

The Global Market for Green Hydrogen, Ammonia and Steel 2024-2034

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Abstracts

Green hydrogen, green ammonia, and green steel markets are interconnected in the broader energy transition, supporting each other's growth in helping decarbonize heavy industry. Green hydrogen and ammonia are essential to scale up in order to transition away from fossil fuels. Green ammonia acts as a key bridge between green hydrogen production and major end uses like green steel manufacturing. Green hydrogen, green ammonia, and green steel all rely on renewable energy sources like wind, solar, hydropower or biomass to produce hydrogen via electrolysis of water. Green ammonia is produced by using green hydrogen and nitrogen from air to make ammonia and is an efficient means to store and transport green hydrogen. Green steel production utilizes green hydrogen instead of coking coal to reduce iron ore into steel. This eliminates most emissions from traditional steelmaking.

Green ammonia is a vital link that connects the supply of green hydrogen with major industrial applications like green steel production as well as providing an exportable source of renewable hydrogen. The Global Market for Green Hydrogen, Ammonia and Steel 2024-2034 provides an in-depth analysis of these key energy transition markets.

Report contents include:

Green hydrogen

Analysis of current hydrogen production (grey, brown etc.) and demand forecasts to 2033.

Market value chain and industry map.



Market drivers, trends and challenges.

Hydrogen production processes and costs.

Recent industry developments and investments and start-up funding.

Market analysis of hydrogen technology and production including blue hydrogen (from decarbonised natural gas), green hydrogen (from renewable power and electrolysis), carbon capture, hydrogen storage & transport, hydrogen fuel cells, hydrogen vehicles, alternative fuels, ammonia production, methanol production, steelmaking, power & heat generation, marine, and fuel cell trains.

Profiles of 244 companies including large corporations and start-ups. Companies profiled include Advanced Ionics, Aker Horizons, C-Zero, Dynelectro, Ekona Power, Electric Hydrogen, Enapter, EvolOH, FuelCell Energy, Heliogen, HiiROC, Hystar, HydrogenPro, Innova Hydrogen, Ionomr Innovations, ITM Power, Jolt Electrodes, McPhy Energy SAS, Monolith Materials, NEL Hydrogen, Ohmium, Plug Power, PowerCell Sweden, Sunfire, Syzgy Plasmonics, Thiozen, Thyssenkrupp Nucera and Verdagy.

Green ammonia

Analysis of green ammonia production pathways and technologies.

Review of supportive regulations and policy mechanisms promoting renewable ammonia.

Evaluation of current and projected green ammonia production costs.

Life cycle analysis (LCA).

Detailed green ammonia market analysis covering:

Key growth drivers and market challenges.

Recent industry developments and project announcements.

Profiles of major green ammonia projects globally.



SWOT analysis of the market.

Assessment of market segments including transportation, fertilizers, hydrogen storage, and power generation.

Examination of the competitive landscape and value chain.

Global and regional market size estimates and forecasts to 2040. Segmented by end-use application and geography.

Future outlook for the emerging green ammonia market.

Profiles of 49 companies across the supply chain. Companies profiled include Engie, EverWind Fuels, Fuella, FuelPositive Corp., Green NortH2 Energy, Iberdrola, Jupiter Ionics, NEOM Green Hydrogen Company, SK Ecoplant Co., Sumitomo, and Yara.

Green steel

Opportunities and challenges for green steel.

The role of hydrogen in green steel production.

Analysis of green steel production processes.

Hydrogen Direct Reduced Iron (DRI)

Electrolysis

Carbon Capture and Storage/Use

Biochar replacing coke

Hydrogen Blast Furnace

Renewable energy powered processes



Flash ironmaking

Hydrogen Plasma Iron Ore Reduction

Ferrous Bioprocessing

Microwave Processing

Analysis of advanced materials in green steel.

Composite electrodes

Solid oxide materials

Hydrogen storage metals

Carbon composite steels

Coatings and membranes

Sustainable binders

Iron ore catalysts

Biosteel metallics

Carbon capture materials

Waste gas utilization

Market analysis including prices, plants, market maps, SWOT analysis, market trends and opportunities, recent industry developments and innovations, market growth drivers, market challenges and end-use industries including automotive, construction, machinery, electronics etc.

Global market revenues, historical and forecast to 2033, segmented by end-use industry and region.

