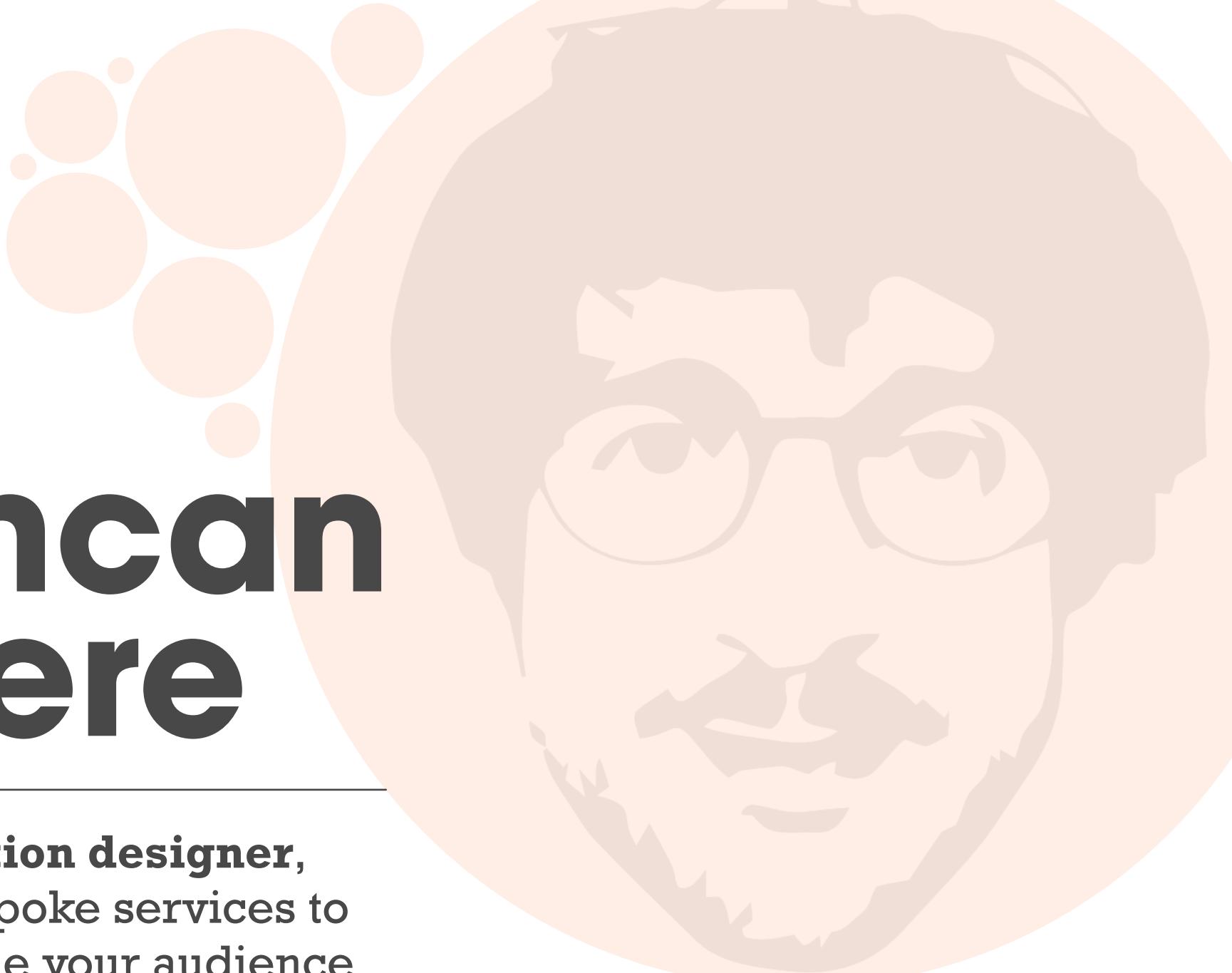


Duncan Geere

An **information designer**,
offering bespoke services to
visually guide your audience
through complex information.

