

Implications of COVID-19 for climate change mitigation

Dr Maria Sharmina
Tyndall Centre for Climate Change Research
University of Manchester

Russian-British Climate
Security Workshop
16th December 2020



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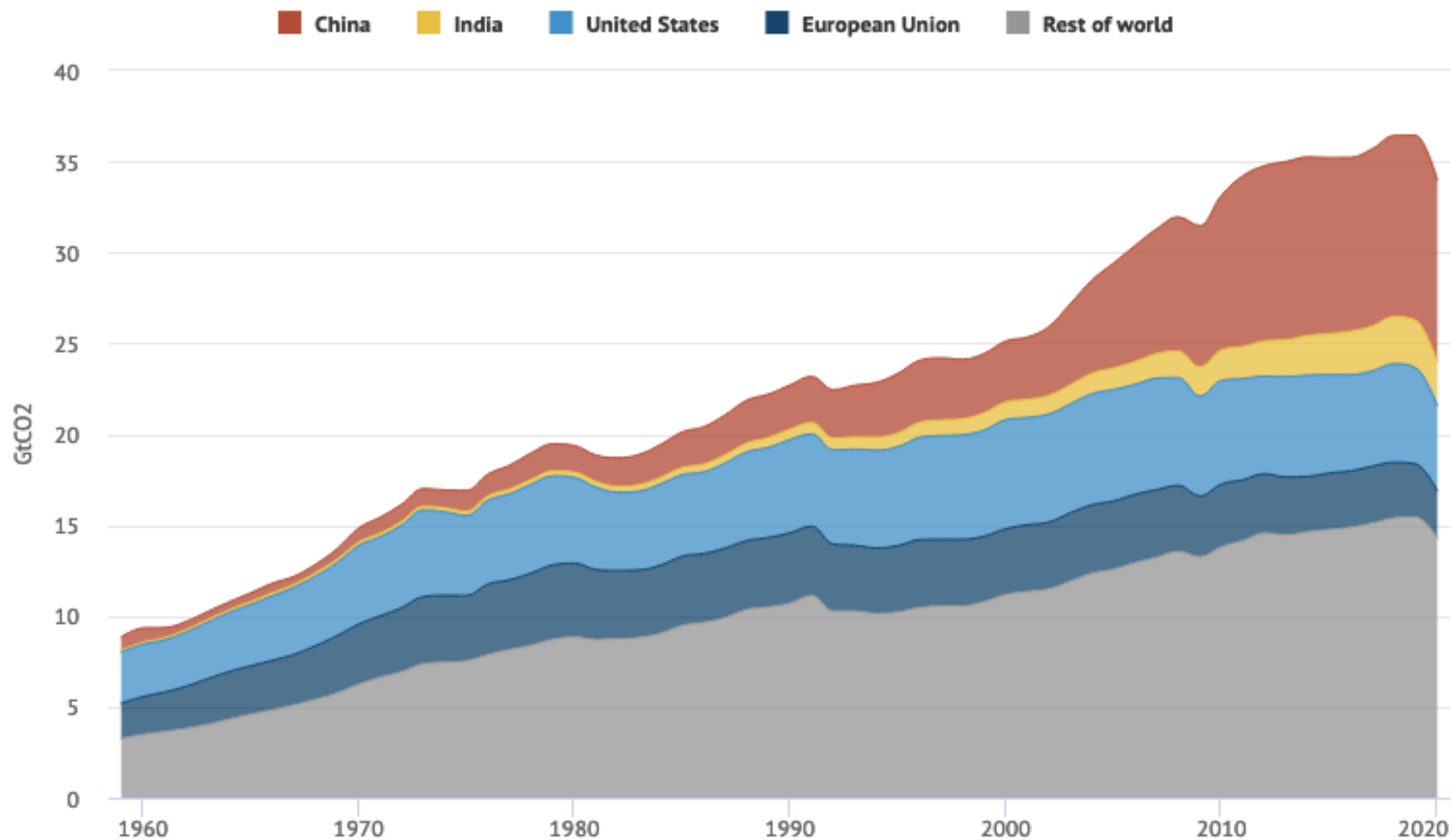
- Emissions reduction from energy
- Climate impacts, risks, and adaptation
- Public perceptions of climate change
- Governance of climate negotiations and policymaking

