

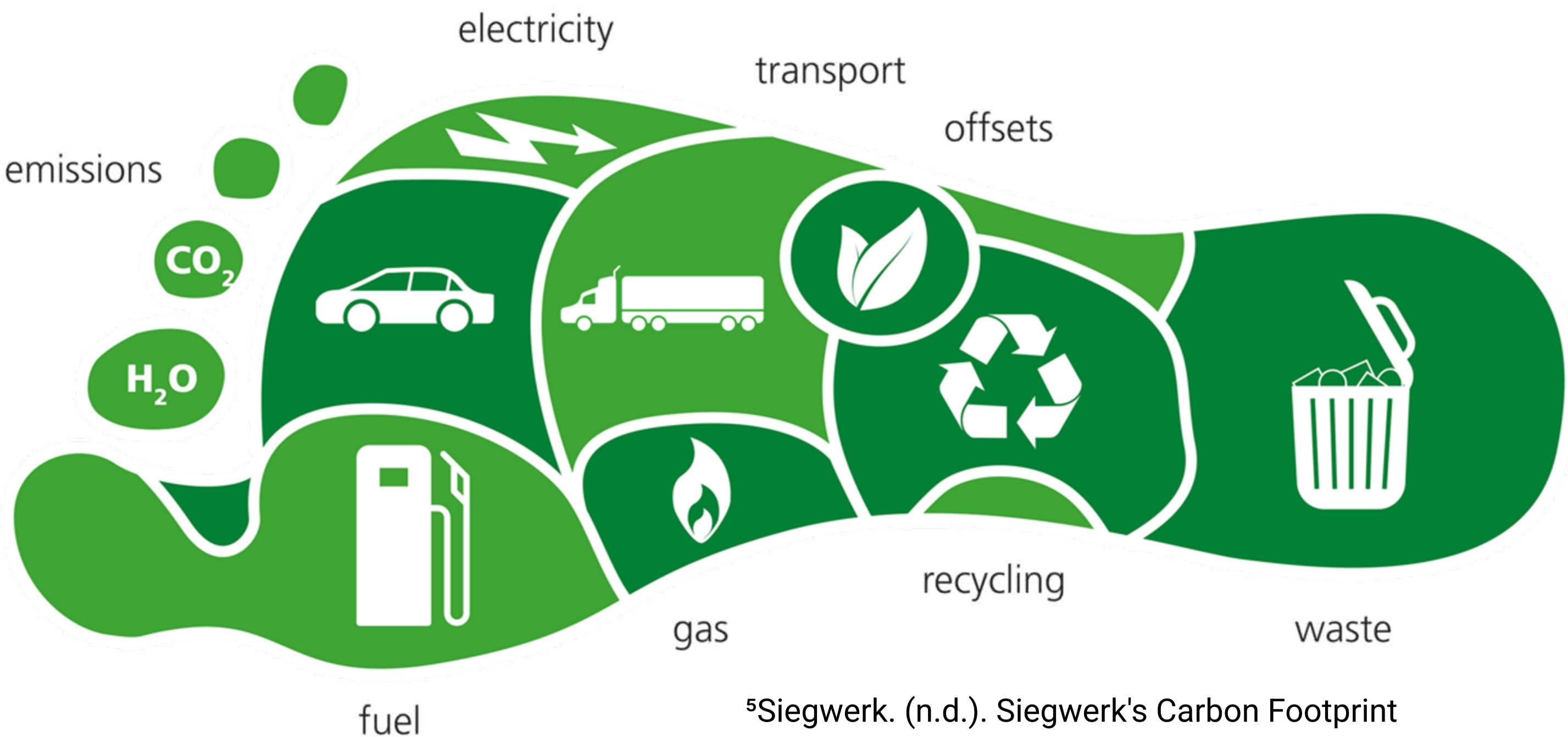
PP13: The Environmental Impact of Healthcare Data Science

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We are striving to learn more about treatments to improve people’s lives, but what impact is the industry having on the planet’s health? Some categories could be surprising!

A lot of important work is being done, but there are some simple changes that can be made to reduce our carbon footprint individually and collectively. What is realistic for one person might not be for someone else. It’s not realistic to walk 20 km to the office and not everyone can afford solar panels, but we could use the train and switch off the radio when leaving the room.

