UNEARTHING THE ENVIRONMENTAL IMPACT OF HUMAN CO_2 EMISSION ANALYSIS

OVERVIEW

- Global CO2 emissions from energy combustion and industrial processes1 rebounded in 2021 to reach their highest ever annual level. A 6% increase from 2020 pushed emissions to 36.3 gigatonnes (Gt), an estimate based on the IEA's detailed region-by-region and fuel-by-fuel analysis, drawing on the latest official national data and publicly available energy, economic and weather data.

CO2 EMISSION ANALYSIS

- Global warming is one of the biggest challenges currently being faced by the human race, although correlation is not causation, a likely cause of global warming is due to increased atmospheric carbon dioxide from human activities. CO2 Emission refers to the Carbon Dioxide emitted throughout the world. For this analysis we will be focusing on CO2 Emissions and its effect on the world we live in as well as some key factors and stats that may play a role in the emission of CO2 globally. Fossil fuel use is the primary source of CO2. The data throws light onto how much fossil fuels are burnt, per year per nation, which amounts to an increase in CO2 every year. This will help researchers and environment experts to predict global warming. So countries should set a goal to decrease this amount yearly.
- Analysing Global Co2 Emission across countries from 1975 to 2020. This dataset contains a record of Co2 Emission by each Country and Region of Earth, here we are going to analyse and visualise Country wise, Region wise and Overall Co2 Emission on Earth.
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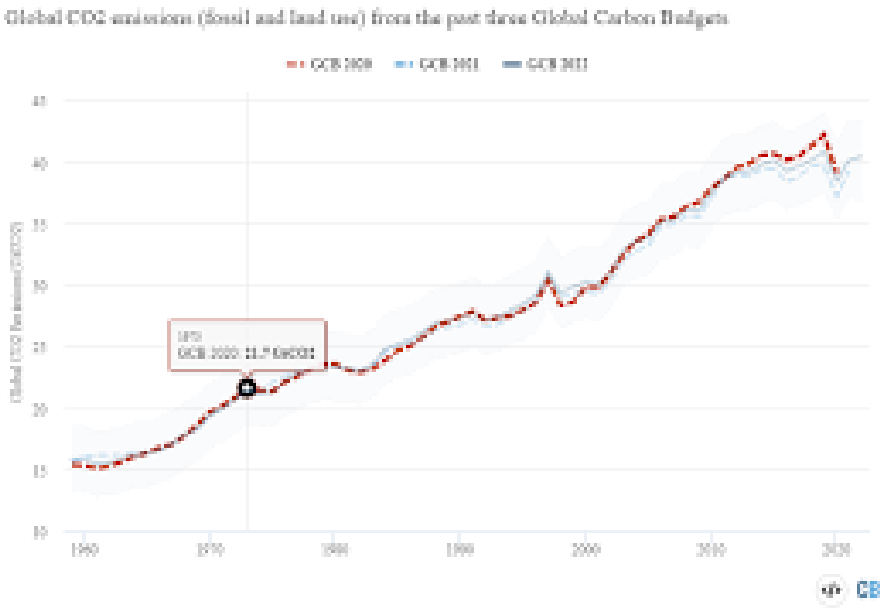
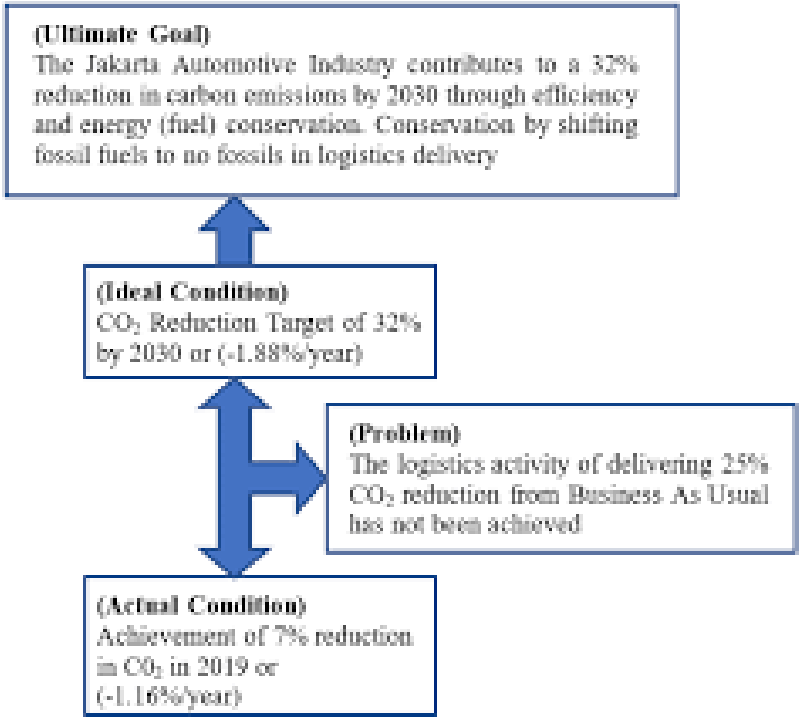


