Climate change and transport

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England could run short of water within 25 years

Exclusive: Environment Agency chief calls for use to be cut by a third

▲ The Wayoh reservoir near Bolton. The UK's population is expected to rise from 67 million to 75 million in 2050, increasing the demand for water Photograph: Christopher Furlong/Getty Images

Climate emergency declarations in 987 jurisdictions and local governments cover 212 million citizens

Posted on *4 September 2019*

987 jurisdictions in 18 countries have declared a climate emergency. Populations covered by jurisdictions that have declared a climate emergency amount to 212 million citizens, with 47 million of these living in the United Kingdom. This means in Britain now roughly 70 per cent of the population lives in areas that have declared a climate emergency. In New Zealand, the percentage is even higher: 73 per cent of the population. It's 24 per cent in Switzerland and Spain.

Department for Environment Food & Rural Affairs

Llywodraeth Cymru Welsh Government

Cyfoeth Naturiol Cymru Natural Resources Wales

Environment Agency

The costs and impacts of the winter 2013 to 2014 floods

Project Summary SC140025

Summary

The total economic damages for England and Wales from the winter 2013 to 2014 floods were estimated to be between £1,000 million and £1,500 million, with a best estimate of **£1,300 million.**

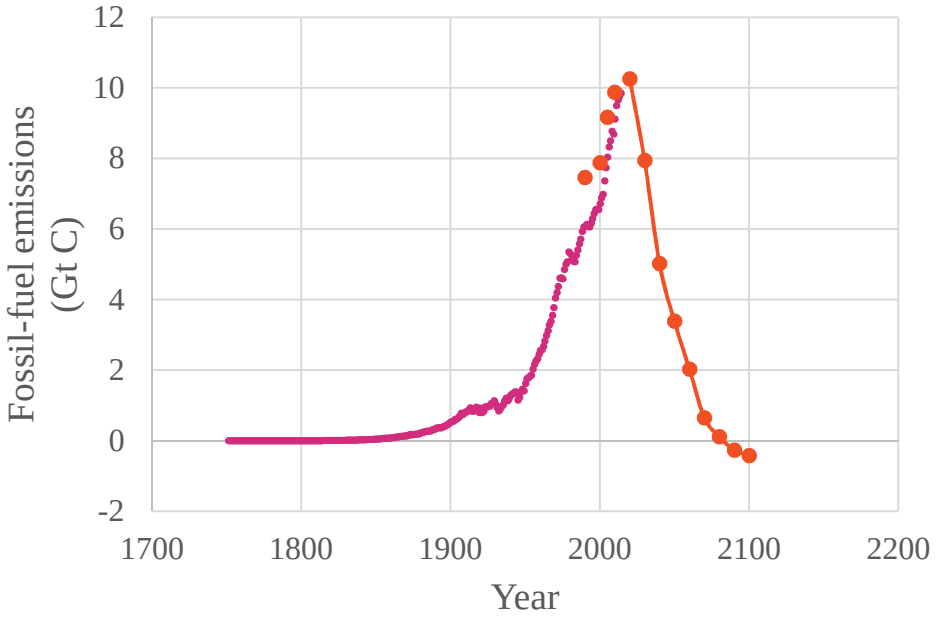
Residential properties suffered the greatest proportion of flood damages, with 25% of total damages occurring to this sector (best estimate of £320 million incurred by 10,465 properties).

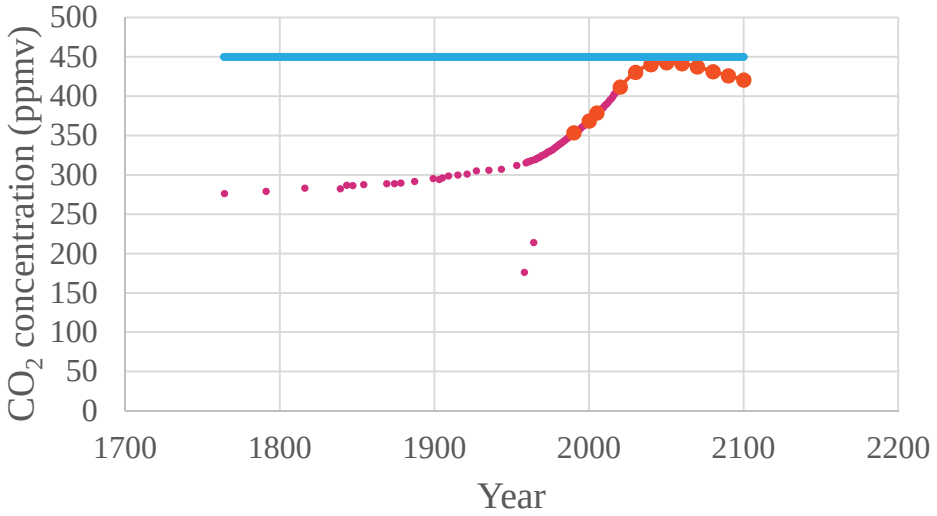
differences made it necessary to carry out an in-depth review of the impacts of the winter 2013 to 2014 floods to better understand their unique characteristics. In particular, a better assessment was needed of the impacts resulting from:

