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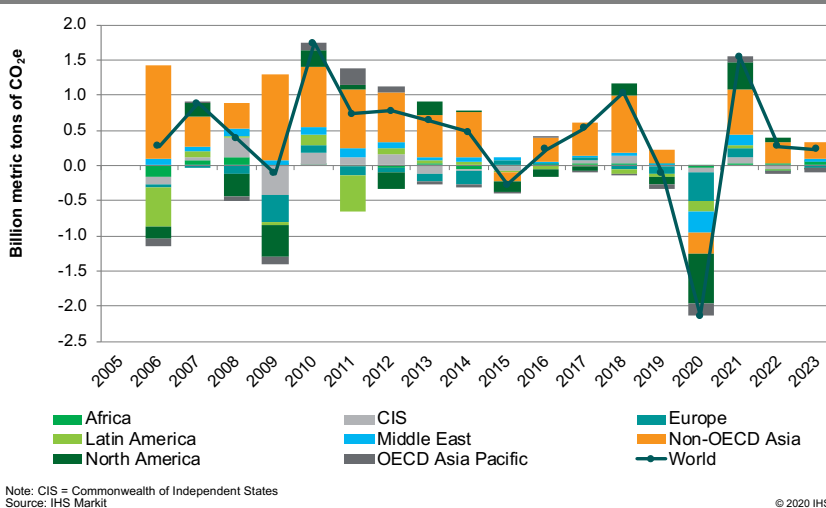
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# Climate and Sustainable Finance

## Climate: 2020 energy-related CO<sub>2</sub> emissions decline to 2011 levels

Annual change in energy-related CO<sub>2</sub> emissions by region



## Key findings

IHS Markit is projecting the largest drop in energy-related carbon dioxide (CO<sub>2</sub>) emissions in history in 2020, back to levels not seen since 2011.

- A decline of nearly 7% is expected in 2020 compared with 2019, based on a conservative estimate of Global GDP decline of 3%.
- The 2020 emissions volume decline, 2.6 Gigatons (Gt), represents an amount greater than the additions of the prior eight years combined.
- Using interim GDP and fuel price forecasts from April, the Energy and Climate Scenarios team has developed provisional guidance on how the energy transition is expected to progress through 2023 in the Rivalry (base case) scenario.