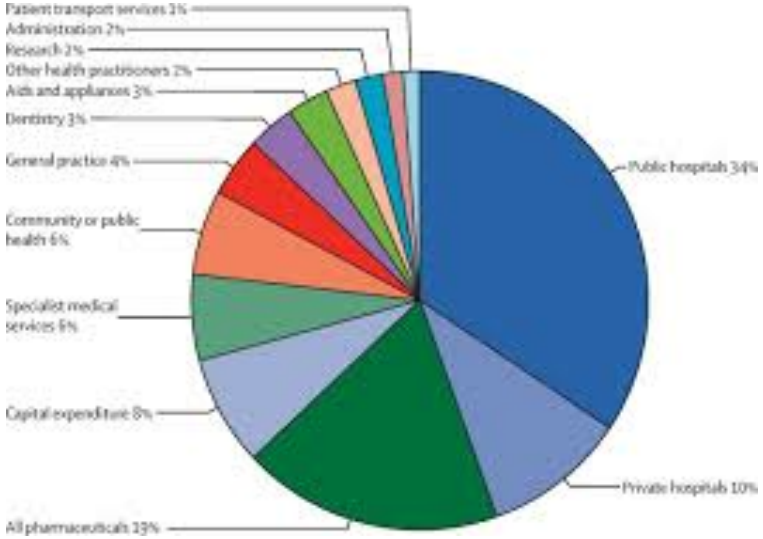
IMPORTANCE

- The business requirements for analysing the Co2 Emission Globally over time, identifying affecting factors, creating interactive dashboards and reports, identifying areas for improvement, making data-driven decisions, comparing to countries average and creating forecasting models for future performance. The ultimate goal is to gain insights and reduce the emission through data visualization techniques.