It is important to assess the benefit versus impact of choices we make for ourselves or as part of a company-wide decision. Whether that is travelling to the office, buying new technology, printing the document to review, or even sending a simple ‘Thank you’ email.



16,433 tonnes

If every adult in the UK sent one email fewer per day, it would save 16,433 tonnes of carbon per year.¹

4.6 million tonnes

62 million tonnes of e-waste (discarded electrical or electronic equipment) was produced in 2022, of which 4.6 million tonnes was small IT equipment like laptops, mobile phones, GPS devices and routers.²



66kg vs. 2.4kg CO₂e

Travelling from London to Paris by plane emits 66kg of CO₂e per person, whereas by train this would be 2.4kg of CO₂e per person.³

43% Sustainable

In 2020, 43% of the UK's power came from a mix of renewable sources, wind, solar, bioenergy and hydroelectric.⁴

What is Carbon Footprint and how is it measured?

Carbon footprint is the measurement of how much carbon dioxide equivalent (CO₂e) is released into the atmosphere as a result of an individual, company or certain event.⁶ So, how much carbon dioxide (or the equivalent from another gas) is created from what we buy, use and waste?

The average person in the European Union has a carbon footprint of 7.25 tonnes per year.⁷ Do you know yours?

SCAN ME

UK

Worldwide

We want to reduce the amount of greenhouse gases in the environment to reduce the impact of global warming on the planet.

The positive impact of each choice

Office

Meet with people
Heat one office rather than multiple homes

Paper

Easier to note comments on paper in certain cases (e.g. diagrams)
Can turn off screen while reviewing

Buy New

Newer models of technology could be more power efficient
Can send old technology to others in need

versus

Home

No travel emissions
Save time and money by not commuting

Electronic

Saves paper
Saves time copying notes onto email

Fixing

Less waste going to landfill
Lower carbon footprint

Green Coding

Development of code, running the code in the future and the physical infrastructure (computer and servers) all require energy.

Efficient coding could have a surprising impact. For example, for a dual programmed study with 30 SDTMs, 12 ADaMs and 100 TFLs where each program is run 20 times in a year. If each program is improved to take just 1 second less to run, that would mean a saving of over 1.5 hours of run time!

This is a very conservative example, so think of the possibilities!

Companies can take a more in-depth look into green coding and the data storage to amend their recommended company processes to reduce their carbon footprint.

It is said that time is money, time is efficiency, efficiency is linked to carbon footprint. Take a moment to assess if you could program more efficiently.



Correct at time of publication but may since have changed. Websites Accessed August-September 2024.
References: ¹Molloy, D. (2020, November 19). Technology. Retrieved from BBC News: <https://www.bbc.co.uk/news/technology-55002423>; ²Unitar. (2024, March 20). Global E-waste Monitor. Retrieved from Unitar: <https://unitar.org/about/news-stories/press/global-e-waste-monitor-2024-electronic-waste-rising-five-times-faster-documented-e-waste-recycling>; ³EcoRes SCRL. (2023, July). Retrieved from Eurostar: <https://www.eurostar.com/us-en/sustainability>; ⁴nationalgrid. (2024, January 17). Energy explained. Retrieved from nationalgrid: <https://www.nationalgrid.com/stories/energy-explained/how-much-uks-energy-renewable>; ⁵Siegwerk. (n.d.). Siegwerk's Carbon Footprint. Retrieved August 30, 2024, from Siegwerk: <https://www.siegwerk.com/en/sustainability/operations-and-supply-chain/carbon-footprint.html>; ⁶Sustainability Illustrated. (2020, December 11). Retrieved from YouTube: <https://www.youtube.com/watch?v=bYb7YLSXvzg>; ⁷(Statista, 2024) Retrieved from Statista: <https://www.statista.com/statistics/986460/co2-emissions-per-cap-eu/#:~:text=Per%20capita%20total%20net%20greenhouse,approximately%2035%20percent%20since%201990,> Planet with clouds from Canva (Assessed 2024, September) Retrieved from Canva: [https://www.canva.com/templates/?query=blue-and-green-planet-earth; Thank-you to Ashley Sherwood \(www.ashleysherwood.com\) for design and layout help.](https://www.canva.com/templates/?query=blue-and-green-planet-earth; Thank-you to Ashley Sherwood (www.ashleysherwood.com) for design and layout help.)