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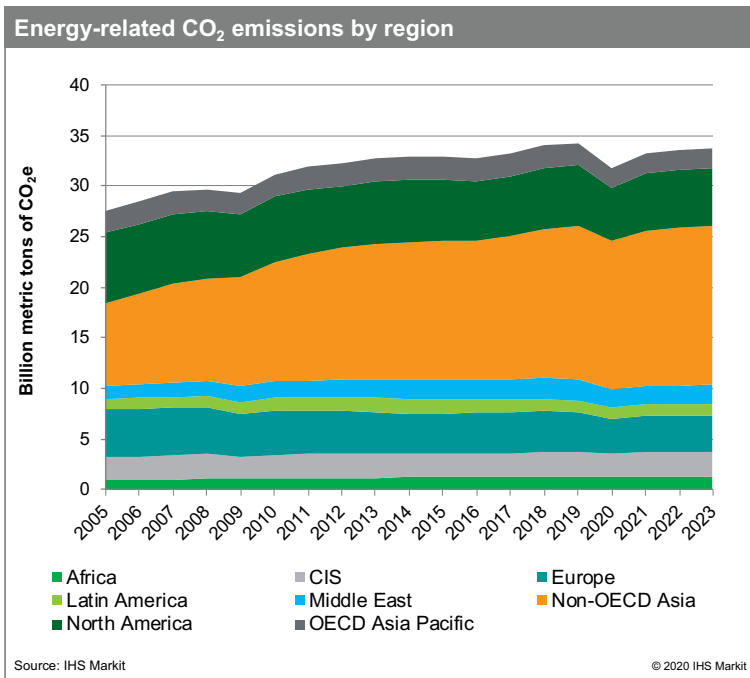
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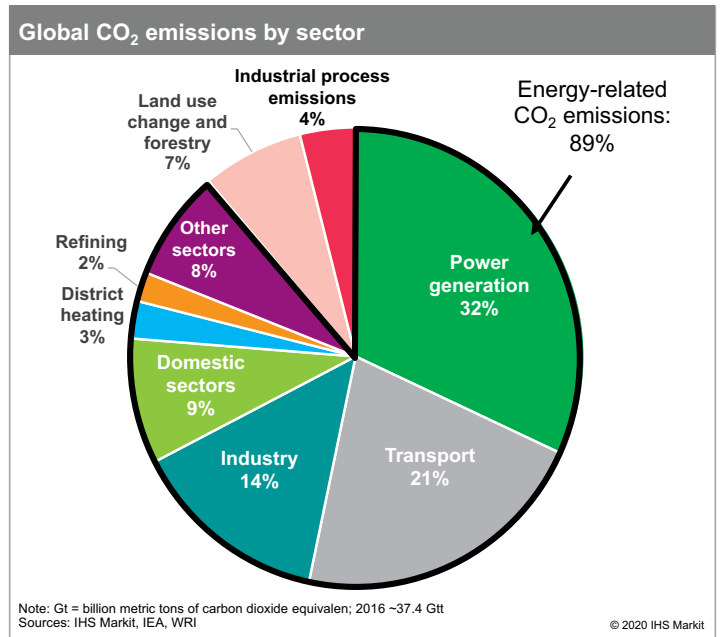
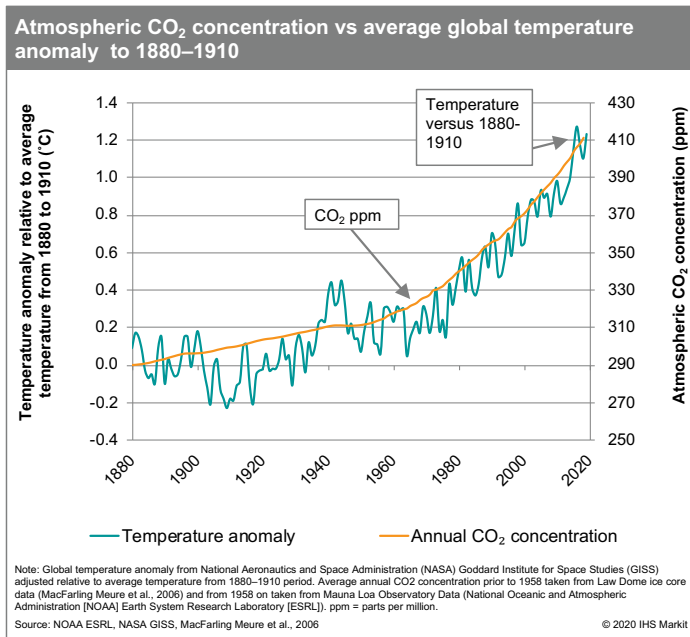
- Energy-related emissions are projected to rise in 2021 along with GDP and move slowly back to trend after 2023. However, total levels projected by 2025 in our 2019 estimates will now not be reached until 2050.
- The depth and duration of the economic lockdowns opened a view to the potential of clean air and less congestion. Although most initial stimulus is to get people back to work in existing industries, there is increased potential for the populous and investors to push for future ties to low-carbon investment. Especially as the physical impacts of a changing climate will continue to be evident, quite irrespective of a pandemic.