THINGS TO BE ACHIEVED

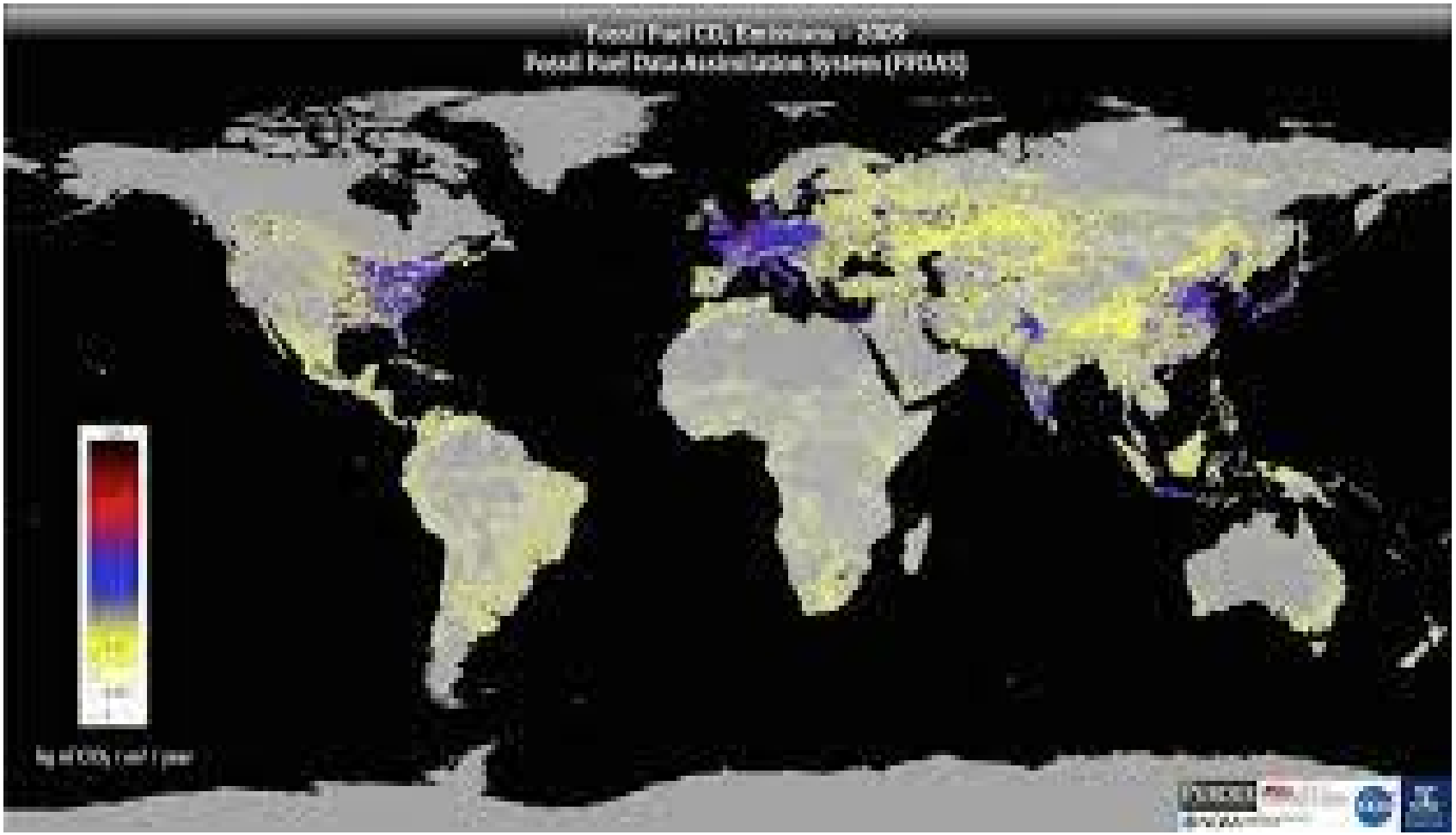
CO2 emissions include emissions from all uses of fossil fuels for energy purposes, including emissions from the combustion of non-renewable waste. The scope of emissions covered in this year's Global Energy Review has been expanded to also include CO2 emissions from industrial processes such as cement, iron and steel, and chemicals production. Estimates of industrial process emissions draw upon the latest statistical data on clinker production for cement and steel production, and relevant chemicals data. CO2 emissions from the combustion of flared gases are also included for the first time.



