

CIE-MAP

Centre for Industrial Energy, Materials and Products

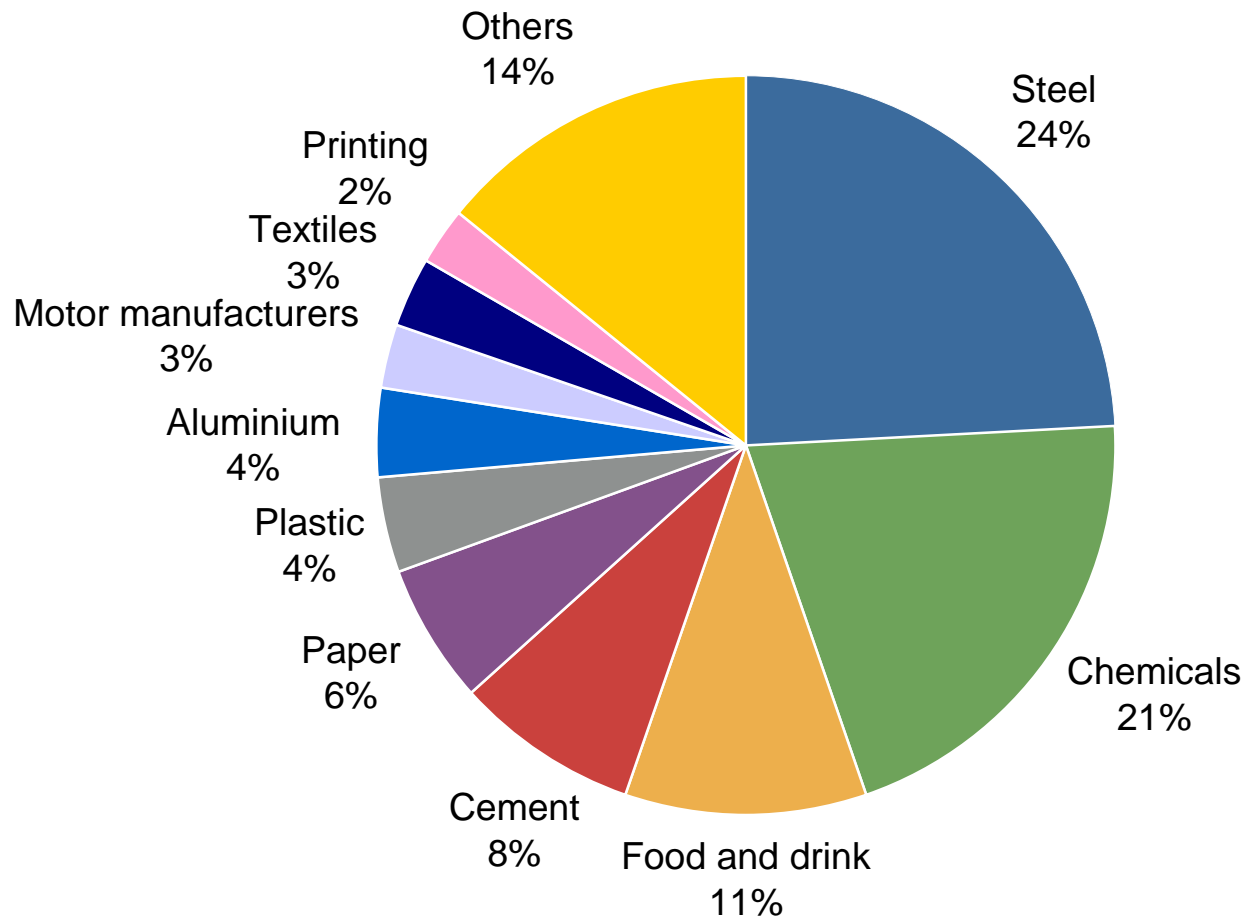
Industrial decarbonisation opportunities: Insights in relation to the Fifth Carbon Budget

