

# Syngas & Derivatives Market by Production Technology, Gasifier Type, Feedstock (Coal, Natural Gas, Petroleum Byproducts, Biomass/Waste), Application (Chemicals, Fuel, and Electricity), and Region - Global Forecast to 2025

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## Abstracts

The syngas & derivatives market is projected to grow at a CAGR of 10.6% between 2020 and 2025

The syngas & derivatives market is estimated at 2,45,557 MWth in 2020 and is projected to reach 4,06,860 MWth by 2025, at a CAGR of 10.6% from 2020 to 2025. Rising environmental concerns have been the major drivers for the growth of the syngas & derivatives market in order to provide alternative methods of fuel production. In addition, high demand for chemical intermediaries in the production of hygiene and sanitization and pharmaceutical products due to outbreak of COVID-19 is anticipated to fuel the growth of syngas and its derivatives in the chemical segment.

### Impact of COVID-19 outbreak on the syngas & derivatives market

The COVID-19 outbreak started from Wuhan, China has spread across all the major economies in the world. The syngas & derivatives market has been slightly impacted due to the outbreak of COVID-19 as most of the syngas and its derivatives production plants are located in the countries that are highly impacted due to coronavirus. Also, major manufacturers of syngas and its derivatives have their headquarters and principal subsidiaries in the impacted countries. The disruption caused by the COVID-19 outbreak has impacted the supply chain of the syngas & derivatives market due to low demand fuel and as the production has slowed down in many manufacturing units of the end users.

However, manufacture of chemical intermediaries for health and hygiene products and fuels was marked as critical infrastructure and as essential goods and services, which led to continuation in the operations and production of syngas and its derivatives to meet the demand across the world. In the first half of 2020, companies operating in syngas & derivatives market focused on the production of chemical intermediaries to support the demand for agrochemicals and hygiene and sanitization products. Syngas was also widely used for electricity generation. Significant consumption of syngas and its derivatives is anticipated in applications across chemicals, fuel, and electricity.

Biomass/waste segment is projected to grow at the highest CAGR in the syngas & derivatives market between 2020 and 2025

Biomass/waste is projected to be the fastest growing feedstock segment in the syngas & derivatives market during the forecast period. Biomass and organic wastes are considered as renewable feedstocks that are available in high quantities in many countries. The application of biomass and organic wastes in the production of syngas & derivatives produces clean and renewable energy and reduces landfills to a great extent. The adoption of biomass/waste feedstock in the syngas & derivatives market is in the nascent stage. With increasingly stringent environmental regulations in developed countries, the biomass/waste segment is expected to grow at a rapid pace during the forecast period.

Chemicals segment contributed to the highest volume consumption in the syngas & derivatives market

The chemicals segment is estimated to lead the syngas & derivatives market in 2020, due to rising demand for syngas & derivatives such as methanol, ammonia, and FT synthesis products for the production of chemical intermediates. Chemicals such as methanol are used as an intermediate for the synthesis of many chemicals as well as in fuels. Ammonia being the major chemical used in the production of fertilizers is the prime reason for the growth of the chemicals segment for the syngas & derivatives market, subsequently due to COVID-19 impact fueling the growth of agrochemicals.

Based on the region, Asia Pacific is projected to grow at the highest CAGR in the syngas & derivatives market between 2020 and 2025

The syngas & derivatives market in the Asia Pacific region is projected to grow at the highest CAGR between 2020 and 2025. China accounted for the major share of the

global syngas & derivatives market in 2019, which is driving the growth of the Asia Pacific region. China, India, and Japan are the lucrative markets for syngas & derivatives in the Asia Pacific region during the forecast period. The growth can be attributed to increasing demand for syngas & derivatives from the region's chemical, fuel, and electricity industries, particularly in China and India.

## Market Dynamics

### Driver: Increasing demand for electricity

Presently, electricity is an indispensable utility across the globe. Syngas and its derivatives are used in the production of electricity through hydrogen or directly from syngas as a polygeneration product. The electricity produced from syngas is clean and can be produced as a byproduct of feedstocks such as coal, natural gas, petroleum byproducts, and biomass/wastes, among others.

According to the EIA (US Energy Information Administration), global energy consumption is expected to increase by over 80% by 2040, if the current consumption rate persists. This has led to an increased amount of electricity production. In 2018, worldwide electricity consumption was recorded at 22,964 TWh, which was an increase of over 3.5% from 2017. This is due to the rising per capita demand, coupled with the increased population.