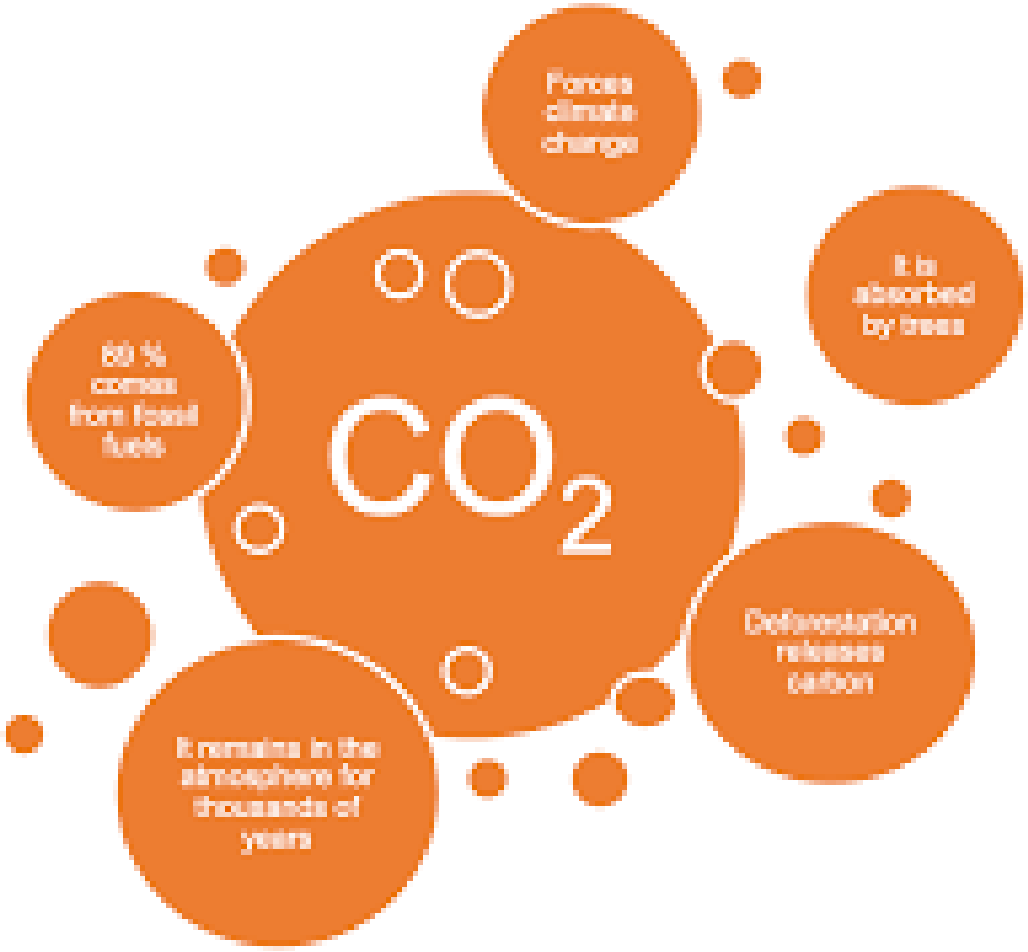
CO2 EMISSION

- Despite the rebound in coal use, renewable energy sources and nuclear power provided a higher share of global electricity generation than coal in 2021. Renewables-based generation reached an all-time high, exceeding 8 000 TWh in 2021, a record 500 TWh above the level in 2020. Output from wind and solar PV increased by 270 TWh and 170 TWh, respectively, while hydro generation declined by 15 TWh due to the impacts of drought, notably in the United States and Brazil. Nuclear power output expanded by 100 TWh. Without increasing output from renewables and nuclear power, the rise in global CO2 emissions in 2021 would have been 220 Mt highe