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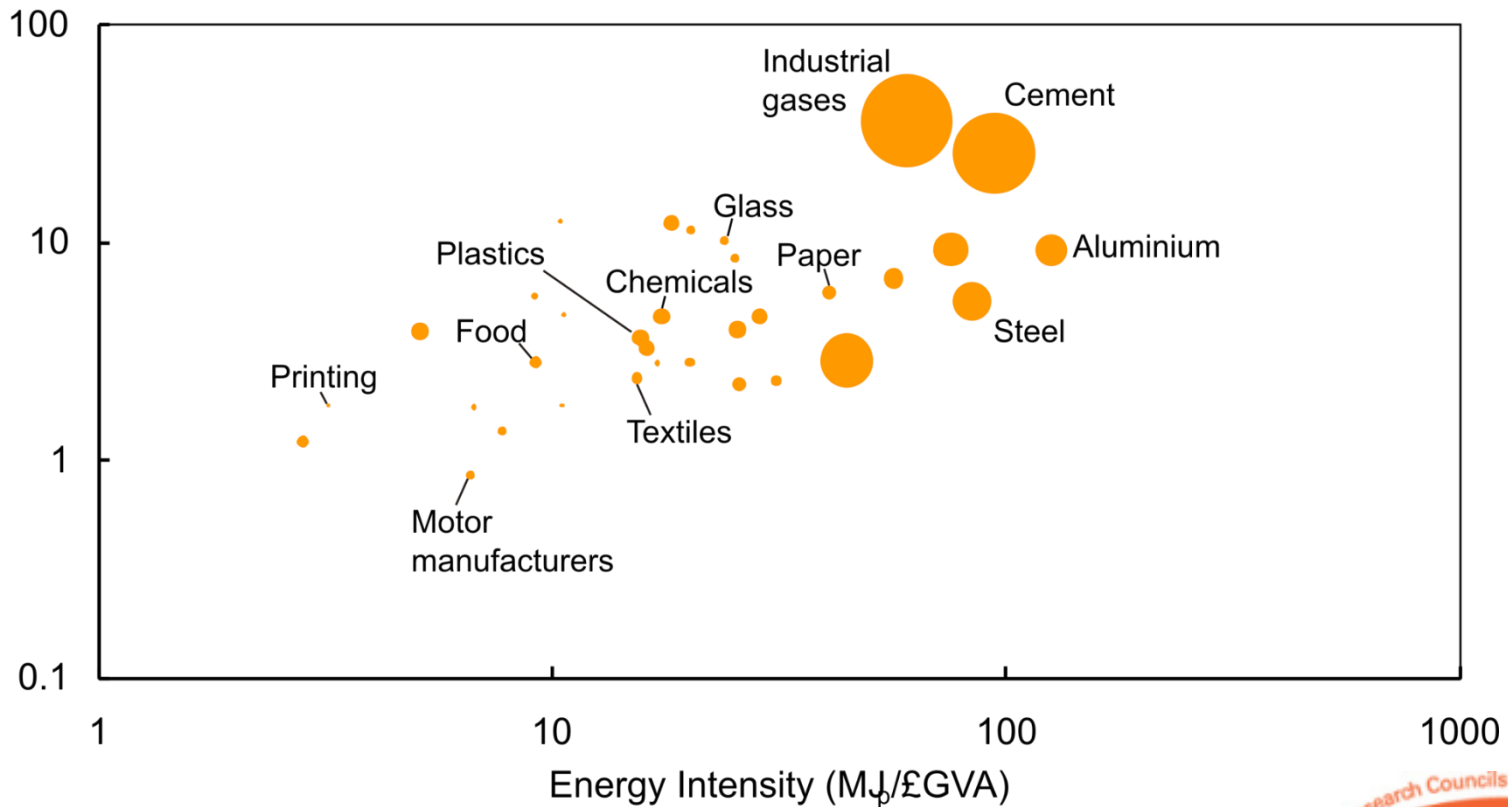
Emissions from UK manufacturing, 2007



