Sustainability Pathway 2024
January – Further Reading on Benchmarking

Scopes of emissions

There's a wide range of terminology used to describe carbon emissions. You might hear carbon emissions being described in terms of "scopes" – these are categories used by business and organisations (including our church!) to monitor and report their environmental impact:

- Scope 1 emissions are "direct emissions" from the organisation's premises.
  - Examples include using gas for heating – the gas is burnt on-site and the CO_2 and other planet-warming gasses are emitted on-site.
- Scope 2 emissions are indirect emissions from purchased energy.
  - Examples include electricity – although this is used on-site, the associated CO_2 and other planet-warming gasses (from burning gas, coal and oil to create the electricity) are emitted off-site at the power station.
- Scope 3 emissions are other indirect emissions caused by suppliers not already included within scope 1 and 2.
  - Examples include the fuel used by delivery companies and tradespeople, the embodied energy in the materials that we buy, the fuel to take our waste away and dispose of it (e.g. landfill/incineration), the fuel that enables our travel, and the electricity to run the routers and servers that supply us with websites, email and video-on-demand (take a look at https://www.websitecarbon.com/ to get an idea of the scale of this!) This is the trickiest category to measure as it is so broad.

Broader sustainability

Sustainability is about far more than carbon footprints and carbon savings. The Cambridge English Dictionary defines sustainability as *"causing, or made in a way that causes, little or no damage to the environment and therefore able to continue for a long time."* This definition covers issues such as pollution and use of finite resources. The United Nations goes even further and includes social sustainability issues in their set of 17 Sustainable Development Goals – these are shown below:
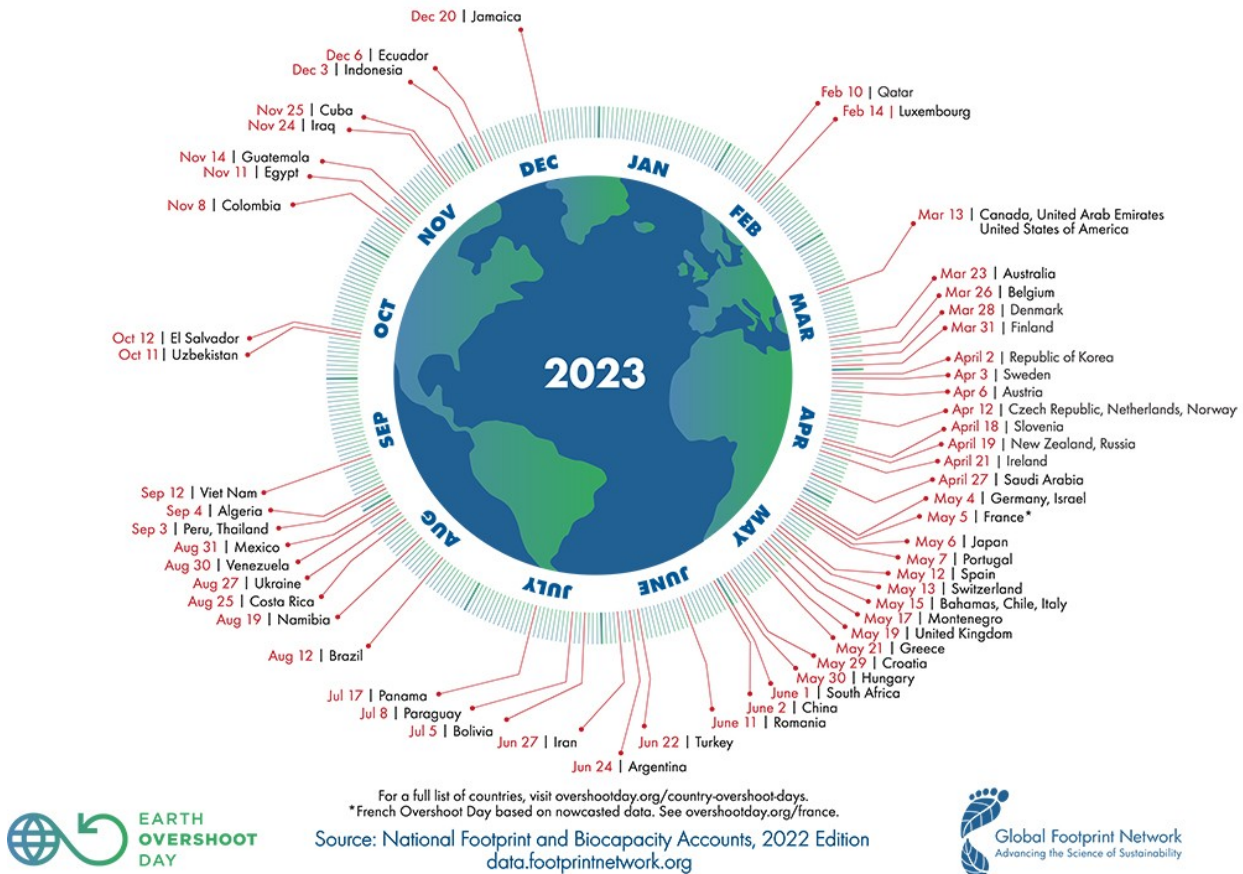