44 company profiles. Company profiles include production processes, planned



capacities, collaborations and agreements, future strategies. Companies profiled include ArcelorMittal, Blastr, Boston Metal, GravitHy, H2 Green Steel, Nippon Steel, SSAB and Thyssenkrupp.



Contents

1 RESEARCH METHODOLOGY

2 GREEN HYDROGEN, GREEN AMMONIA AND GREEN STEEL SYNERGIES

3 GREEN HYDROGEN

- 3.1 Hydrogen classification
- 3.2 Global energy demand and consumption
- 3.3 The hydrogen economy and production
- 3.4 Removing CO? emissions from hydrogen production
- 3.5 Hydrogen value chain
 - 3.5.1 Production
 - 3.5.2 Transport and storage
- 3.5.3 Utilization
- 3.6 National hydrogen initiatives
- 3.7 Market challenges
- 3.8 Industry developments 2020-2023
- 3.9 Market map
- 3.10 GLOBAL HYDROGEN PRODUCTION
 - 3.10.1 Industrial applications
 - 3.10.2 Hydrogen energy
 - 3.10.2.1 Stationary use
 - 3.10.2.2 Hydrogen for mobility
 - 3.10.3 Current Annual H2 Production
 - 3.10.4 Hydrogen production processes
 - 3.10.4.1 Hydrogen as by-product
 - 3.10.4.2 Reforming
 - 3.10.4.3 Reforming or coal gasification with CO2 capture and storage
 - 3.10.4.4 Steam reforming of biomethane
 - 3.10.4.5 Water electrolysis
 - 3.10.4.6 The Power-to-Gas concept
 - 3.10.4.7 Fuel cell stack
 - 3.10.4.8 Electrolysers
 - 3.10.4.9 Other
 - 3.10.5 Production costs
 - 3.10.6 Global hydrogen demand forecasts
 - 3.10.7 Role in energy transition



- 3.10.8 SWOT analysis
- 3.10.9 Electrolyzer technologies
- 3.10.9.1 Alkaline water electrolysis (AWE)
- 3.10.9.2 Anion exchange membrane (AEM) water electrolysis
- 3.10.9.3 PEM water electrolysis
- 3.10.9.4 Solid oxide water electrolysis
- 3.10.10 Market players
- 3.11 BLUE HYDROGEN
 - 3.11.1 Advantages over green hydrogen
 - 3.11.2 SWOT analysis
 - 3.11.3 Production technologies
 - 3.11.3.1 Steam-methane reforming (SMR)
 - 3.11.3.2 Autothermal reforming (ATR)
 - 3.11.3.3 Partial oxidation (POX)
 - 3.11.3.4 Sorption Enhanced Steam Methane Reforming (SE-SMR)
 - 3.11.3.5 Methane pyrolysis (Turquoise hydrogen)
 - 3.11.3.6 Coal gasification
 - 3.11.3.7 Advanced autothermal gasification (AATG)
 - 3.11.3.8 Biomass processes
 - 3.11.3.9 Microwave technologies
 - 3.11.3.10 Dry reforming
 - 3.11.3.11 Plasma Reforming
 - 3.11.3.12 Solar SMR
 - 3.11.3.13 Tri-Reforming of Methane
 - 3.11.3.14 Membrane-assisted reforming
 - 3.11.3.15 Catalytic partial oxidation (CPOX)
 - 3.11.3.16 Chemical looping combustion (CLC)
 - 3.11.4 Carbon capture
 - 3.11.4.1 Pre-Combustion vs. Post-Combustion carbon capture
 - 3.11.4.2 What is CCUS?
 - 3.11.4.3 Carbon Utilization
 - 3.11.4.4 Carbon storage
 - 3.11.4.5 Transporting CO2
 - 3.11.4.6 Costs
 - 3.11.4.7 Market map
 - 3.11.4.8 Point-source carbon capture for blue hydrogen
 - 3.11.4.9 Carbon utilization
 - 3.11.5 Market players
- 3.12 HYDROGEN STORAGE AND TRANSPORT