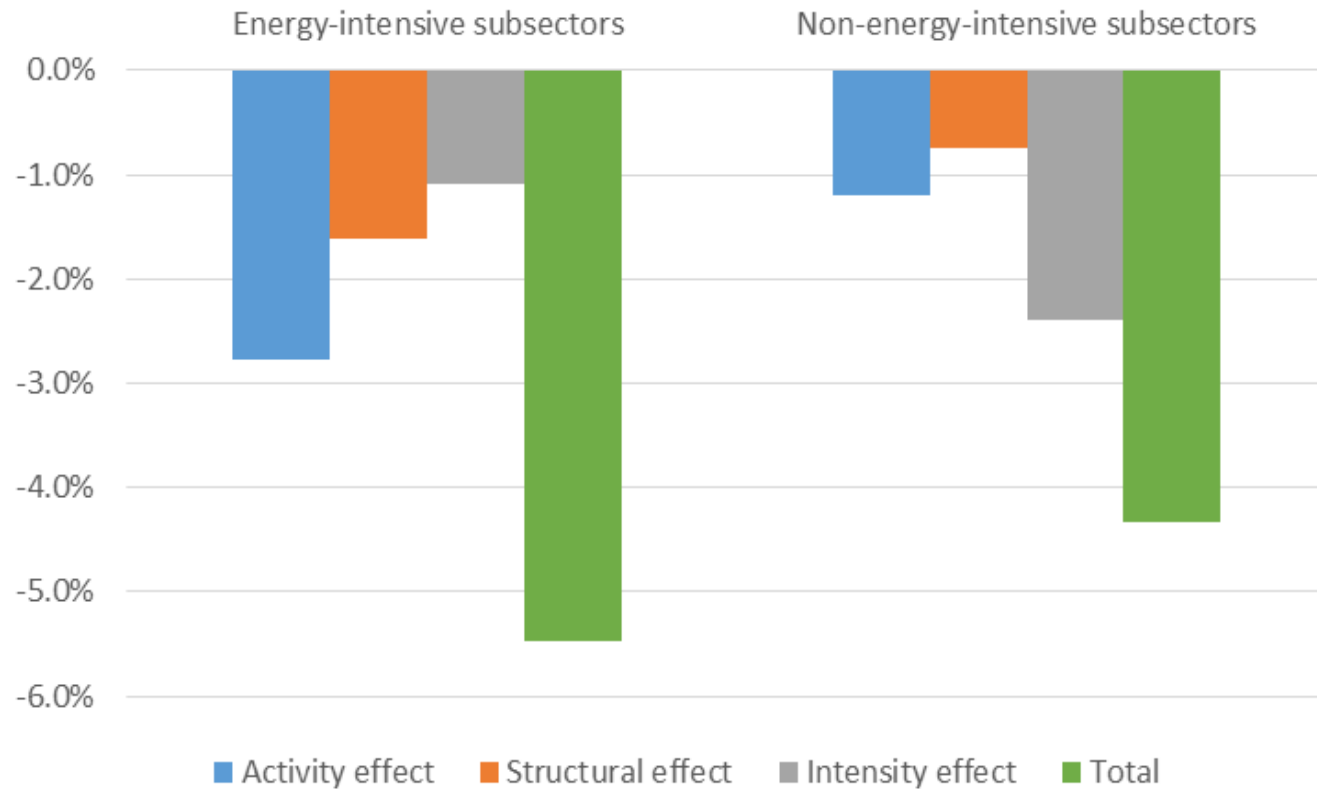
Total for 2007,
31MtC_e

Variation in subsector energy use

% costs represented
by energy and water



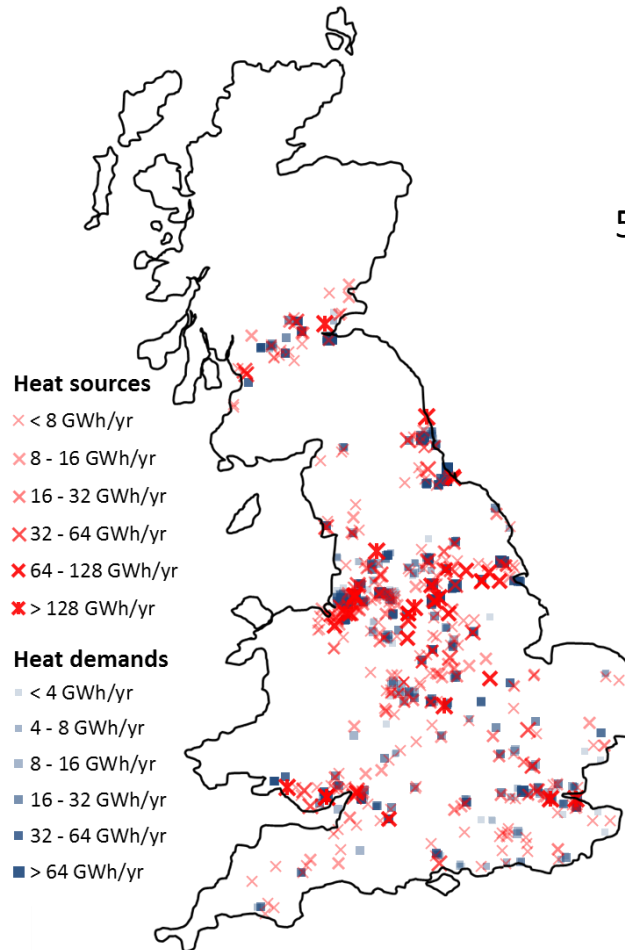