Portfolio, June 2020



The Drawdown Review

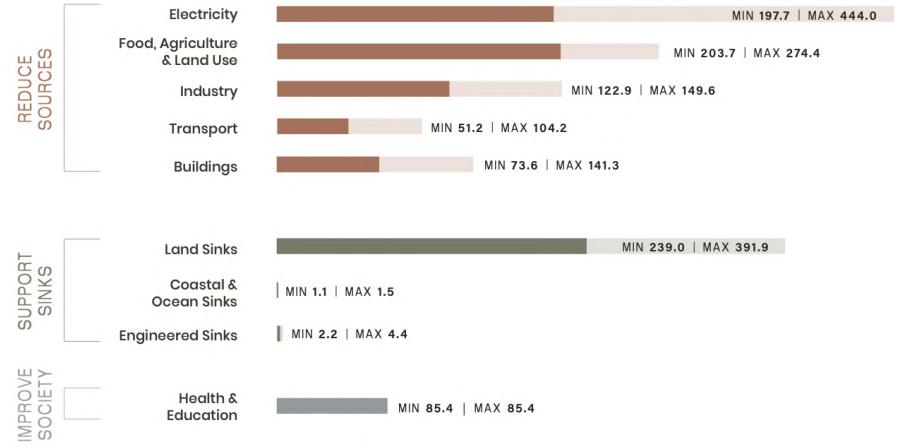
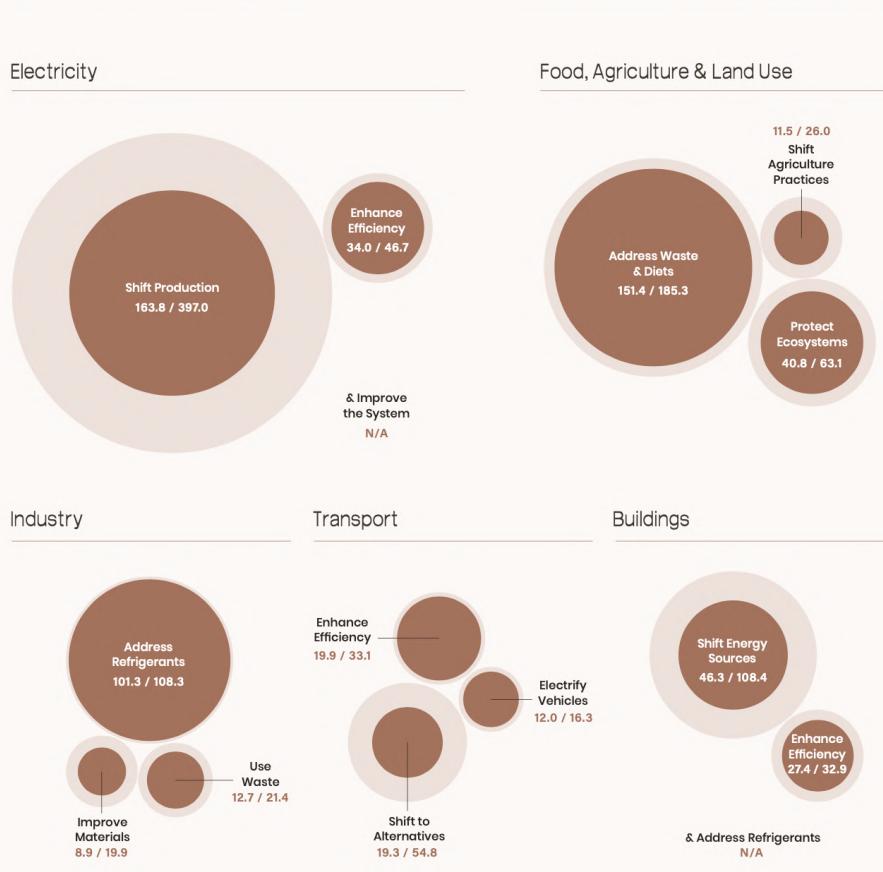
Client: Project Drawdown
Date: January 2020