- 3.12.1 Market overview
- 3.12.2 Hydrogen transport methods
- 3.12.2.1 Pipeline transportation
- 3.12.2.2 Road or rail transport
- 3.12.2.3 Maritime transportation
- 3.12.2.4 On-board-vehicle transport
- 3.12.3 Hydrogen compression, liquefaction, storage
 - 3.12.3.1 Solid storage
 - 3.12.3.2 Liquid storage on support
 - 3.12.3.3 Underground storage
- 3.12.4 Market players
- 3.13 HYDROGEN UTILIZATION
 - 3.13.1 Hydrogen Fuel Cells
 - 3.13.1.1 Market overview
 - 3.13.2 Alternative fuel production
 - 3.13.2.1 Solid Biofuels
 - 3.13.2.2 Liquid Biofuels
 - 3.13.2.3 Gaseous Biofuels
 - 3.13.2.4 Conventional Biofuels
 - 3.13.2.5 Advanced Biofuels
 - 3.13.2.6 Feedstocks
 - 3.13.2.7 Production of biodiesel and other biofuels
 - 3.13.2.8 Renewable diesel
 - 3.13.2.9 Biojet and sustainable aviation fuel (SAF)
 - 3.13.2.10 Electrofuels (E-fuels, power-to-gas/liquids/fuels)
 - 3.13.3 Hydrogen Vehicles
 - 3.13.3.1 Market overview
 - 3.13.4 Aviation
 - 3.13.4.1 Market overview
 - 3.13.5 Ammonia production
 - 3.13.5.1 Market overview
 - 3.13.5.2 Decarbonisation of ammonia production
 - 3.13.5.3 Green ammonia synthesis methods
 - 3.13.5.4 Blue ammonia
 - 3.13.5.5 Chemical energy storage
 - 3.13.6 Methanol production
 - 3.13.6.1 Market overview
 - 3.13.6.2 Methanol-to gasoline technology
 - 3.13.7 Steelmaking



- 3.13.7.1 Market overview
- 3.13.7.2 Comparative analysis
- 3.13.7.3 Hydrogen Direct Reduced Iron (DRI)
- 3.13.8 Power & heat generation
- 3.13.8.1 Market overview
- 3.13.9 Maritime
- 3.13.9.1 Market overview
- 3.13.10 Fuel cell trains
 - 3.13.10.1 Market overview
- 3.14 COMPANY PROFILES 221 (247 company profiles)

4 GREEN AMMONIA

4.1 INTRODUCTION

- 4.1.1 Current global ammonia production
- 4.1.2 Overview of renewable hydrogen and nitrogen production
- 4.1.3 Sustainable ammonia production
- 4.1.4 Decarbonisation of ammonia production
 - 4.1.4.1 Elimination of emissions
 - 4.1.4.2 Air Pollution Reduction
- 4.1.4.3 Sustainable Development Goals
- 4.1.5 Comparison with other types of ammonia
- 4.1.6 Applications
- 4.1.7 Life cycle analysis (LCA)
- 4.2 PRODUCTION METHODS
 - 4.2.1 Analysis of production technologies
 - 4.2.2 Renewable Hydrogen Production
 - 4.2.2.1 Water Electrolysis
 - 4.2.2.2 Ammonia synthesis
 - 4.2.2.3 Haber-Bosch process
 - 4.2.2.4 Biological nitrogen fixation
 - 4.2.2.5 Electrochemical production
 - 4.2.2.6 Photoelectrochemical Process
 - 4.2.2.7 Chemical looping processes
 - 4.2.2.8 Plasma Electrolysis
 - 4.2.3 Retrofitting Existing Plants
 - 4.2.4 Small-Scale Modular Systems