- coastal surge and extreme waves
- long duration floods
- damage to transport and energy supply networks
- damage to water treatment works
- damage to wildlife sites

Climate change

- Greenhouse effect
- Growth in emissions from fossil-fuel combustion
- Significant change required at global scale





Biden et al (2013). Global CO2 emissions from fossil-fuel burning, cement manufacture and gas flaring: 1751-2010. Available online at http://cdiac.ornl.gov/ftp/ndp030/global.1751_2010.ems

RCP Database v2.0. Available online at http://tntcat.iiasa.ac.at:8787/RcpDb/dsd?Action=htmlpage&page=compare

Thomas Conway and Pieter Tans, NOAA/ESRL (www.esrl.noaa.gov/gmd/ccgg/trends/)

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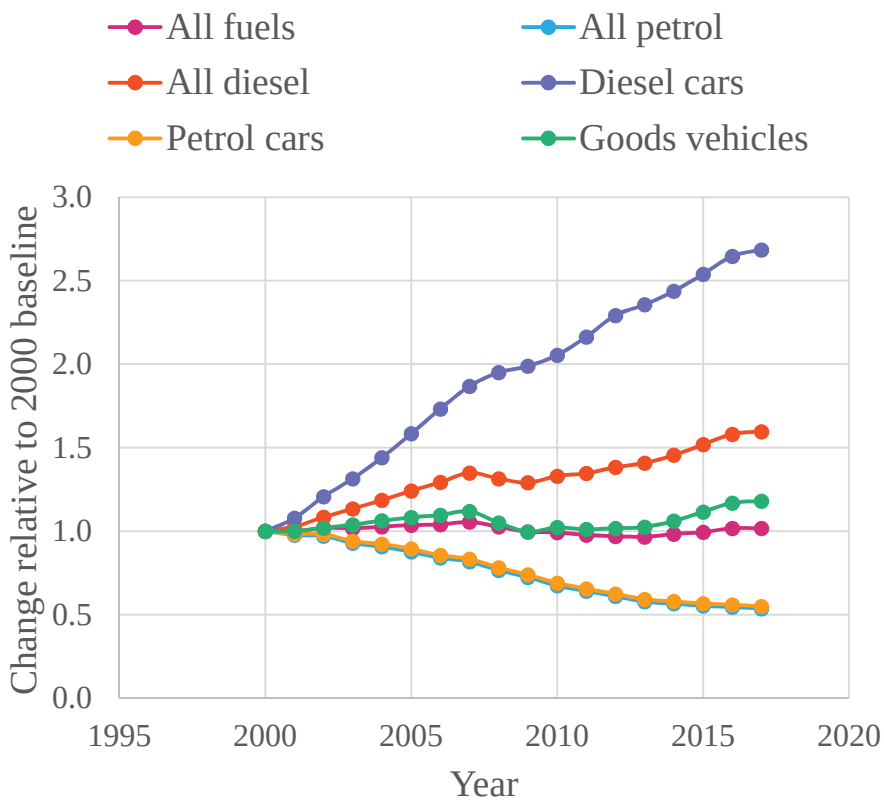
Emissions and transport

- Transport accounts 31% of UK emissions, road transport 28%
- 45% of Cambridgeshire emissions from transport
- Growing UK vehicle fleet means more use of petrol and diesel
- Small proportion of hybridised and electric powertrains



Craglia et al. (2019). Reducing air pollution, congestion and CO2 emissions from transport across Cambridgeshire. Cambridgeshire County Council and Cambridge University Science and Policy Exchange

BEIS (2019). Energy consumption in the UK (ECUK) 2019. Available online at https://www.gov.uk/government/statistics/energy-consumption-in-the-uk

IEA (2019). Statistics data browser. Available online at https://www.iea.org//statistics/?country=WORLD&year=2016&category=Energy%20consumption&indicator=TFCShareBySector&mode=chart&dataTable=BALANCES

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Mitigating climate change

- UK to end its contribution to global warming in 30 years by achieving ‘net zero’ emissions by 2050
- Consistent with Paris Agreement and IPCC scenario
- Shift to walking, cycling and public transport
- Large-scale electrification of transport

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Conclusions

- Climate change commitment
- Transport energy use continues to grow
- Net zero emissions by 2050
- Bottom-up and top-down interventions

NASA (1972). The Blue Marble from Apollo 17. Available online at https://visibleearth.nasa.gov/view.php?id=55418