# A Recipe for Change

> **"There are 51 billion tons of greenhouse gasses emitted annually, what is the percentage reduction a proposed scheme offers? Technologies that will never exceed one percent should not compete for the limited resources we have for getting to zero,"**
>
> Bill Gates, 'How to avoid a Climate disaster', Sept. 2023

What follows is my recipe for decarbonising digital and creating a 'global digital reset', as well as my view on the size of the opportunity in front of us. Let's start by establishing a context for action with a calculation in line with Bill Gates' theory above. Let's assume that his approach to investment prioritisation is sound and that we can use the available data to determine a size of prize that we can start to seriously consider:

## Total global emissions each year: 51 billion metric tCO2e per year[1]
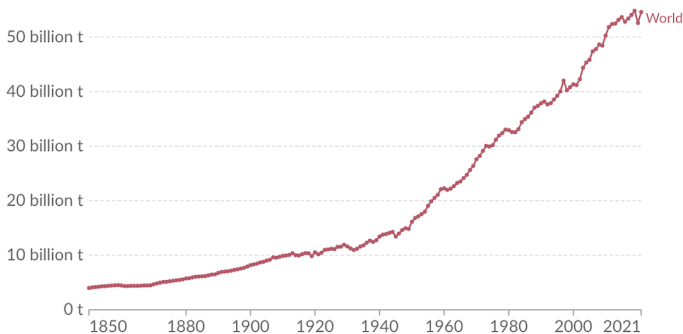
Source: Calculated by Our World in Data based on emissions data from Jones et al. (2023)
Note: Land use change emissions can be negative.
OurWorldInData.org/co2-and-greenhouse-gas-emissions • CC BY

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[1] Source: Our World in Data, after Jones et al, 2023

ICT is responsible for 5 percent of global emissions[2] = 2.55 billion metric tCO2e per year

The 5 percent figure for ICT is from a hardware-focused perspective and excludes emissions associated with the development and maintenance of software. The diagram below shows the distribution of ICT-related emissions and breaks this down in terms of hardware components and services[3]. It is the result of a research project undertaken in 2018 and remains one of the most thorough on this topic to date. Over the course of the next few pages, I'll explain my 'framework for measurement' and why the inclusion of software is so important to building a more complete picture of the carbon impact of ICT.

Relative Contributions of ICT Categories - 2020
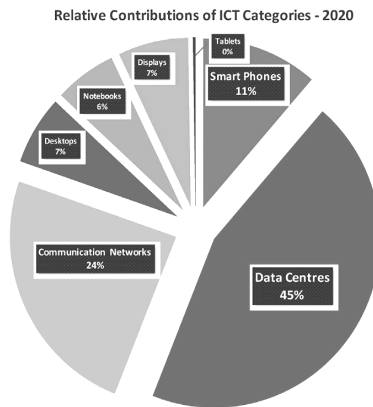
Before that, let's pause and ask ourselves whether we think it is possible to generate annual reduction opportunities of approximately 500 million metric tonnes of CO2e, the 1 percent that Bill Gates suggests makes a decarbonisation lever worth investing in and pulling?

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[2] UK Parliament, 'Energy Consumption of ICT', Sept. 2022

[3] Source: 'Assessing ICT global emissions footprint: Trends to 2040 & recommendations', Lotfi Belkhir and Ahmed Elmeligi, Jan. 2018

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