4.3 BLUE AMMONIA

4.3.1 Blue ammonia projects, current & planned



4.4 GLOBAL GREEN AMMONIA MARKET

- 4.4.1 Market growth drivers
- 4.4.2 Market challenges
- 4.4.3 Regulatory landscape and policy support
- 4.4.4 Recent industry news and developments
- 4.4.5 Green ammonia projects, current and planned
- 4.4.6 SWOT analysis
- 4.4.7 Fuel cells
- 4.4.7.1 Proton Exchange Membrane Ammonia Fuel Cell (PEM-AFC)
- 4.4.7.2 Alkaline Ammonia Fuel Cell (AFC)
- 4.4.7.3 Solid Oxide Ammonia Fuel Cell (SOFC)
- 4.4.7.4 Direct Ammonia Fuel Cell (DAFC)
- 4.4.8 Transportation fuel (shipping)
- 4.4.9 Fertilizers
- 4.4.10 Sustainable feedstock
- 4.4.11 Energy storage
- 4.4.12 Power generation
- 4.4.13 Aviation
- 4.4.14 Cost analysis
- 4.4.14.1 Cost comparison
- 4.4.14.2 Feedstock, production, transportation costs
- 4.4.14.3 Cost projection forecasts
- 4.4.14.4 Cost reduction pathways
- 4.4.15 Competitive Landscape
- 4.4.15.1 Value chain
- 4.4.15.2 Key players
- 4.4.16 GLOBAL MARKET SIZE
- 4.4.16.1 Total market size
- 4.4.16.2 By end-use market
- 4.4.16.3 By region
- 4.4.17 Future outlook
- 4.5 COMPANY PROFILES 479 (49 company profiles)

5 GREEN STEEL

- **5.1 INTRODUCTION**
 - 5.1.1 Current Steelmaking processes
 - 5.1.2 What is green steel?
 - 5.1.2.1 Decarbonization target and policies



- 5.1.2.2 Advances in clean production technologies
- 5.1.2.3 Production technologies
- 5.1.2.4 Properties
- 5.1.3 Advanced materials in green steel
 - 5.1.3.1 Composite electrodes
 - 5.1.3.2 Solid oxide materials
 - 5.1.3.3 Hydrogen storage metals
 - 5.1.3.4 Carbon composite steels
 - 5.1.3.5 Coatings and membranes
 - 5.1.3.6 Sustainable binders
 - 5.1.3.7 Iron ore catalysts
 - 5.1.3.8 Carbon capture materials
 - 5.1.3.9 Waste gas utilization
- 5.1.4 Advantages and disadvantages of green steel
- 5.1.5 Markets and applications
- 5.2 THE GLOBAL MARKET FOR GREEN STEEL
- 5.2.1 Global steel production
 - 5.2.1.1 Steel prices
 - 5.2.1.2 Green steel prices
- 5.2.2 Green steel plants and production, current and planned
- 5.2.3 Market map
- 5.2.4 SWOT analysis
- 5.2.5 Market trends and opportunities
- 5.2.6 Industry developments, funding and innovation 2022-2023
- 5.2.7 Market growth drivers
- 5.2.8 Market challenges
- 5.2.9 End-use industries
- 5.2.9.1 Automotive
- 5.2.9.2 Construction
- 5.2.9.3 Consumer appliances
- 5.2.9.4 Machinery
- 5.2.9.5 Rail
- 5.2.9.6 Packaging
- 5.2.9.7 Electronics
- 5.2.10 Global market for demand and revenues 2018-2033
- 5.2.10.1 Total market 2018-2033
- 5.2.10.2 By end-use industry
- 5.2.10.3 By region
- 5.2.11 Competitive landscape



5.2.12 Future market outlook5.3 COMPANY PROFILES 589 (44 company profiles)

6 REFERENCES



List Of Tables

LIST OF TABLES

- Table 1. Hydrogen colour shades, Technology, cost, and CO2 emissions.
- Table 2. Overview of hydrogen production methods.
- Table 3. National hydrogen initiatives.
- Table 4. Market challenges in the hydrogen economy and production technologies.
- Table 5. Hydrogen industry developments 2020-2023.
- Table 6. Market map for hydrogen technology and production.
- Table 7. Industrial applications of hydrogen.
- Table 8. Hydrogen energy markets and applications.
- Table 9. Hydrogen production processes and stage of development.
- Table 10. Estimated costs of clean hydrogen production.
- Table 11. Characteristics of typical water electrolysis technologies
- Table 12. Advantages and disadvantages of water electrolysis technologies.
- Table 13. Market players in green hydrogen (electrolyzers).
- Table 14. Technology Readiness Levels (TRL) of main production technologies for blue hydrogen.
- Table 15. Key players in methane pyrolysis.
- Table 16. Commercial coal gasifier technologies.
- Table 17. Blue hydrogen projects using CG.
- Table 18. Biomass processes summary, process description and TRL.
- Table 19. Pathways for hydrogen production from biomass.
- Table 20. CO2 utilization and removal pathways
- Table 21. Approaches for capturing carbon dioxide (CO2) from point sources.
- Table 22. CO2 capture technologies.
- Table 23. Advantages and challenges of carbon capture technologies.
- Table 24. Overview of commercial materials and processes utilized in carbon capture.
- Table 25. Methods of CO2 transport.
- Table 26. Carbon capture, transport, and storage cost per unit of CO2
- Table 27. Estimated capital costs for commercial-scale carbon capture.
- Table 28. Point source examples.
- Table 29. Assessment of carbon capture materials
- Table 30. Chemical solvents used in post-combustion.
- Table 31. Commercially available physical solvents for pre-combustion carbon capture.
- Table 32. Carbon utilization revenue forecast by product (US\$).
- Table 33. CO2 utilization and removal pathways.
- Table 34. Market challenges for CO2 utilization.