## Largest annual drop in energy-related CO2 emissions in history

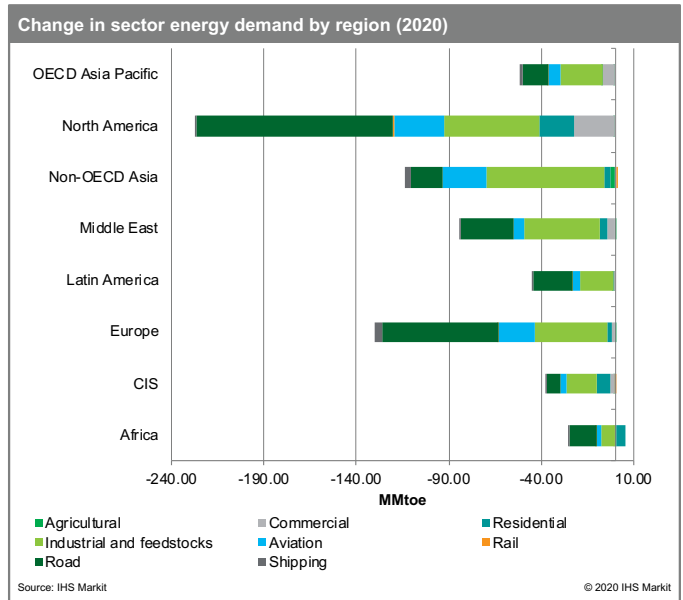
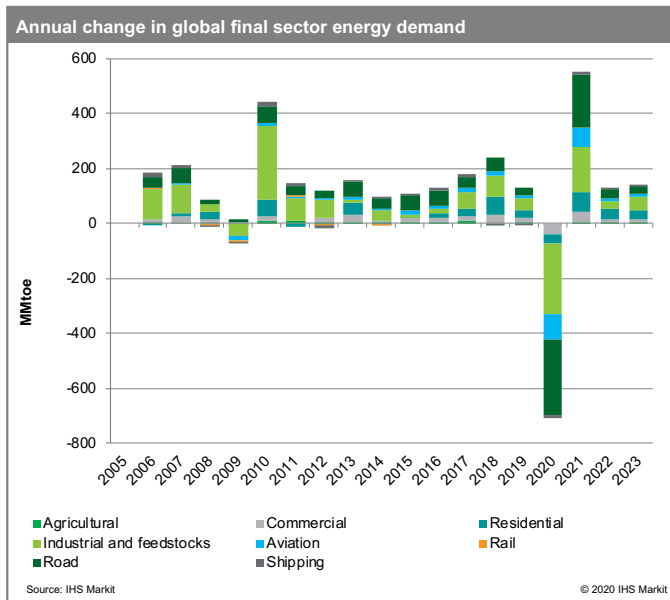
Greenhouse gas emissions (GHGs) include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated gases (F-gases). CO<sub>2</sub> is by far the largest contributor to GHGs, making up 75% of the total, followed by methane at 17%.

- There is a strong correlation between the rise in atmospheric CO<sub>2</sub> concentrations and global temperature rise. The chart at the left plots the global CO<sub>2</sub> concentration in parts per million (ppm) compared with change in average global Celsius temperature compared with a baseline of pre-industrial times (1880-1910). The sharp rise in CO<sub>2</sub> levels starting in the 1980s accompanied an equally sharp rise in global temperatures.
- Energy accounts for nearly 90% of global CO<sub>2</sub> emissions, with power generation (32%) being the largest sector, followed by transport (21%), industry (14%) and domestic sectors (9%). Hence the focus on decarbonization in energy and the move towards an “energy transition.”

