

 CARBON EMISSIONS

COVID-19 carbon cuts

Strict government policies have been put in place to limit the spread of COVID-19. In many nations, population confinement has been used as one such measure, resulting in drastically modified energy use owing to, for example, shifts in transportation patterns or industrial operations. Anthropogenic CO₂ emissions can therefore also be expected to have changed during the pandemic.

Corinne Le Quéré from the University of East Anglia, UK, and

co-authors, use a combination of energy, activity and policy data to estimate the changes in daily CO₂ emissions arising from COVID-19-related confinement impacts on six economic sectors: power, surface transport, industry, aviation, residential buildings, and public buildings and commerce. Compared with 2019, global daily emissions in early April decreased by 17% (depending on assumptions, 11% to 25%), reflecting a reduction of 17 Mt CO₂ per day

(11–25 Mt CO₂ per day), nearly half of which (43%, or 5.9–9.6 Mt CO₂ per day) can be attributed to changes in the surface transport sector. The largest relative declines, however, were observed in the aviation industry sector (60%, or 1.3–2.2 Mt CO₂ per day). Up until the end of April 2020, these changes reflect total global decreases of 1,048 Mt CO₂ (543–1,638), which, depending on when lockdown measures ease, could reach 2,729 Mt CO₂ (986–4,717).

While these CO₂ reductions represent environmental benefits, the total ‘savings’ are consistent with those needed year-on-year to reach the goals of the Paris Agreement. Thus, the extreme measures during the COVID-19 pandemic also act to highlight the fundamental changes needed to constrain impacts from anthropogenic climate change. Moreover, post-crisis rebounds in emissions may counter or restore emissions along original trajectories, demonstrating the influence of political and economic stimuli in dictating emissions trajectories well beyond 2020.

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ORIGINAL ARTICLE Le Quéré, C. et al. Temporary reduction in daily global CO₂ emissions during the COVID-19 forced confinement. *Nat. Clim. Change* <https://doi.org/10.1038/s41558-020-0797-x> (2020)