Table 35. Example CO2 utilization pathways.

Table 36. CO2 derived products via Thermochemical conversion-applications, advantages and disadvantages.

Table 37. Electrochemical CO? reduction products.

Table 38. CO2 derived products via electrochemical conversion-applications,

advantages and disadvantages.

Table 39. CO2 derived products via biological conversion-applications, advantages and disadvantages.

- Table 40. Companies developing and producing CO2-based polymers.
- Table 41. Companies developing mineral carbonation technologies.
- Table 42. Market players in blue hydrogen.
- Table 43. Market overview-hydrogen storage and transport.
- Table 44. Summary of different methods of hydrogen transport.
- Table 45. Market players in hydrogen storage and transport.

Table 46. Market overview hydrogen fuel cells-applications, market players and market challenges.

- Table 47. Categories and examples of solid biofuel.
- Table 48. Comparison of biofuels and e-fuels to fossil and electricity.
- Table 49. Classification of biomass feedstock.
- Table 50. Biorefinery feedstocks.
- Table 51. Feedstock conversion pathways.
- Table 52. Biodiesel production techniques.
- Table 53. Advantages and disadvantages of biojet fuel
- Table 54. Production pathways for bio-jet fuel.
- Table 55. Applications of e-fuels, by type.
- Table 56. Overview of e-fuels.
- Table 57. Benefits of e-fuels.
- Table 58. eFuel production facilities, current and planned.

Table 59. Market overview for hydrogen vehicles-applications, market players and market challenges.

- Table 60. Blue ammonia projects.
- Table 61. Ammonia fuel cell technologies.
- Table 62. Market overview of green ammonia in marine fuel.
- Table 63. Summary of marine alternative fuels.
- Table 64. Estimated costs for different types of ammonia.
- Table 65. Comparison of biogas, biomethane and natural gas.
- Table 66. Hydrogen-based steelmaking technologies.
- Table 67. Comparison of green steel production technologies.
- Table 68. Advantages and disadvantages of each potential hydrogen carrier.



Table 69. Sustainable feedstocks for producing green ammonia.

- Table 70. Comparison of green ammonia with other types of ammonia.
- Table 71. Applications of green ammonia.
- Table 72. Comparative analysis of green ammonia production technologies.
- Table 73. Blue ammonia projects, current and planned.
- Table 74. Market growth drivers for green ammonia.
- Table 75. Market challenges for green ammonia.
- Table 76. Global regulatory landscape and policy support for green ammonia.
- Table 77. Recent industry news and developments
- Table 78. Green ammonia projects (current and planned).
- Table 79. Comparative analysis of ammonia fuel cell technolgies.
- Table 80. Ammonia fuel cell technologies.
- Table 81. Market overview of green ammonia in marine fuel.
- Table 82. Summary of marine alternative fuels.
- Table 83. Green ammonia in chemicals production.
- Table 84. Green ammonia in power generation.
- Table 85. Production Cost Comparison (As of August 2023).
- Table 86. Green Ammonia Production Costs by Renewable Power Source.
- Table 87. Estimated costs for different types of ammonia.
- Table 88. Key cost reduction pathways for green ammonia.
- Table 89. Key players in green ammonia.
- Table 90. Global market for green ammonia 2018-2034 (1,000 tons).
- Table 91. Global market for green ammonia 2018-2034 (revenues, millions USD).

Table 92. Global market revenues for green ammonia 2018-2034, by end-use market, (1,000 tons).

Table 93. Global market revenues for green ammonia 2018-2034, by end-use market, (millions USD).