The Solutions

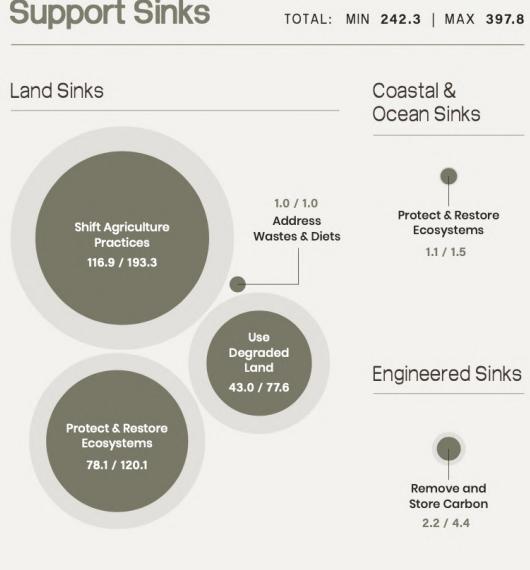


The Drawdown Solutions Framework organizes climate solutions by sector and by subgroup, within three overarching areas of action. Here, you see the potential emissions impact of each sector, as well as the solution subgroups therein. Using two different scenarios of solution implementation, we derived the minimum and maximum impact shown here. (See more on scenarios below.)

Reduce Sources



Support Sinks



The landscape of solutions to the climate crisis.

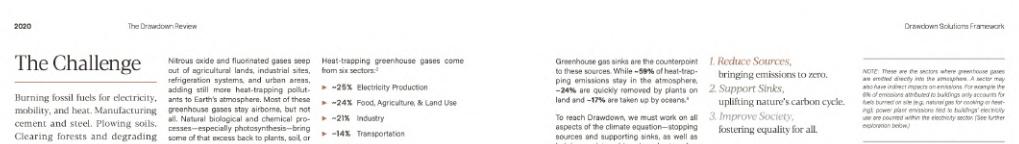
Project Drawdown, a non-profit focusing on **solutions to the climate crisis**, reached out to me after seeing my data visualization work.

They were putting together a report that quantified the carbon reduction potential of 223 different climate solutions. They wanted a series of eye-catching visuals that could be used to present that information to an **audience of policymakers**.

After establishing a **thorough understanding of the data** and putting together a series of concepts, we decided on an approach that used circles to show the minimum and maximum potential of the solutions. The circles were then clustered into different sectors and subcategories of solutions.

The biggest challenge was **showing the detail in the data while also giving the big picture**, which we solved by creating a overview graphic at the front of the report, and then showing the detail of individual solutions where they were explained in the text.

The result was a **comprehensive, visual guide** for policymakers to the most impactful solutions for solving the climate crisis.



The Challenge

Burning fossil fuels for electricity, mobility, and heat. Manufacturing cement and steel. Plowing soils. Clearing forests and degrading other ecosystems. All these activities emit heat-trapping carbon dioxide into the air. Cattle, rice fields, landfills, and fossil fuel operations release methane—a gas that warms the planet even more.

Nitrous oxide and fluorinated gases seep out of agricultural lands, industrial sites, refrigeration systems, and urban areas, adding still more heat-trapping pollutants. Some atmospheric greenhouse gases stay airborne, but not all. Natural biological and chemical processes—such as photosynthesis—absorb some of that excess back to plants, soil, or seas. These “sinks” are nature’s reservoirs for absorbing and storing carbon.

To understand and accelerate climate solutions, it’s important to understand the sources of emissions and nature’s means of rebalancing the climate system.

