

Science for Environment Policy

Carbon footprint higher in Finnish cities than in rural areas

Despite better public transport and more energy-efficient housing, city dwellers have a larger carbon footprint than those in rural areas, according to a recent Finnish study. This is partly explained by the phenomenon of 'parallel consumption' in which people extend their living space by using services that the home also provides.

Previous research has suggested that high density living in [cities](#) can result in lower [greenhouse gas](#) (GHG) emissions per person, compared with people living in rural areas. However, other research has shown that city dwellers tend to be wealthier than people living in rural areas, with the urban lifestyle consuming more goods and services and therefore generating more GHG emissions than the rural lifestyle.

Using data for 4000 individuals, regarding spending on goods; and 4400 households regarding their use of time, the researchers analysed the lifestyles of the average person living in four different types of municipalities in Finland: rural, semi-urban, cities and the Helsinki metropolitan area (HMA). They then estimated the GHG emissions related to these lifestyles.

The study revealed that people living in the HMA had a bigger carbon footprint than those living in rural areas. HMA dwellers had a footprint of 10,900 kg GHGs a year compared with 9,600 kg a year in cities, 9,500 kg a year in semi-urban areas and 8,900 kg a year in the rural areas.

In a year, the amount spent on goods and services by the average person in the countryside was €12,200, which increased to €13,800 for someone in a semi-urban area, €14,100 for a city dweller and €17,600 for a resident in the HMA.

In terms of time use, individuals in the HMA spent more time out of the home on leisure activities (8.7 hours) compared with 8.4 hours in cities, 7.6 hours in semi-urban areas and 6.6 hours in rural areas. About twice as much was spent on pastimes, such as going to movies and theatres, swimming pools and doing hobbies in the HMA, compared with rural areas. Although people spend more on housing in city areas, they tend to spend less time at home compared with people living in the countryside.

In the urban areas, people used more public transport and taxis, but, especially in the HMA, also travelled more by air compared with people in rural areas. City dwellers also spent more on maintenance, appliances, furniture and decorating their homes compared with those in rural areas. Furthermore, owning a second home or summer cottage was more common among people in the city.

These results demonstrate that despite more energy-efficient housing and better public transport, lifestyle choices for many urban dwellers result in increased GHG emissions. This is partly explained by 'parallel consumption', in which people use services available in the city that they already have at home. For example, eating out in restaurants that are heated, while energy is already used to heat the home. A second part to this study focuses on the middle income household and introduces variables such as motorisation and housing type¹.



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1. See: <http://iopscience.iop.org/1748-9326/8/3/035050>