Table 94. Global market revenues for green ammonia 2018-2034, by region, (1,000 tons).

Table 95. Global market revenues for green ammonia 2018-2034, by region, (millions USD).

Table 96. Green and blue ammonia projects & plants in North America, current and planned.

Table 97. Green and blue ammonia projects & plants in Asia Pacific, current and planned.

Table 98. Green and blue ammonia projects & plants in Europe, current and planned. Table 99. Green and blue ammonia projects & plants in the Middle East & Africa, current and planned.

Table 100. Global Decarbonization Targets and Policies related to Green Steel.



Table 101. Estimated cost for iron and steel industry under the Carbon Border Adjustment Mechanism (CBAM).

Table 102. Hydrogen-based steelmaking technologies.

Table 103. Comparison of green steel production technologies.

Table 104. Advantages and disadvantages of each potential hydrogen carrier.

Table 105. CCUS in green steel production.

- Table 106. Biochar in steel and metal.
- Table 107. Hydrogen blast furnace schematic.

Table 108. Applications of microwave processing in green steelmaking.

Table 109. Applications of additive manufacturing (AM) in steelmaking.

Table 110. Technology readiness level (TRL) for key green steel production technologies.

Table 111. Properties of Green steels.

Table 112. Coatings and membranes in green steel production.

Table 113. Advantages and disadvantages of green steel.

Table 114. Markets and applications: green steel.

Table 115. Green steel plants, current and planned.

Table 116. Industry developments and innovation in Green steel, 2022-2023.

Table 117. Summary of market growth drivers for Green steel.

Table 118. Market challenges in Green steel.

Table 119. Supply agreements between green steel producers and automakers.

Table 120. Applications of green steel in the automotive industry.

Table 121. Applications of green steel in the construction industry.

Table 122. Applications of green steel in the consumer appliances industry.

Table 123. Applications of green steel in machinery.

Table 124. Applications of green steel in the rail industry.

Table 125. Applications of green steel in the packaging industry.

Table 126. Applications of green steel in the electronics industry.

Table 127. Global market revenues for Green steel, 2018-2033 (Million Metric Tons).

Table 128. Global market revenues for Green steel, 2018-2033 (Billions USD).

Table 129. Global market revenues for Green steel, by end-use industry, 2018-2033 (Billions USD).

Table 130. Global market revenues for Green steel, by region, 2018-2033 (Billions USD).

Table 131. Key players in Green steel, location and production methods.





List Of Figures

LIST OF FIGURES

- Figure 1. Hydrogen value chain.
- Figure 2. Current Annual H2 Production.
- Figure 3. Principle of a PEM electrolyser.
- Figure 4. Power-to-gas concept.
- Figure 5. Schematic of a fuel cell stack.
- Figure 6. High pressure electrolyser 1 MW.
- Figure 7. Global hydrogen demand forecast.
- Figure 8. SWOT analysis for green hydrogen.
- Figure 9. Types of electrolysis technologies.
- Figure 10. Schematic of alkaline water electrolysis working principle.
- Figure 11. Schematic of PEM water electrolysis working principle.
- Figure 12. Schematic of solid oxide water electrolysis working principle.
- Figure 13. SWOT analysis for blue hydrogen.
- Figure 14. SMR process flow diagram of steam methane reforming with carbon capture and storage (SMR-CCS).
- Figure 15. Process flow diagram of autothermal reforming with a carbon capture and storage (ATR-CCS) plant.
- Figure 16. POX process flow diagram.
- Figure 17. Process flow diagram for a typical SE-SMR.
- Figure 18. HiiROC's methane pyrolysis reactor.
- Figure 19. Coal gasification (CG) process.
- Figure 20. Flow diagram of Advanced autothermal gasification (AATG).
- Figure 21. Schematic of CCUS process.
- Figure 22. Pathways for CO2 utilization and removal.
- Figure 23. A pre-combustion capture system.
- Figure 24. Carbon dioxide utilization and removal cycle.
- Figure 25. Various pathways for CO2 utilization.
- Figure 26. Example of underground carbon dioxide storage.
- Figure 27. Transport of CCS technologies.
- Figure 28. Railroad car for liquid CO? transport

Figure 29. Estimated costs of capture of one metric ton of carbon dioxide (Co2) by sector.