EMPATHY MAP



BRAINSTORMING MAP



OUTPUT OF THE ANALYSIS

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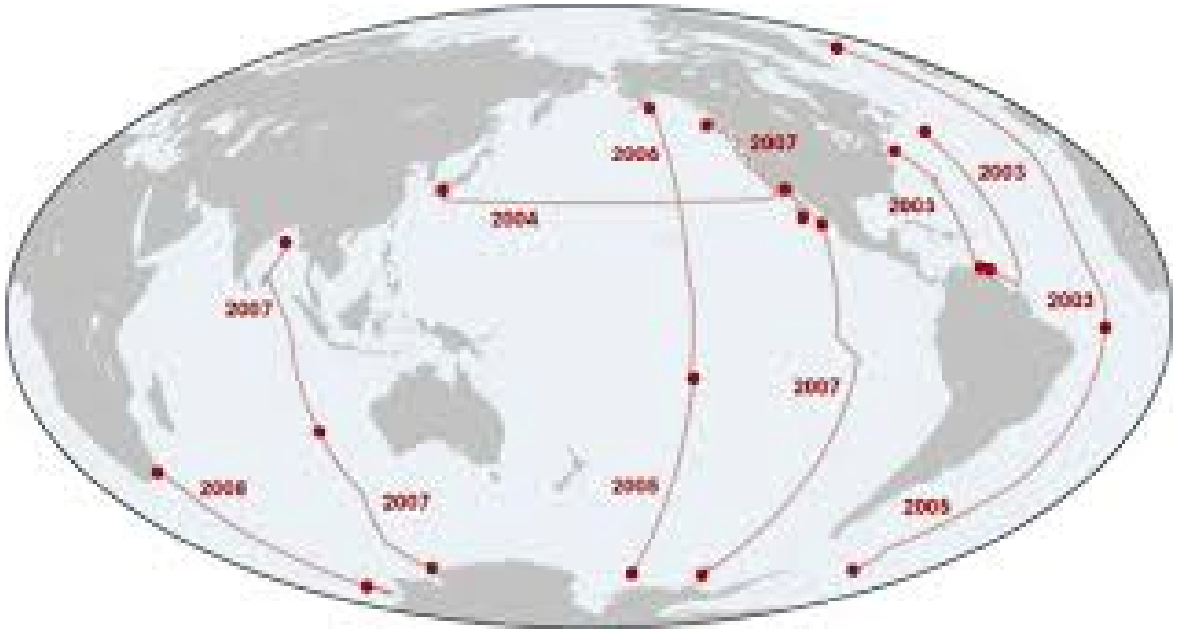
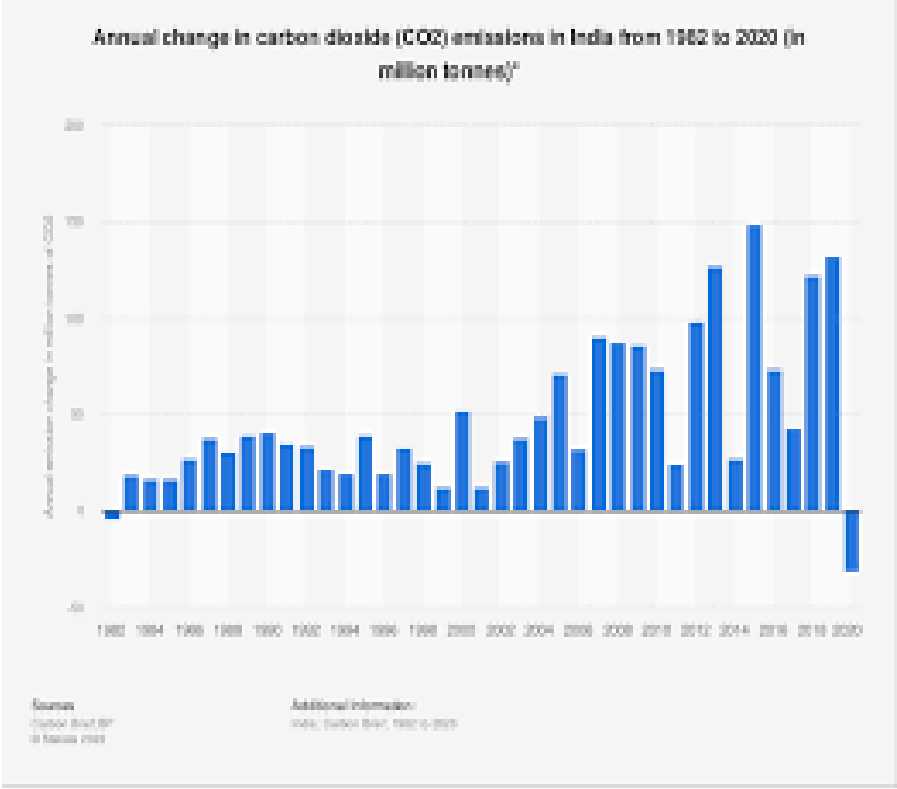
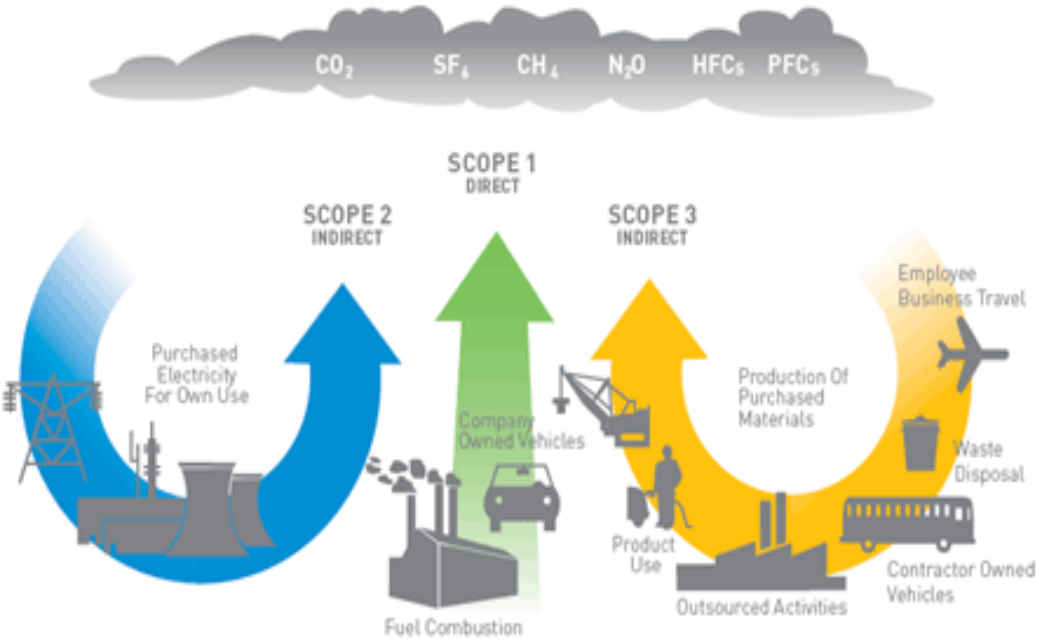