Heat-trapping greenhouse gases come from six sectors:

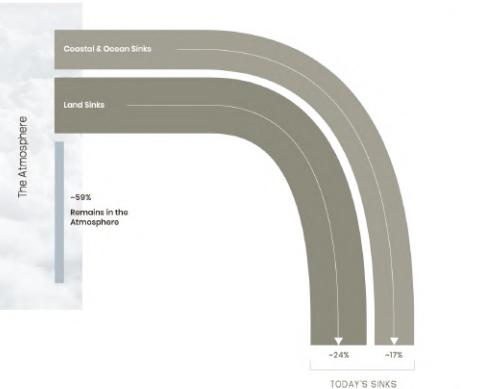
- 25% Electricity Production
- 24% Food, Agriculture, & Land Use
- 21% Industry
- 14% Transportation
- 6% Buildings
- 10% Other Energy-Related Emissions

1. Reduce Sources, bringing emissions to zero.
2. Support Sinks, uplifting nature's carbon cycle.
3. Improve Society, fostering equality for all.

NOTE: These are the sectors where greenhouse gases are emitted directly into the atmosphere. A sector may have lower emissions than another, but higher total emissions attributed to buildings only accounts for half the power on the leg, because per ton of carbon emitted buildings use approximately 20% more greenhouse gases than the electricity sector. (See further notes below.)

Greenhouse gas sinks are the counterpart to these sources. While ~59% of heat-trapping emissions stay in the atmosphere, ~24% are quickly removed by plants on land and ~17% are taken up by oceans.

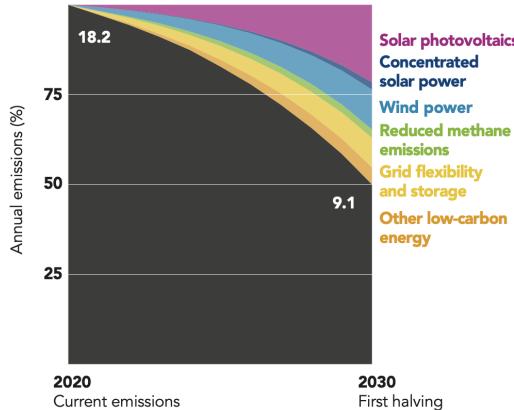
To reach Drawdown, we must work on all three areas of the climate equation—reducing sources and supporting sinks, as well as helping society achieve broader transformation. This is a tall order, but the time for action, which we must pursue globally, simultaneously, and with determination.