Asia Pacific was the largest consumer of electricity (accounted for almost 50% of the global consumption) in the world, in 2018. Electricity demand in China grew as a result of its steady economic growth and industrial demand. In addition, electricity demand increased in India, South Korea, Japan, and Indonesia in 2018. Electricity consumption in the US, which dipped by 1% in 2017, rose again in 2018. The growth in the US was majorly observed in the residential sector as a result of high consumption by appliances such as air conditioners. Economic growth and industrial demand have also increased electricity consumption in Canada, Brazil, and Russia. Electricity consumption also increased in the Middle East & Africa, especially in Egypt and Iran.

### Restraint: Significant capital investment

The production of syngas using any carbon-based source is a capital-intensive process. Companies must first identify the raw material that they can secure economical and uninterrupted supply of for a long period of time. Selecting and securing feedstock supply for syngas production requires significant R&D and funding. Once this is done,

considerable R&D and FEED (Front End Engineering and Design) of the project are performed, which are also time- as well as capital-intensive phases.

The construction of syngas plants also requires high investment in terms of EPC or turnkey services, investment in technology, and procurement of gasifiers, among others. Post-construction phases such as maintenance, installation of technology, and others also require considerable capital investment. In addition, companies must meet compliance requirements in terms of environmental guidelines for the installation of syngas and derivatives plants. A period of more than 2-3 years is required for the completion of plant installation and commencement of functioning. The effect of this restraint is high on the present syngas & derivatives market.

Breakdown of primary interviews for the report on the syngas & derivatives market

By Company Type – Tier 1 – 30%, Tier 2 – 50%, and Tier 3 – 20%

By Designation – C-Level – 20%, D-Level Executives – 30%, and Others – 50%

By Region – Europe – 40%, Asia Pacific – 30%, North America – 20%, Rest of the World – 10%

The leading manufacturers of syngas & derivatives profiled in this report include Sasol Limited (South Africa), Haldor Topsoe A/S (Denmark), Air Liquide S.A.(France), Siemens AG (Germany), Air Products and Chemicals Inc. (US), KBR Inc. (US), Linde plc (UK), BASF SE (Germany), TechnipFMC PLC (UK), McDermott International, Inc. (US), Mitsubishi Heavy Industries, Ltd. (Japan), Chiyoda Corporation (Japan), Synthesis Energy Systems, Inc. (US), Yara International ASA (Norway), Methanex Corporation (Canada), CF Industries Holdings, Inc. (US), Dow Inc. (US), and John Wood Group PLC (UK), among others.

## Research Coverage

The report covers the syngas & derivatives market by production technology (steam reforming, partial oxidation, autothermal reforming, biomass gasification, and others), by gasifier type [fixed (moving) bed gasifier, entrained flow gasifier, fluidized bed gasifier, and others], by feedstock (coal, natural gas, petroleum byproducts, biomass/waste, and others), by application (chemicals, fuel, and electricity), and by region. The further breakdown of the application segment includes chemicals, by derivative (methanol,

ammonia, and FT synthesis products), fuel, by form (liquid fuels and gaseous fuels), and electricity, by source (hydrogen and direct syngas consumption). The study aims at estimating the size and future growth potential of the market across various segments. It also includes an in-depth competitive analysis of the key market players, along with their profiles and key growth strategies.

### Key Benefits of Buying the Report

From an insight perspective, this report focuses on various levels of analyses, such as industry analysis (industry trends) and company profiles. With these insights, the study discusses the basic views on the competitive landscape, emerging & high-growth segments, high-growth regions, drivers, restraints, opportunities, and challenges in the syngas & derivatives market.

The report provides insights on the following:

**Market Penetration:** Comprehensive information on various products of syngas & derivatives offered by top players operating in the market

**Product Development/Innovation:** Detailed insights into upcoming developments in the syngas & derivatives market, R&D activities, and new applications in various end-use industries in the market

**Market Development:** Comprehensive information about lucrative and emerging markets across different regions

**Market Diversification:** Exhaustive information about new products, untapped geographies, recent developments, and investments in the syngas & derivatives market

**Competitive Assessment:** In-depth assessment of strategies, products, and manufacturing capabilities of leading players in the syngas & derivatives market

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\*Details on Products Offered, Recent Developments, COVID-19 Related Developments, SWOT Analysis, winning imperatives, Current Focus and Strategies, Right to Win, might not be captured in case of unlisted companies.

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