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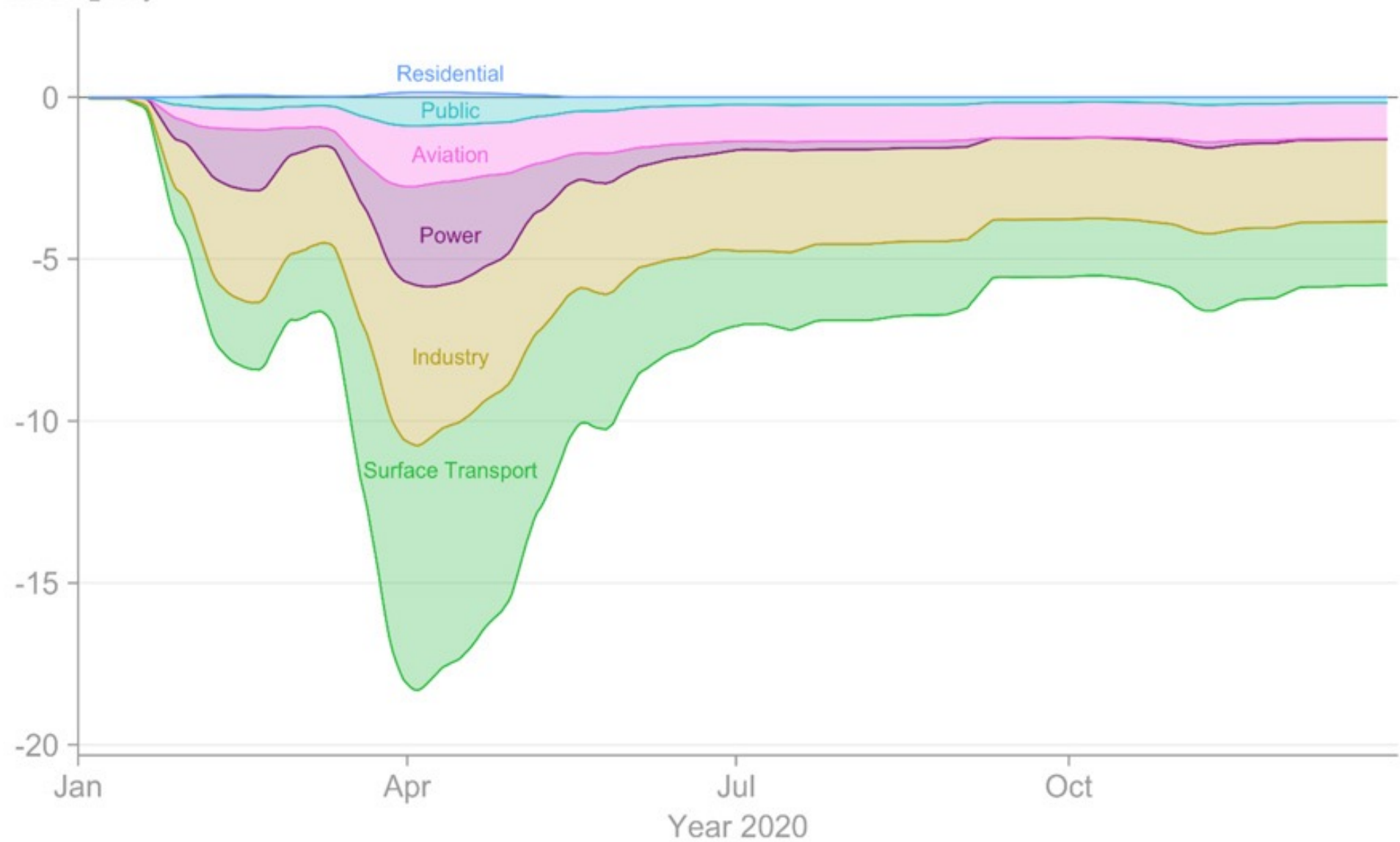