Find out more about these at https://sdgs.un.org/goals and https://youtu.be/0XTBYMfZyrM.

Measuring our impact at a global scale

There are many creative ways of measuring our impact on our planet. Two we find useful are:

- Earth Overshoot Day (https://overshoot.footprintnetwork.org/) This measures the point in the year at which we've used up the proportion of our planet's natural resources that can be sustainably replenished in that year; clearly this point should be after the end of the year to be sustainable! **In 2023, Earth Overshoot Day was 2nd August, and Country Overshoot Day for the UK was 19th May – we don't even get halfway through the year before using a year's supply of resources!** Sadly these dates get earlier each year – we need to turn this trend around.

For a full list of countries, visit overshootday.org/country-overshoot-days.
*French Overshoot Day based on nowcasted data. See overshootday.org/france.
Source: National Footprint and Biocapacity Accounts, 2022 Edition
data.footprintnetwork.org

- Climate clock (https://climateclock.world/) This provides a real-time display of the amount of time left before carbon emissions will reach a point that will drive global warming to exceed 1.5°C above pre-industrial levels – a key benchmark established by the Intergovernmental Panel on Climate Change in 2018. As I write, this figure stands at 5 years 211 days – i.e. we need to eliminate carbon emissions by July 2029. This is a usefully objective measure underlining the need for urgency in improving our sustainability – and that **describing our current situation as a "climate emergency" is not empty hyperbole.**

Measuring our Energy Use

Many of us now have "smart meters" measuring our gas and electricity use. I resisted installation of this for many years (the energy companies are incentivised to hit installation targets by government funding so their assessment of the benefits and disbenefits has been one-sided!) but am now satisfied that with the current SMETS2 range of meters, the functionality and security issues have largely been worked through. The insights that a real-time display of gas and electricity usage has given me have been far more valuable than I'd anticipated, and I've used them to spot several "energy vampires" that had been quietly using unnecessary energy around our home. I'd recommend getting a free smart meter fitted to anyone who has yet to do this – these can usually be fitted in 1-2 hours, and installation can be arranged through your energy supplier.

It's possible to go further and take more detailed measurements than a smart meter provides:

- energy-measuring adaptors (e.g. https://www.toolstation.com/energenie-energy-saving-power-meter/p25003) allow the power used by an individual electrical appliance to be measured both instantaneously and over time. These are rather useful (as the power rating labelled on equipment isn't always accurate) but typically only get used occasionally – so borrow one rather than buying one if possible (contact the Creation Care team if you need help finding one to borrow!)
- Energy monitors fitted to the fixed wiring in a building allow the energy used in different parts of a building to be measured separately, giving a clearer idea of what is causing the usage and hence what needs to be done to reduce the usage. This is the approach that our church has taken (and we're still adding further sensors to better understand our consumption!) although it requires some know-how both to put this in place and to interpret the data.

Further reading:

- https://www.jenniferhuygen.com/
- https://theconversation.com/5-ways-families-can-help-tackle-climate-change-126512
- https://www.carbonbrief.org/factcheck-21-misleading-myths-about-electric-vehicles/
- https://www.stepchange.earth/post/understanding-scope-1-2-and-3-emissions
- Introduction to UN Sustainable Development Goals: https://youtu.be/0XTBYMfZyrM