



Market Insights: Carbon Dioxide – 2021

Market Insights: Carbon Dioxide - 2021 is one in a series of reports published as part of NexantECA's Markets & Profitability program.

NexantECA's Market Insights report provides a comprehensive review of the global carbon dioxide market, including sources of CO₂ supply and demand in urea, enhanced oil recovery (EOR), food and beverages and others including chemical synthesis. The following scope is covered:

- Market review and outlook for each region
- Markets for nine regions: North America, South America, Western Europe, Central Europe, Eastern Europe, Middle East, Africa, China and Other Asia Pacific
- Carbon pricing discussions
- Competitiveness analysis of CO₂ derived chemicals including methanol and polycarbonate
- Forecast period: 5 years history and 15 year forecast to 2035

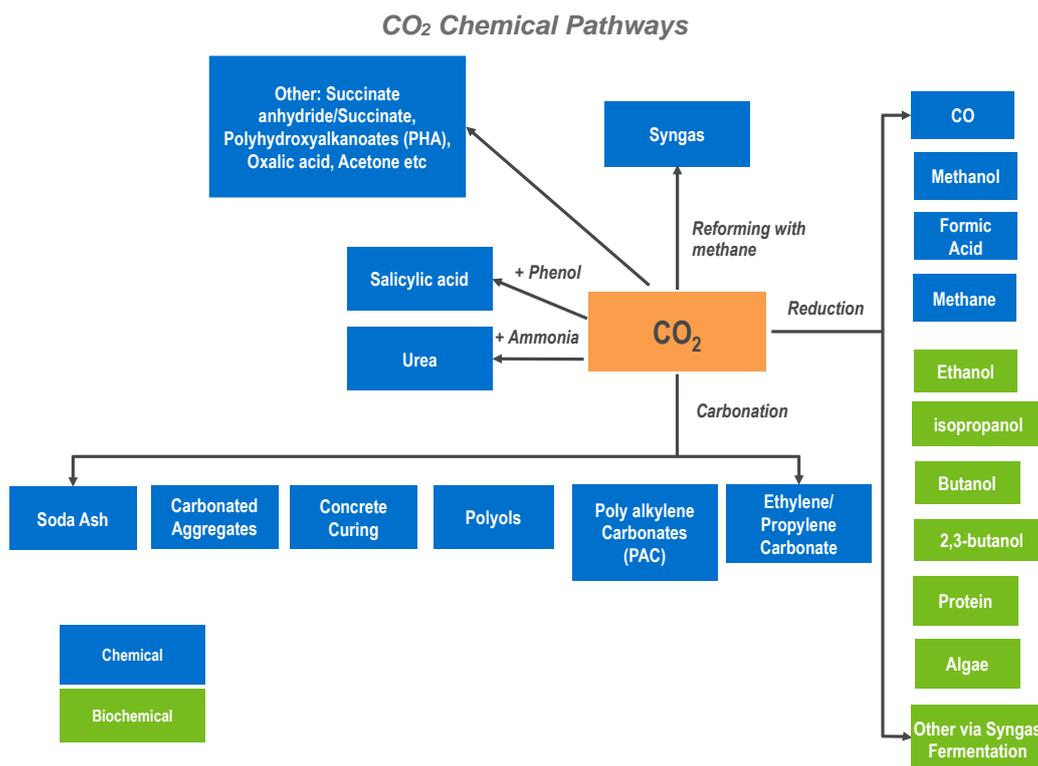
Along with the written report, data is provided in Excel including market and competitiveness data

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Report Abstract:

Around 40 billion tons of carbon emissions are released into the atmosphere every year, with 2020 witnessing a reduction of 7-8 percent due to the COVID-19 pandemic. However, if the 1.5-degree Celsius pathway were to be achieved, the carbon emissions reduction trajectory should follow that experienced in 2020 which implies seismic changes in global economy would be required from carbon neutral perspective.

Global CO₂ demand landed at 229 million tons in 2020 and the market has a modest volume impact on reducing emissions, especially as some consumption releases CO₂ back into the atmosphere such as urea and food and beverage. However, development in utilizing CO₂ cannot be underestimated, particularly in chemical synthesis. Much progress has already been made in recent years in R&D for processes that could produce intermediates and polymers from CO₂, instead of hydrocarbons, particularly in the production of methanol and carbonates including polyols, polycarbonates, and concrete manufacture. A cost competitiveness analysis is performed comparing conventional process against CO₂ based process for both methanol and polycarbonate that represent the typical chemistry from CO₂.



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Chapter 5 includes the following chemicals that that represent the typical chemistry from CO₂.

The United States, Western Europe, and China are selected as the regions where these plants are for:

- Methanol
- Polycarbonate

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- Consultation time with the project team

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