Compound annual growth rate in energy demand and the contributing effects



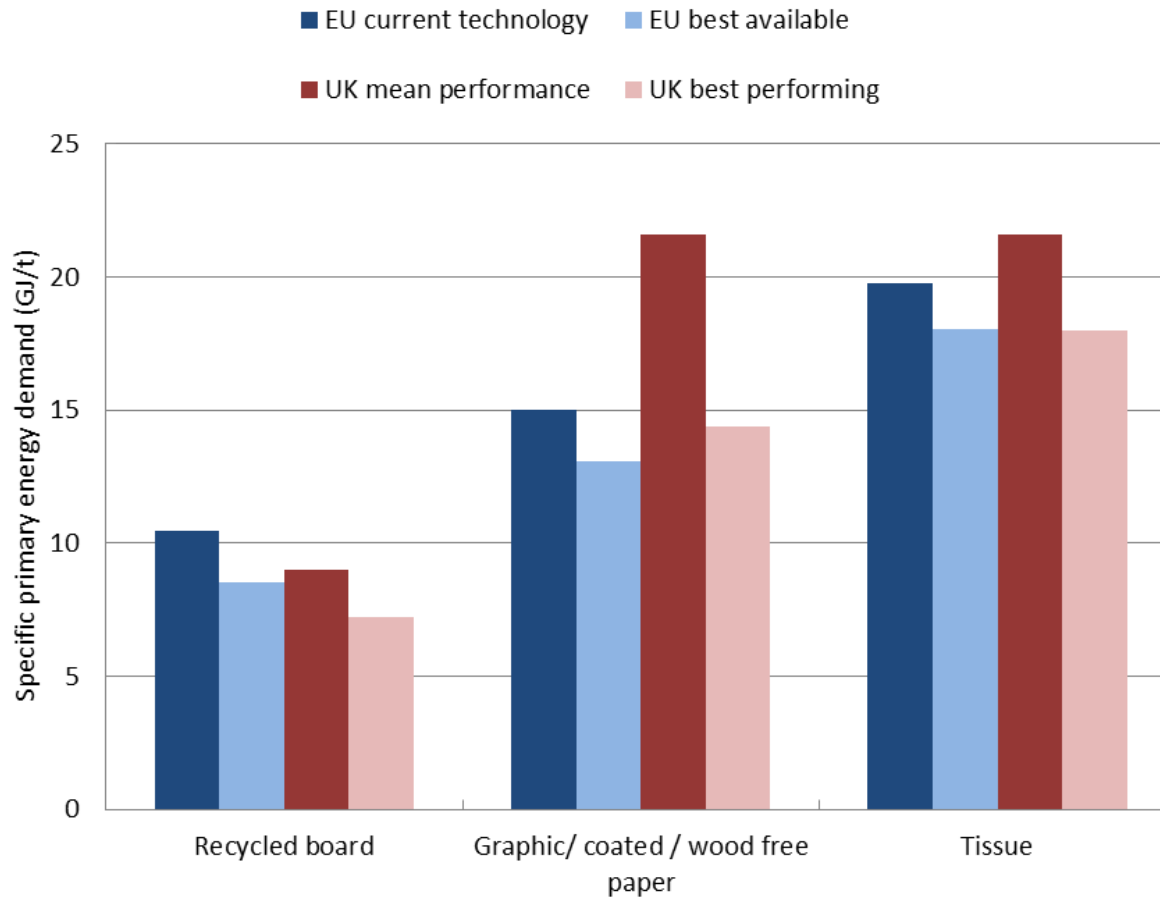
Use of surplus heat in district heat networks (DHNs)

