

# Physicists consider their own carbon footprint

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In October's issue of Physics World, Phil Marshall, an astrophysicist at the University of Oxford, calls on physicists to pull their weight when it comes to climate change, drawing on his own research showing that astronomers average 23,000 air miles per year flying to observatories, conferences and meetings, and use 130 KWh more energy per day than the average US citizen.

Marshall says that physicists must not only act as "trusted voices" in [climate-change debates](#), but also do all they can to reduce their own carbon footprints.

This must involve a change of behaviour at the individual level – say by skipping an overseas scientific meeting and taking part via video conference call instead – and as an entire community, particularly by carefully planning future experiments to try and make them as "carbon-neutral" as possible.

"Individual [physicists](#) can help to solve the energy problem, and not just the ones whose research is in new technologies; we can all contribute by setting the right example," writes Marshall.

It is an urgent problem for [physics](#) as many current "big-science" facilities – from huge particle accelerators to massive ground-based telescopes – have a frightening energy demand, Marshall notes. CERN's Large Hadron Collider, for example, has an energy bill as big as that of all the households in the region around Geneva, estimated to be around

€10m.

Marshall's comments are timely as researchers are set to meet up in mid-October to identify ways to do large-scale physics research with a reliable, affordable and sustainable [energy](#) supply that is carbon-neutral.

The venue of this workshop – Lund, in Sweden – is an appropriate location for the meeting as the city will also play host to the first ever carbon-neutral, big-science facility – the €1.48bn European Spallation Source (ESS) – which is set to come online towards the end of the decade. All of the ESS's electricity will come from renewable sources and more than half the heat it generates will be fed back into the system.

Carbon reduction is, of course, not the only challenge facing those designing massively complex scientific facilities like the ESS. As explained in the first ever [Physics World](#) big-science supplement, which accompanies the October issue of the magazine, these challenges are many and varied – ranging from the financial and technical to the political and scientific.

**More information:** [physicsworld.com/](https://physicsworld.com/)

Provided by Institute of Physics

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