- Figure 30. CCUS market map.
- Figure 31. Global capacity of point-source carbon capture and storage facilities.
- Figure 32. Global carbon capture capacity by CO2 source, 2021.



- Figure 33. Global carbon capture capacity by CO2 source, 2030.
- Figure 34. Global carbon capture capacity by CO2 endpoint, 2021 and 2030.
- Figure 35. Post-combustion carbon capture process.
- Figure 36. Postcombustion CO2 Capture in a Coal-Fired Power Plant.
- Figure 37. Oxy-combustion carbon capture process.
- Figure 38. Liquid or supercritical CO2 carbon capture process.
- Figure 39. Pre-combustion carbon capture process.
- Figure 40. CO2 non-conversion and conversion technology, advantages and disadvantages.
- Figure 41. Applications for CO2.
- Figure 42. Cost to capture one metric ton of carbon, by sector.
- Figure 43. Life cycle of CO2-derived products and services.
- Figure 44. Co2 utilization pathways and products.
- Figure 45. Plasma technology configurations and their advantages and disadvantages for CO2 conversion.
- Figure 46. LanzaTech gas-fermentation process.
- Figure 47. Schematic of biological CO2 conversion into e-fuels.
- Figure 48. Econic catalyst systems.
- Figure 49. Mineral carbonation processes.
- Figure 50. Process steps in the production of electrofuels.
- Figure 51. Mapping storage technologies according to performance characteristics.
- Figure 52. Production process for green hydrogen.
- Figure 53. E-liquids production routes.
- Figure 54. Fischer-Tropsch liquid e-fuel products.
- Figure 55. Resources required for liquid e-fuel production.
- Figure 56. Levelized cost and fuel-switching CO2 prices of e-fuels.
- Figure 57. Cost breakdown for e-fuels.
- Figure 58. Hydrogen fuel cell powered EV.
- Figure 59. Green ammonia production and use.
- Figure 60. Classification and process technology according to carbon emission in ammonia production.
- Figure 61. Schematic of the Haber Bosch ammonia synthesis reaction.
- Figure 62. Schematic of hydrogen production via steam methane reformation.
- Figure 63. Estimated production cost of green ammonia.
- Figure 64. Renewable Methanol Production Processes from Different Feedstocks.
- Figure 65. Production of biomethane through anaerobic digestion and upgrading.
- Figure 66. Production of biomethane through biomass gasification and methanation.
- Figure 67. Production of biomethane through the Power to methane process.
- Figure 68. Transition to hydrogen-based production.



- Figure 69. CO2 emissions from steelmaking (tCO2/ton crude steel).
- Figure 70. Hydrogen Direct Reduced Iron (DRI) process.
- Figure 71. Three Gorges Hydrogen Boat No. 1.
- Figure 72. PESA hydrogen-powered shunting locomotive.
- Figure 73. Symbiotic[™] technology process.
- Figure 74. Alchemr AEM electrolyzer cell.
- Figure 75. HyCS® technology system.
- Figure 76. Fuel cell module FCwave™.
- Figure 77. Direct Air Capture Process.
- Figure 78. CRI process.
- Figure 79. Croft system.
- Figure 80. ECFORM electrolysis reactor schematic.
- Figure 81. Domsj? process.
- Figure 82. EH Fuel Cell Stack.
- Figure 83. Direct MCH® process.
- Figure 84. Electriq's dehydrogenation system.
- Figure 85. Endua Power Bank.
- Figure 86. EL 2.1 AEM Electrolyser.
- Figure 87. Enapter Anion Exchange Membrane (AEM) Water Electrolysis.
- Figure 88. Hyundai Class 8 truck fuels at a First Element high capacity mobile refueler.
- Figure 89. FuelPositive system.
- Figure 90. Using electricity from solar power to produce green hydrogen.
- Figure 91. Hydrogen Storage Module.
- Figure 92. Plug And Play Stationery Storage Units.
- Figure 93. Left: a typical single-stage electrolyzer design, with a membrane separating

the hydrogen and oxygen gasses. Right: the two-stage E-TAC process.

- Figure 94. Hystar PEM electrolyser.
- Figure 95. KEYOU-H2-Technology.
- Figure 96. Audi/Krajete unit.
- Figure 97. OCOchem's Carbon Flux Electrolyzer.
- Figure 98. CO2 hydrogenation to jet fuel range hydrocarbons process.
- Figure 99. The Plagazi ® process.
- Figure 100. Proton Exchange Membrane Fuel Cell.
- Figure 101. Sunfire process for Blue Crude production.