10 to 20 TWh/yr of heat is rejected but potential use in DHNs depends upon location, seasonality and density of heat demands.

33-50% of surplus heat rejected by industry could likely be used by DHNs.

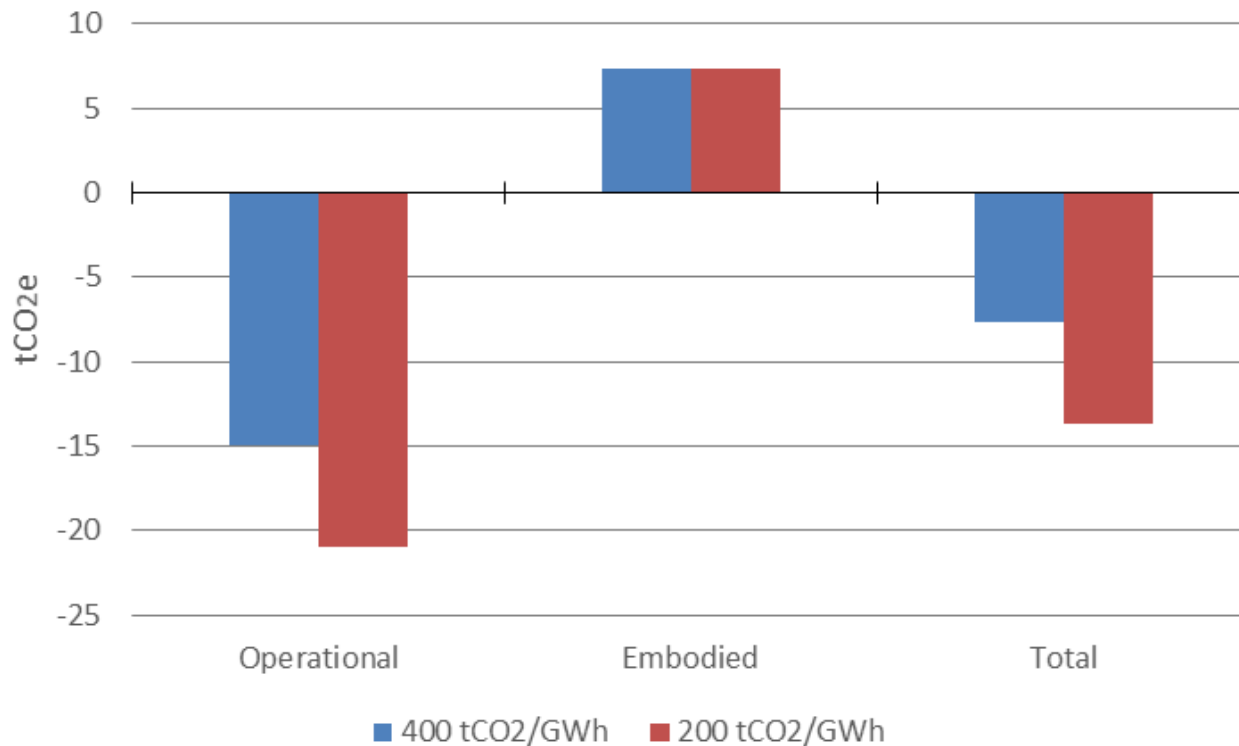


For example:
5.6 to 9.6 TWh/yr could be used if DHNs created where heat density > 3 MW/km² and heat transmission up to 32km occurs.