Global CO2 emissions from fossil fuels by region, 1959-2020

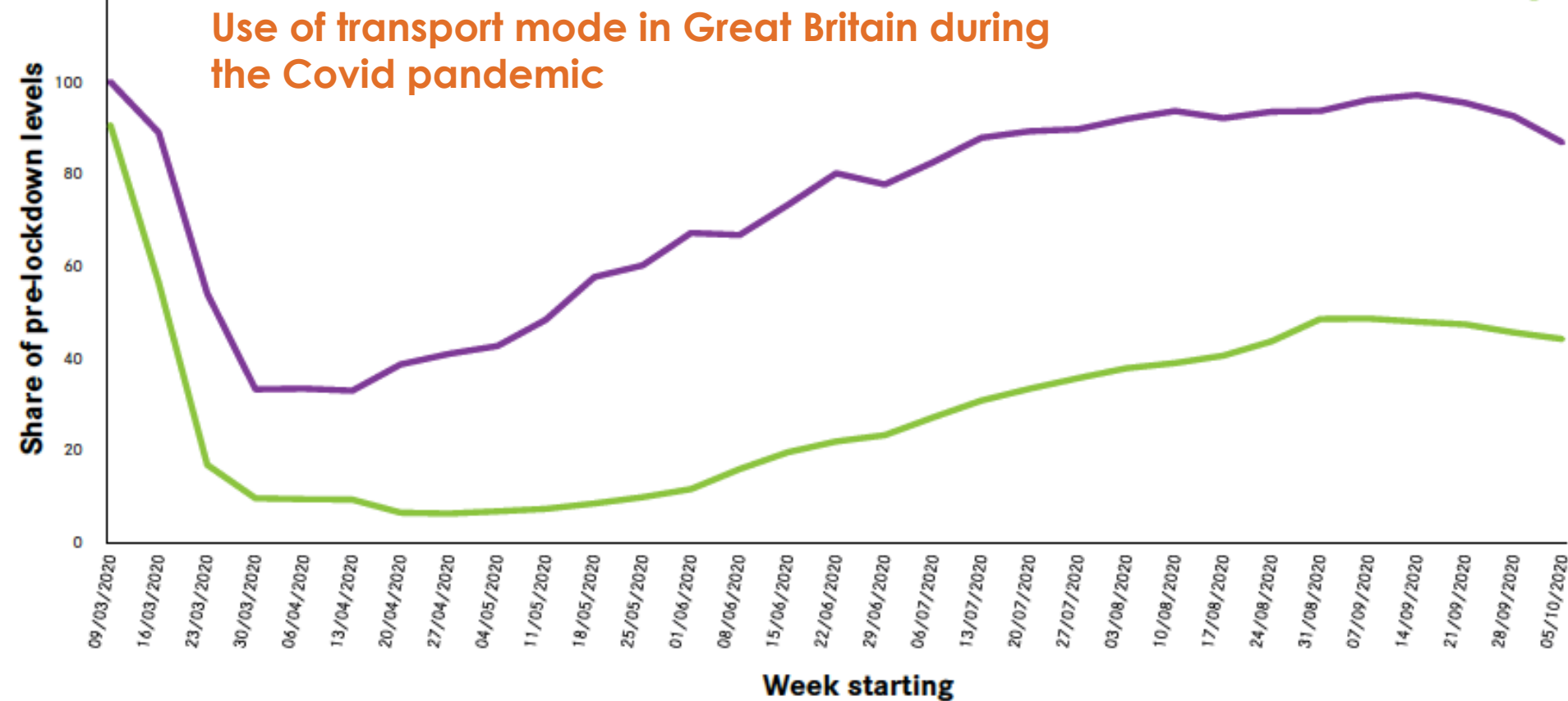
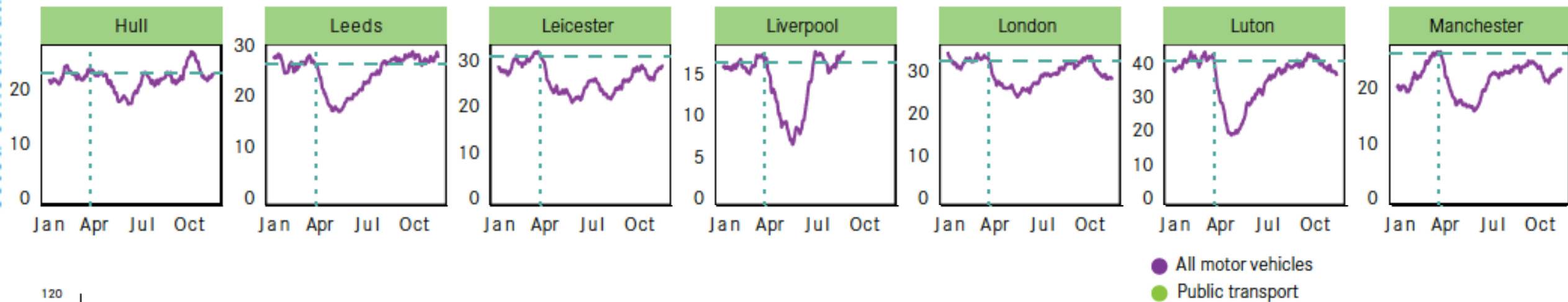


