offered	284
11.1.14	GE VERNOVA	285
11.1.14.1	Business overview	285
11.1.14.2	Products offered	286
11.1.14.3	Recent developments	287
11.1.14.3.1	Deals	287
11.1.14.3.2	Other developments	288
11.1.15	HALLIBURTON	289
11.1.15.1	Business overview	289
11.1.15.2	Products offered	290
11.1.15.3	Recent developments	291
11.1.15.3.1	Deals	291
11.2	OTHER KEY MARKET PLAYERS	292
11.2.1	CLIMEWORKS AG	292
11.2.2	CARBON CLEAN SOLUTIONS	292
11.2.3	OCCIDENTAL	293

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 11.2.4 GREEN MINERALS 293
- 11.2.5 CARBICRETE 294
- 11.2.6 CARBONFREE 294
- 11.2.7 SVANTE TECHNOLOGIES INC. 295
- 11.2.8 GREEN POWER INTERNATIONAL PVT. LTD. 295
- 11.2.9 WOLF MIDSTREAM 296
- 11.2.10 BABCOCK & WILCOX 296
- 12 EMERGING TECHNOLOGIES 297
- 12.1 MICROBIAL ELECTROSYNTHESIS (MES) 297
- 12.1.1 INTRODUCTION 297
- 12.1.2 DETAILED DESCRIPTION 297
- 12.1.3 KEY COMPANIES/COUNTRIES/INSTITUTES RESEARCHING MES 298
- 12.1.3.1 List of companies/universities 298
- 12.1.3.2 Investment and funding scenario 298
- 12.1.3.2.1 LanzaTech 298
- 12.1.3.2.2 Electrochaea 299
- 12.1.4 MNM VIEW ON GROWTH POTENTIAL/FUTURE OUTLOOK 299
- 12.2 CO2 CAPTURE USING ADSORPTION TECHNIQUE (USING ZEOLITE AS ADSORBENT) 299
- 12.2.1 INTRODUCTION 299
- 12.2.2 DETAILED DESCRIPTION 299
- 12.2.2.1 Zeolite A for CO2 capture 300
- 12.2.2.1.1 Modification of zeolite A for improved CO2 capture 301
- 12.2.2.1.1.1 Amine modification 301
- 12.2.2.1.1.2 Pore size modification 301
- 12.2.3 KEY COMPANIES/COUNTRIES/INSTITUTES RESEARCHING 301
- 12.2.4 MNM VIEW ON GROWTH POTENTIAL/FUTURE OUTLOOK 302
- 12.3 OTHER EMERGING TECHNOLOGIES 302
- 12.3.1 VACUUM SWING ADSORPTION 302
- 12.3.1.1 Introduction 302
- 12.3.1.2 Detailed description 302
- 12.3.1.3 Key companies/countries/institutes involved in research 303
- 12.3.1.4 MnM view on growth potential/future outlook 303
- 12.3.2 UTILIZATION OF RESIDUAL HEAT FOR DIRECT AIR CAPTURE FOR RETROFIT 303
- 12.3.2.1 Introduction 303
- 12.3.2.2 Detailed description 303
- 12.3.2.3 Key companies/countries/institutes involved in research 304
- 12.3.2.4 MnM view on growth potential/future outlook 304
- 12.3.3 BIOHYBRID PHOTOCATALYST METHOD USING METAL-ORGANIC FRAMEWORK (MOF) 304
- 12.3.3.1 Introduction 304
- 12.3.3.2 Detailed description 304
- 12.3.3.2.1 Mechanism of biohybrid photocatalysis 305
- 12.3.3.2.2 Advantages of biohybrid photocatalysis 305
- 12.3.3.3 Key companies/countries/institutes involved in research 305
- 12.3.3.4 MnM view on growth potential/future outlook 306
- 12.3.4 PYROGENIC CARBON DIOXIDE CAPTURE AND STORAGE (PYCCS) 306
- 12.3.4.1 Introduction 306
- 12.3.4.2 Detailed description 306

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

12.3.4.3	Key companies/countries/institutes involved in research	307
12.3.4.4	MnM view on growth potential/future outlook	307
12.3.5	MICROBIAL CARBONIC ANHYDRASE	307
12.3.5.1	Introduction	307
12.3.5.2	Detailed description	307
12.3.5.3	Key companies/countries/institutes involved in research	308
12.3.5.4	MnM view on growth potential/future outlook	308
12.3.6	BLUE HYDROGEN PRODUCTION TECHNOLOGY	308
12.3.6.1	Introduction	308
12.3.6.2	Detailed description	308
12.3.6.3	Key companies/countries/institutes involved in research	309
12.3.6.4	MnM view on growth potential/future outlook	309
12.3.7	ELECTROCATALYTIC CO ₂ REDUCTION/ETHYLENE PRODUCTION	309
12.3.7.1	Introduction	309
12.3.7.2	Detailed description	309
12.3.7.3	MnM view on growth potential/future outlook	310
13	APPENDIX	311
13.1	DISCUSSION GUIDE	311
13.2	KNOWLEDGESTORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL	314
13.3	CUSTOMIZATION OPTIONS	316
13.4	RELATED REPORTS	316
13.5	AUTHOR DETAILS	317

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Carbon Capture, Utilization, and Storage Market by Service (Capture, Utilization, Storage, Transportation), Technology (Chemical Looping, Solvents & Sorbents, Membranes), End-use Industry (Oil & Gas, Power Generation, Chemical & Petrochemical, Cement, Iron & Steel), and Region - Global Forecast to 2030

Market Report | 2025-09-09 | 318 pages | MarketsandMarkets

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User	\$4950.00
	Multi User	\$6650.00
	Corporate License	\$8150.00
	Enterprise Site License	\$10000.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Zip Code*

Country*

Date

2026-03-05

Signature

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com