Policy Brief 2:9
Excerpt from the Swedish report Konsumtionens gränser. (The Limits of Consumption)

Air Travel and Holidays of the Future

For many people, long-distance travel is taken for granted, and flying makes destinations across the world accessible within hours. However, it is well known that holiday travel generates a substantial climate footprint, particularly for journeys to destinations outside Europe. At the same time, there is considerable potential to reduce this footprint by choosing closer destinations and low carbon transport modes such as night trains.

How large are the emissions, really?
Measuring the climate impact of aviation at the national level is challenging. However, it is clear that the climate impact of Swedes' air travel is greater than what traditional emissions statistics indicate, partly because these statistics only include emissions from fuel that is fuelled in Sweden.

We have developed a method to estimate the total climate impact of the Swedish population's international flights. The results show that Swedes, on average, fly five times more than the global average citizen. The method accounts for emissions along the entire journey to the final destination and shows that long-distance trips to destinations outside Europe account for more than half of total flight emissions, despite constituting a small share of all trips.

The method forms the basis for the carbon calculators TravelAndClimate and the FlightEmissionMap. There are significant uncertainties in estimates of flight emissions, particularly regarding the so-called non-CO_2 effects occurring at high altitudes. These effects occur only on certain flights, and scientific uncertainty remains substantial. The calculations therefore rely on an estimated average effect, since the actual impact cannot be predicted for each individual flight.
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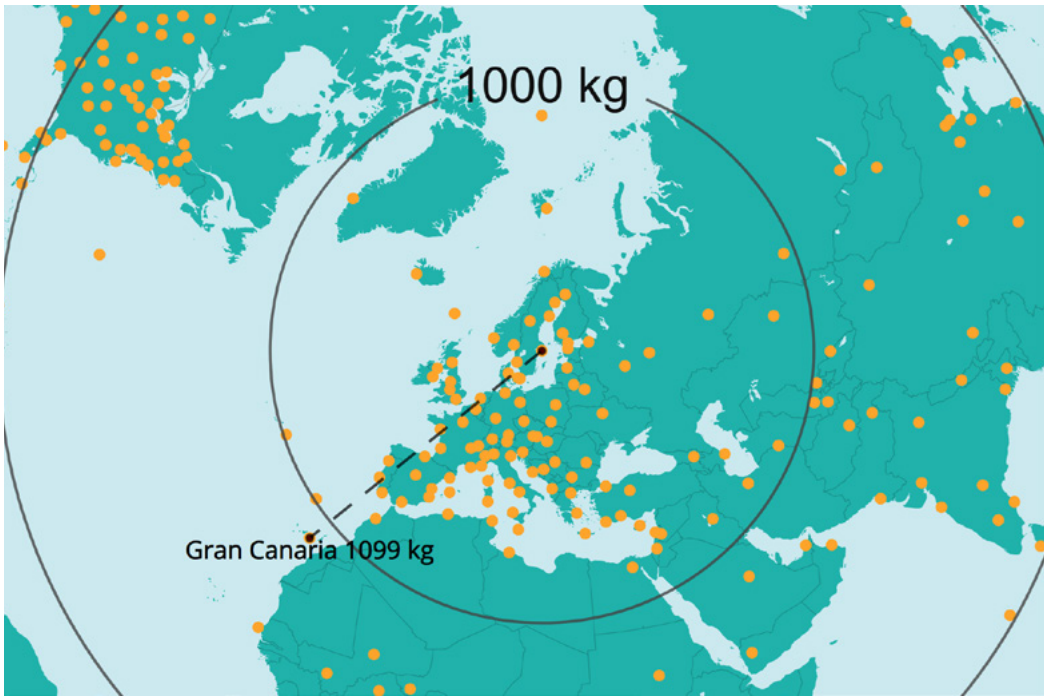

Climate impact due to carbon dioxide emissions and high-altitude effects.
Source: Flight Emission Map.

A round-trip Stockholm - Canary Islands causes roughly the same climate impact as the average annual car emissions per person in Sweden.

How can we reduce tourism's climate impact?

To reduce emissions from long-distance travel, we first need to understand which measures would make the greatest difference. Emissions from the Swedish population's flights are mainly driven by two factors: how far we travel and which transport modes we choose. Our calculations suggest that emissions from long-distance travel could be reduced by as much as 67 percent if travelers rethink both destinations and modes of transport. This does not mean staying at home, but choosing a closer equivalent destination, meaning a place that offers similar activities. For example, a sun and beach holiday in Asia could be replaced with a comparable trip to the Mediterranean. However, survey responses about what people are actually willing to change suggest a more realistic reduction potential of around 26 percent.

The largest climate gains come from choosing destinations closer to one's place of residence and thus reducing travel distances. Replacing flights with trains within Europe also shows significant potential. Another option is to travel less frequently, for example by travelling intercontinentally only half as often.

Comparisons between social groups suggest that younger people and those who travel less are more open to change, and that social norms and climate engagement shape willingness to adopt more sustainable holiday practices. Policy measures are needed to change behaviour, for example through distance based flight taxes and improved train connections.

Even by 2060, technological solutions alone, such as fossil-free fuels or electric aircraft, cannot reduce emissions in line with the climate targets.

The future of travel requires both new technology and new habits

Looking far into the future, conditions may change because both existing and emerging technologies can reduce aviation emissions. In one study, we examined what long distance travel might look like in a society aiming for near zero emissions by 2060. We modelled several scenarios combining technological shifts, new fuels, and changing travel patterns. The results show that technical solutions such as electric aircraft or fossil free fuels can reduce emissions, but not enough if travel continues to grow at today's pace. To reduce emissions in line with global climate goals, future air travel needs to decline. Across scenarios, roughly a halving of flight travel for the Swedish population is required, even under relatively optimistic assumptions about a shift to fossil free fuels. At the same time, these scenarios assume that the average global citizen increases flying in a future with more equal resource distribution.

Rapid emissions reductions will therefore require behavioural change, for example fewer long haul flights and the replacement of international flights with trains where feasible. Policy instruments will be crucial, and long term planning is needed, as changes in transport systems and travel habits take time.

Further reading – or ask questions using www.greenchat.se/eng

- Kamb A, Larsson J (2019) Climate footprint from Swedish residents' air travel. Chalmers
- Jonas Åkerman, Anneli Kamb, Jörgen Larsson, Jonas Nässén (2021) Low-carbon scenarios for long-distance travel 2060. Transportation Research Part D: Transport and Environment
- Kamb, A., Lundberg, E., Larsson, J., & Nilsson, J. (2020). Potentials for reducing climate impact from tourism transport behavior. Journal of Sustainable Tourism

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For further information, see:
www.sustainableconsumption.se/en

Reference to this text

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