Data from the Global Carbon Project; chart by Carbon Brief using Highcharts.

Global daily fossil CO₂ emissions
MtCO₂ day⁻¹



NO2 weather-corrected concentration. 30-day running average



To guide economic recovery...

*“...we were disappointed to see recent policy recommendations from influential bodies [such as the UK’s Committee on Climate Change and the International Energy Agency] to build a low-carbon recovery from the COVID-19 shock almost entirely on **technological supply-side options.**”*



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Research Article

Decarbonising the critical sectors of aviation, shipping, road freight and industry to limit warming to 1.5–2°C

M. Sharmina , O. Y. Edelenbosch, C. Wilson , R. Freeman, D. E. H. J. Gernaat, P. Gilbert, ...show all

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Key points & discussion

- Global CO₂ emissions dipped 7% in 2020 cf. 2019
- Transport emissions particularly affected
- Much CO₂ change due to behavioural changes
- Big uptick in use of private vehicles since early Summer
- Economic recovery plans build on tech options mainly (exception: December UK Sixth Carbon Budget report mentions less flying, eating less meat, etc.)

...

- Priorities can shift quickly to manage an emergency
- Change can be swift in individual, community and government behaviours

References

- Committee on Climate Change (CCC). 2020. The Sixth Carbon Budget: The UK's path to Net Zero, December 2020. URL: <https://www.theccc.org.uk/publication/sixth-carbon-budget/>
- Fell et al. 2020. *Post-pandemic recovery: How smart local energy systems can contribute*. EnergyREV (Energy Revolution Consortium), University of Strathclyde Publishing: Glasgow, UK.
- Global Carbon Project. 2020. Global Carbon Budget Highlights, 10th December 2020. URL: <https://www.globalcarbonproject.org/>
- Larkin. 2020. Recovering from Covid-19, will responsible science and technology be tools of rapid change? Responsible Science Conference October 2020.
- Le Quéré et al. 2020. Temporary reduction in daily global CO₂ emissions during the COVID-19 forced confinement. *Nature Climate Change*. DOI:10.1038/s41558-020-0797-x
- Sharmina et al. 2020. Decarbonising the critical sectors of aviation, shipping, road freight and industry to limit warming to 1.5–2°C. *Climate Policy*. DOI:10.1080/14693062.2020.1831430
- Quinio & Enenkel. 2020. *How have the Covid pandemic and lockdown affected air quality in cities?* Centre of Cities briefing, 10th December 2020. URL: <https://www.centreforcities.org/publication/covid-pandemic-lockdown-air-quality-cities/>

Thank you

Get in touch!

maria.sharmina@manchester.ac.uk

@tyndallmanc