Advantages and disadvantages

- China was the notable exception, with lower coal use in industry pushing CO2 emissions from the industry sector below their 2019 level for the second year in a row. Transport was the only sector in which global CO2 emissions remained well below 2019 levels. The emissions reduction impact of record electric car sales in 2021 was cancelled out by the parallel increase in sales of SUVs.



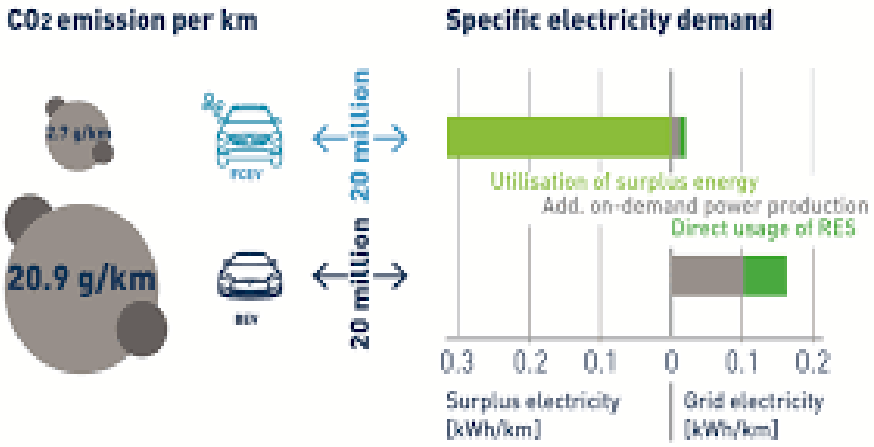
FUTURE SCOPE



- The IEA draws upon a wide range of respected statistical sources to construct estimates of energy demand, CO2 emissions and other energy-related greenhouse gas emissions for the year 2021. Sources include the latest monthly data submissions to the IEA Energy Data Centre (including November and December 2021, when available), real-time data from power system operators across the world, other statistical releases from national administrations, and recent market data from the IEA Market Report series that covers coal, oil, natural gas, renewables, electricity and energy efficiency. Where data are not available on an annual or monthly basis, estimates may be used

DEMANDS

- Coal accounted for over 40% of the overall growth in global CO2 emissions in 2021. Coal emissions now stand at an all-time high of 15.3 Gt, surpassing their previous peak (seen in 2014) by almost 200 Mt. CO2 emissions from natural gas also rebounded well above 2019 levels to 7.5 Gt, as demand increased in all sectors. At 10.7 Gt, emissions from oil remained significantly below pre-pandemic levels because of the limited recovery in global transport activity in 2021.



CONCLUSION

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