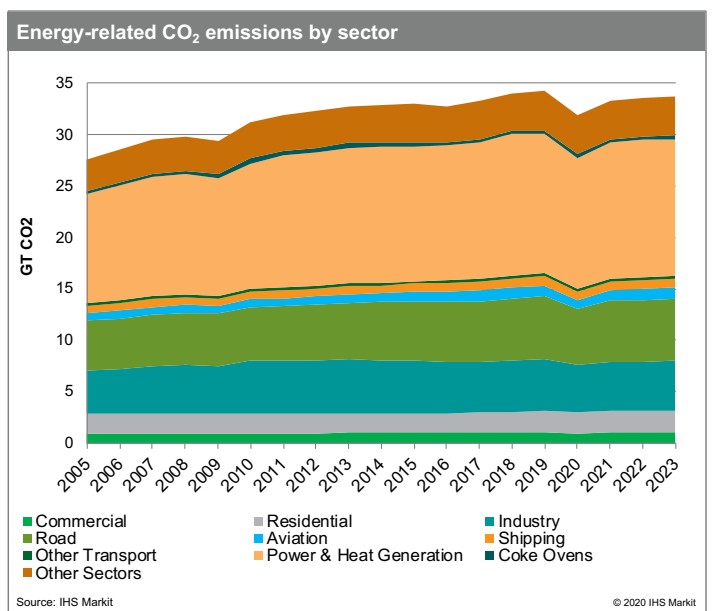
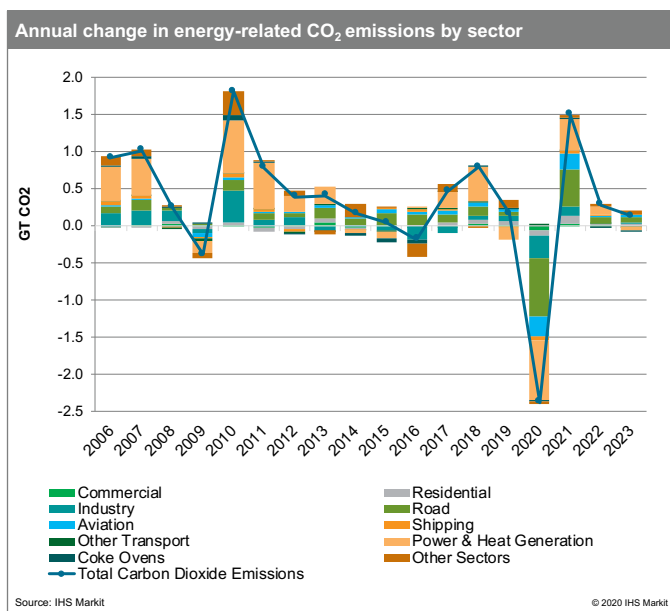


Sector and regional declines in final energy sector demand vary widely.

- In Non-OECD Asia, including Mainland China, industrial energy demand will contract markedly due to reductions in the domestic sector as well as lower activity in key export markets.
- In North America, reduced mobility leads to a collapse in the on-road transport sector in 2020.
- In percentage terms, aviation is the sector with the greatest falls in consumption, at -26% compared to 2019.



Those sectors that emit the most CO<sub>2</sub> are also those most acutely impacted by the pandemic. Global transport emissions, driven by road and aviation, will be down more than 13% in 2020. Industrial and power emissions will each decline more than 6%.





## Where do emissions go from here?

A key question from an environmental standpoint is what happens next. Emissions are projected to rebound 5% in 2021 and return to trend thereafter through 2023 on the basis of the latest GDP, fuel prices, and existing Rivalry Scenario assumptions regarding climate policy performance. Nonetheless the depth of the initial decline means that emissions levels projected for 2025 in our 2019 outlooks, would now not be reached until 2050. They are, however, still rising.

The interventions governments are making to combat COVID-19 and economic recession through assistance or stimulus spending in the initial phases do not look like they will accelerate the energy transition. However, a greener recovery remains possible and can be accelerated by the shifting future government spend to low carbon initiatives that would both increase growth and lead to lower emissions. We expect that the window on clean air and less congestion that was opened during the extended lockdowns could energize many NGOs, financial institutions, and the general public to demand that action be taken.

In addition, the evidence of physical climate change damages such as those seen in 2018 and 2019, will not recede because the world is in a pandemic. The US National Oceanic and Atmospheric Administration (NOAA) assigns a 75% probability that 2020 could be the warmest year on record, and a 99.9% chance that it will be in the top five. Although a shift downward in the emissions curve will reduce what could have happened, it will not be until the emissions trajectory turns markedly downward that climate change will start to be mitigated. The significant variation in potential future energy paths will be laid out in the 2020 Energy and Climate Scenarios datasets, charts, and narratives to be released in June. A short summary of the assumptions in each of the three scenarios will be released to clients in early May along with a discussion webinar in mid-May.



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