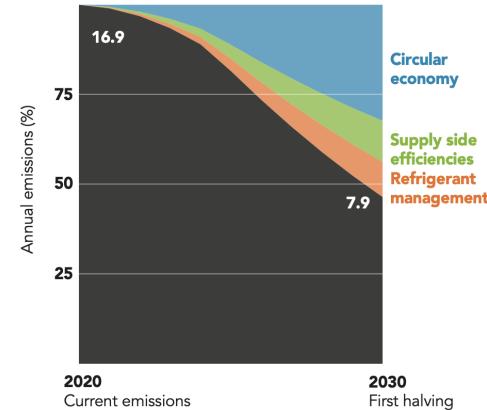
Exponential Roadmap

Client: FutureEarth
Date: June 2018 to Feb 2020

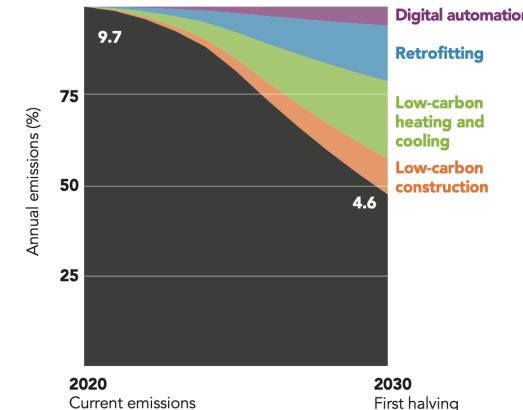
ENERGY SUPPLY



INDUSTRY



BUILDINGS



5.9 5.29

ENERGY'S OWN EMISSIONS

5.9

INDUSTRY

16.9

6.13

BUILDINGS

9.7

0.16 0.32

TRANSPORT

8.4

0.33

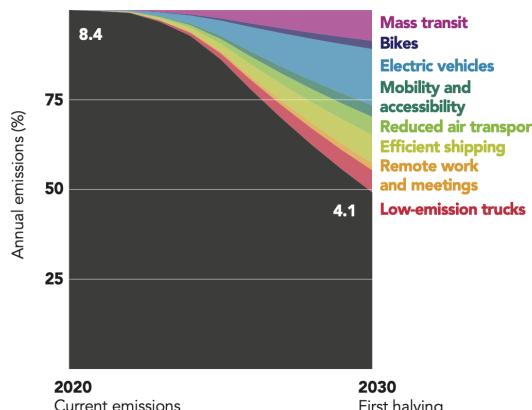
FOOD CONSUMPTION

5.6

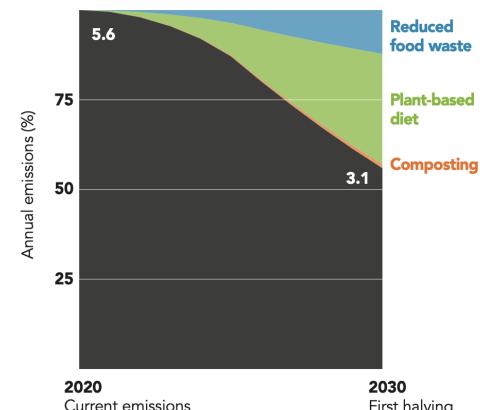
6.6

AGRICULTURE & FORESTRY

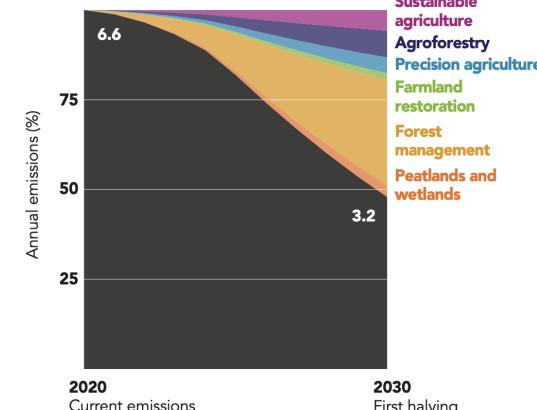
TRANSPORT



FOOD CONSUMPTION



AGRICULTURE AND FORESTRY



A ‘Carbon Law’ to halve global emissions by 2050.

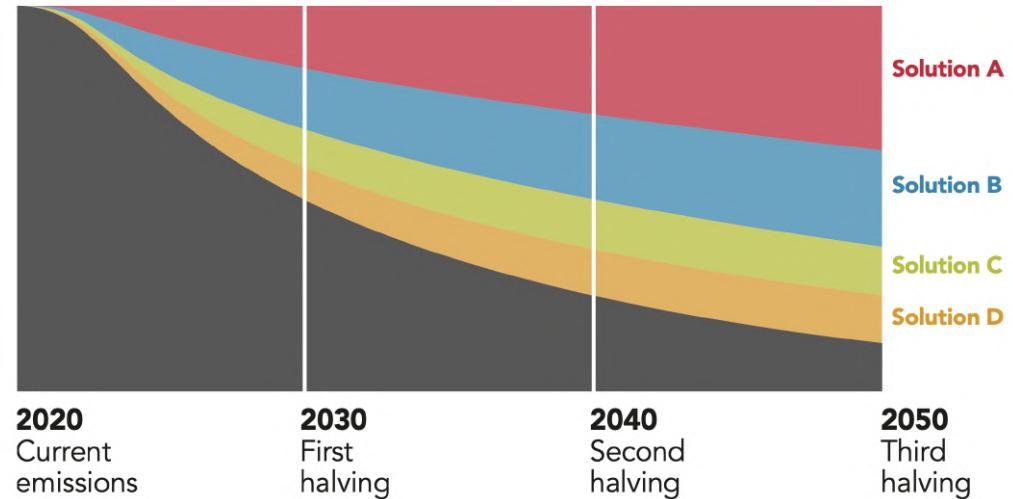
FutureEarth, an international research organisation, hired me as an editor to bring together the work of an **interdisciplinary team of scientists** into a “roadmap” for climate action.