Figure 102. CALF-20 has been integrated into a rotating CO2 capture machine (left),

which operates inside a CO2 plant module (right).

Figure 103. Tevva hydrogen truck.

Figure 104. Topsoe's SynCORTM autothermal reforming technology.

Figure 105. O12 Reactor.



Figure 106. Sunglasses with lenses made from CO2-derived materials.

Figure 107. CO2 made car part.

Figure 108. The Velocys process.

Figure 109. Green Ammonia generation synthesis and use.

Figure 110. Classification and process technology according to carbon emission in ammonia production.

Figure 111. Green ammonia production and use.

Figure 112. Life cycle analysis (LCA) for green ammonia.

Figure 113. A large scale electrolyzer facility.

Figure 114. Schematic of the Haber Bosch ammonia synthesis reaction.

Figure 115. Schematic of hydrogen production via steam methane reformation.

Figure 116. Plasma electrolysis for green ammonia synthesis.

Figure 117. SWOT analysis for green ammonia.

Figure 118. Proton Exchange Membrane Fuel Cell schematic representation.

Figure 119. Alkaline Ammonia Fuel Cell (AFC) schematic representation.

Figure 120. Schematic illustration of ammonia-fed SOFC-O.

Figure 121. FuelPositive green ammonia production system.

Figure 122. Green ammonia value chain.

Figure 123. Global market revenues for green ammonia 2018-2034 (tons).

Figure 124. Global market revenues for green ammonia 2018-2034 (revenues, millions USD).

Figure 125. Global market revenues for green ammonia 2018-2034, by end-use market, (1,000 tons).

Figure 126. Global market revenues for green ammonia 2018-2034, by end-use market, (millions USD).

Figure 127. Global market revenues for green ammonia 2018-2034, by region, (1,000 tons).

Figure 128. Global market revenues for green ammonia 2018-2034, by region, (millions USD).

Figure 129. Amogy Tractor.

Figure 130. FuelPositive system.

Figure 131. P2XFloater™.

Figure 132. Plasmleap Technology.

Figure 133. 3D model of a typical Stami Green Ammonia plant.

Figure 134. Yara green ammonia production facility.

Figure 135. Share of (a) production, (b) energy consumption and (c) CO2 emissions from different steel making routes.

Figure 136. Transition to hydrogen-based production.

Figure 137. CO2 emissions from steelmaking (tCO2/ton crude steel).



Figure 138. CO2 emissions of different process routes for liquid steel.

Figure 139. Hydrogen Direct Reduced Iron (DRI) process.

Figure 140. Molten oxide electrolysis process.

Figure 141. Steelmaking with CCS.

Figure 142. Flash ironmaking process.

Figure 143. Hydrogen Plasma Iron Ore Reduction process.

Figure 144. Green steel market map.

Figure 145. SWOT analysis: Green steel.

Figure 146. Global market revenues for Green steel, 2018-2033 (Million Metric Tons).

Figure 147. Global market revenues for Green steel, 2018-2033 (Billions USD).

Figure 148. Global market revenues for Green steel, by end-use industry, 2018-2033 (Billions USD).

Figure 149. Global market revenues for Green steel, by region, 2018-2033 (Billions USD).

Figure 150. Global market revenues for Green steel, in North America, 2018-2033 (Billions USD).

Figure 151. Global market revenues for Green steel, in Europe, 2018-2033 (Billions USD).

Figure 152. Global market revenues for Green steel, in China, 2018-2033 (Billions USD).

Figure 153. Global market revenues for Green steel, in India, 2018-2033 (Billions USD).

Figure 154. Global market revenues for Green steel, in Asia-Pacific, 2018-2033 (Billions USD).

Figure 155. Global market revenues for Green steel, in Middle East and Africa,

2018-2033 (Billions USD).

Figure 156. Global market revenues for Green steel, in South America, 2018-2033 (Billions USD).

Figure 157. ArcelorMittal decarbonization strategy.

Figure 158. HYBRIT process schematic.

Figure 159. Schematic of HyREX technology.

Figure 160. EAF Quantum.



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