

Researchers map carbon footprints of UK towns and cities

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The London borough of Newham is famed for producing talents such as Idris Elba, Plan B and Mo Farrah, whilst also playing host to the Olympic Stadium and West Ham United Football Club.

Now an international group of researchers have found that its residents have the smallest carbon footprint in the UK.

In a study of 434 municipalities across England, Wales, Scotland and Northern Ireland, they showed that according to data taken from 2004, the lifestyle of each person in Newham caused an average of 10.21 tonnes of carbon dioxide (CO₂) to be emitted into the atmosphere – the UK average was 12.5 tonnes of CO₂, according to the research.

The City of London was the municipality with the highest carbon footprint – the lifestyle of each person caused 15.51 tonnes of CO₂ to be emitted into the atmosphere.

Lead author of the study, Jan Minx, from the Potsdam Institute for Climate Impact Research, said: "The carbon footprint measures all the of CO₂ emissions that are released around the world in the production of the goods and services we consume in a particular area.

"If you take the iPhone for example, its carbon footprint includes all the emissions that arise in its production around the world, including the extraction of materials used to build it, the manufacturing process itself, plus all the shipping that is required for each production stage."

The findings, which have been published today, 11 September, in IOP Publishing's journal *Environmental Research Letters*, highlight that the carbon footprints of municipalities in the UK are determined by socio-economic rather than geographical and infrastructural factors.

Whilst the carbon footprints were slightly lower for urban areas compared to rural areas, the researchers showed that there was no general trend, which indicated that the carbon footprint may be determined by how people live rather than where people live.

Indeed, they showed that the carbon footprint increased with an advanced education of the population, increased with the number of cars a household owns, and decreased with an increasing house size. The results also showed that an additional £600 in the average weekly income resulted in an increase of one tonne per capita of CO₂ emitted into the atmosphere each year.

"This is not a story about metropolitan areas, nor a story purely about income, as has been suggested in previous studies. The carbon footprint of any local area can be high or low – regardless of whether the place is out in the countryside or in the city center.

"As our results show, the municipalities with the highest and lowest carbon footprints in the UK are situated in the same city. The carbon footprint of local areas mainly depends on the socio-economic profile and associated lifestyles of the residents," continued Minx.

The researchers also compared the carbon footprints with the 'territorial emissions' for each municipality, which measures the amount of CO₂ directly emitted by the residents of the municipalities in their everyday lives, whether this is burning fuel for cooking or driving a car.

The majority of municipalities with high territorial emissions were found in the north of England in heavily industrialised areas. For the UK as a whole, 90 per cent of municipalities had a carbon footprint that was higher than their territorial emissions, meaning they were net importers of CO₂.

To estimate the carbon footprints at a regional level, the researchers used a computer model to represent the detailed trade activities between 178 economic sectors in the UK and three world regions. This allowed them to allocate CO₂ emissions to the final consumption of goods and services in the UK regardless of where they were emitted in the world.

Datasets that document the distribution of lifestyle types across the UK's municipalities allowed the researchers to allocate the [carbon footprint](#) on a regional scale.

More information: 'Carbon footprints of cities and other human settlements in the UK' Jan Minx et al 2013 *Environ. Res. Lett.* 8 035039
iopscience.iop.org/1748-9326/8/3/035039/article

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