The goal was to show an audience of business leaders and public officials how carbon emissions must halve every decade between now and 2050 to keep global heating below 1.5C. We called this approach the **“Carbon Law”**.

As well as editing together the work of more than a dozen authors into a **single compelling voice**, helping define the structure, look and feel of the report, and managing layout and production tasks, I also developed a series of data visualizations showing how each sector can halve emissions by 2030 using existing, proven technologies.

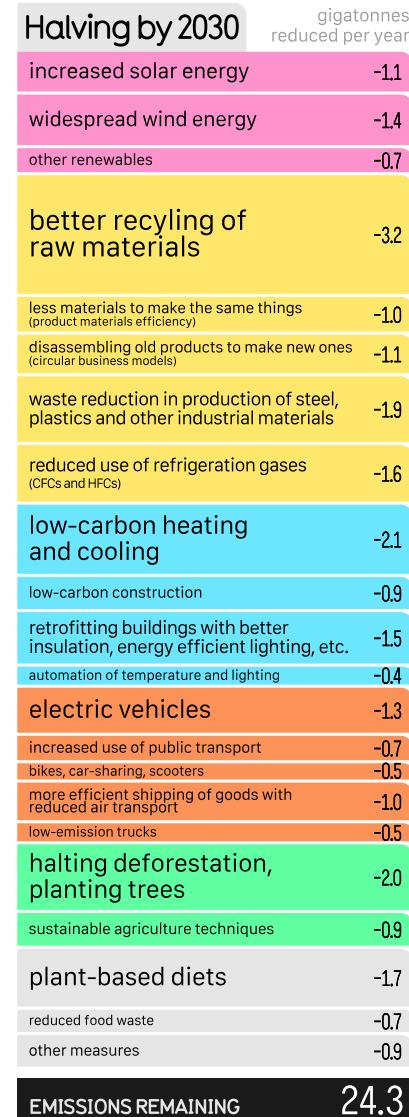
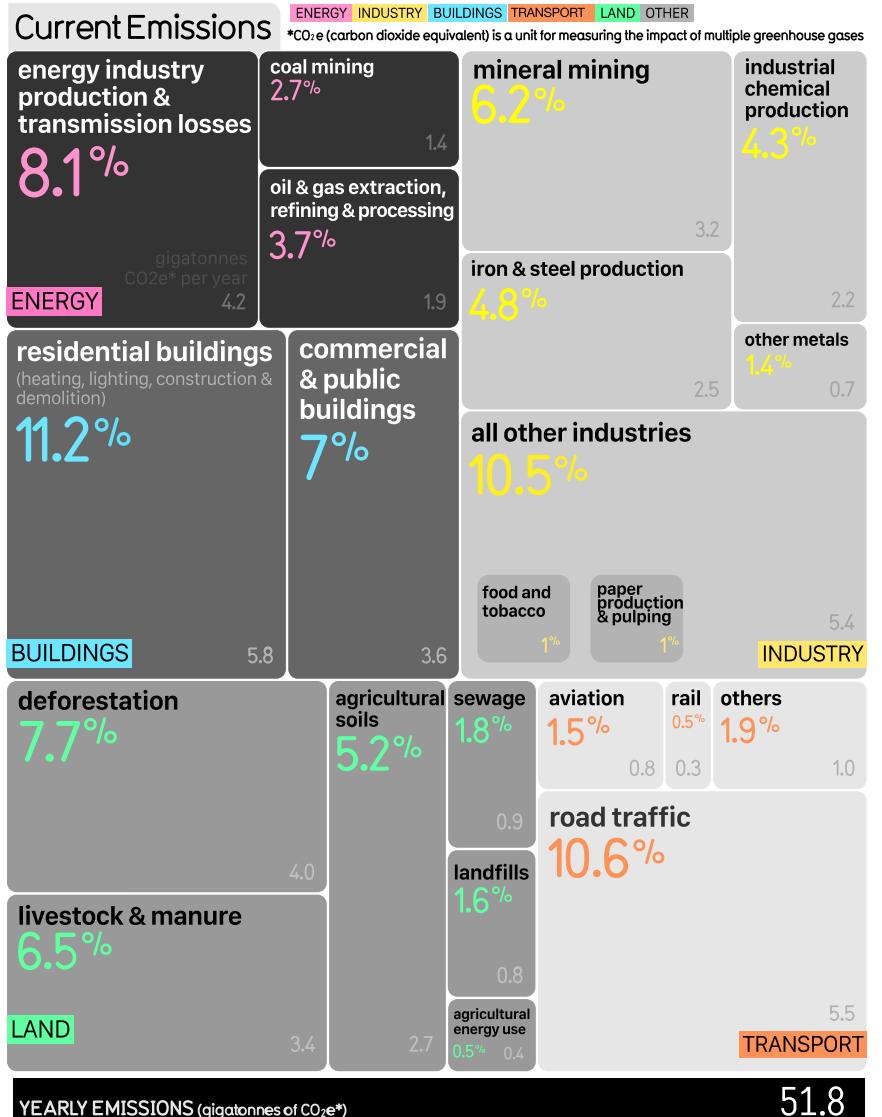
The report was presented in 2018 at the **Global Climate Action Summit** in San Francisco, and we updated it in 2019 with newer data and additional visualizations.