Emissions trade-offs from adopting electric cars

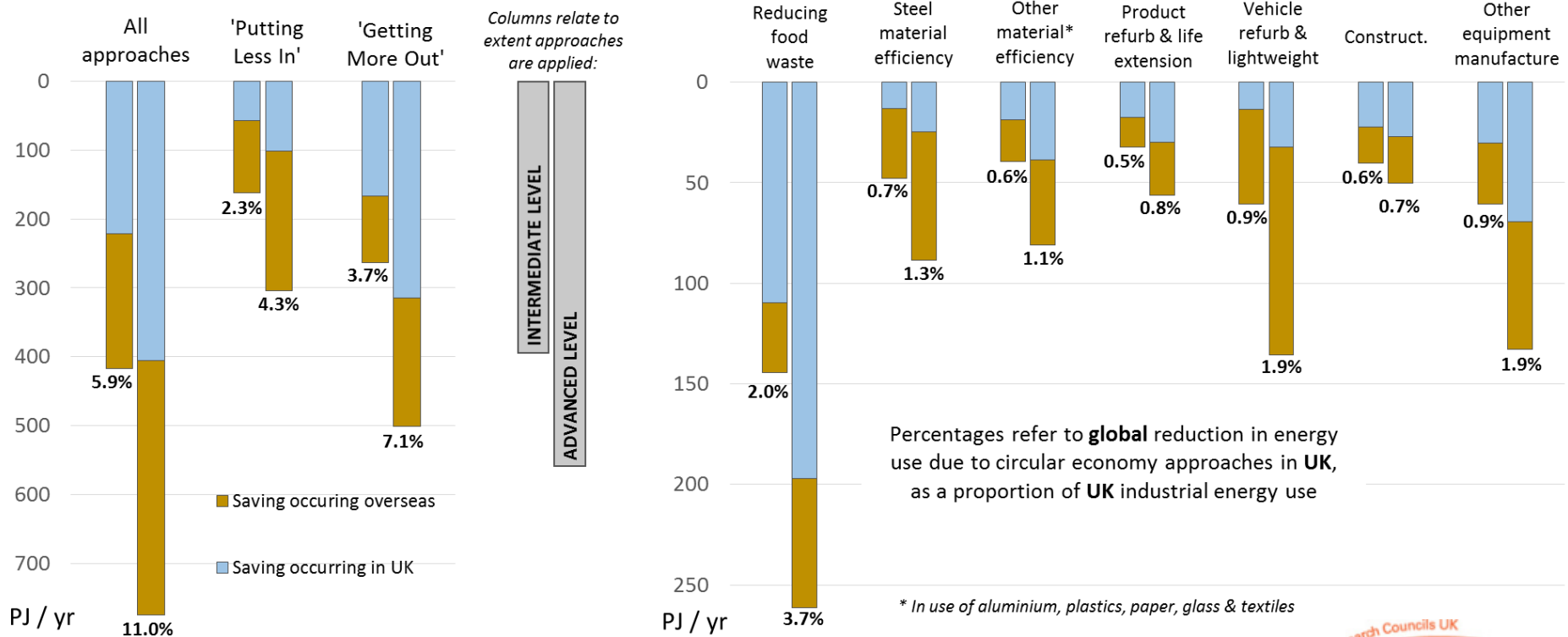
Change in lifetime emissions of battery electric vehicle in comparison to conventional internal combustion vehicle



Future carbon intensity of electricity generation influences operational emissions, whilst embodied emissions are fixed at the time of manufacture.

Energy savings from the 'circular economy'

Reduction in energy use due to circular economy approaches applied in UK



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Thank you for your
attention