The project also led to work on the **1.5°C Business Playbook**, showing businesses how to take a leading position in the upcoming economic transition.



Getting To Zero Emissions

Client: New Internationalist
Date: April 2019



informationisbeautiful

sources: ECOFYS, Exponential Climate Action Roadmap, Project Drawdown, IEA
data: bit.ly/CarbonZero

Climate solutions for a general audience.

While working for **Information is Beautiful**, I was approached by **New Internationalist magazine** to design a graphical blueprint on how we might get to net zero carbon emissions.

Drawing on my **deep knowledge of environmental science** and climate change, as well as my work on the Exponential Roadmap, the IIB team and I put together this graphic.

Optimised for a **general audience**, it breaks down the different sources of our current emissions, and then lays out how we can reduce them.

The **biggest challenge was the uncertainty** inherent in predicting the future. We handled this by choosing not to quantify the far-future solutions - presenting them as a simple list instead.

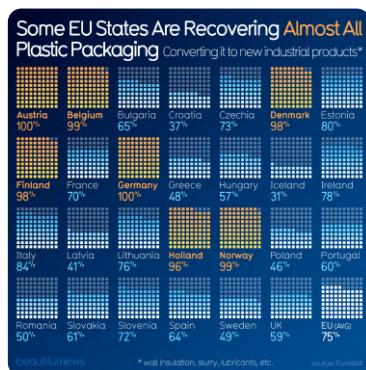
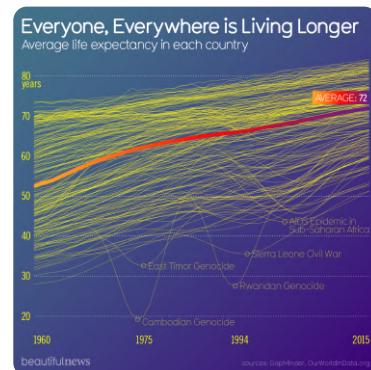
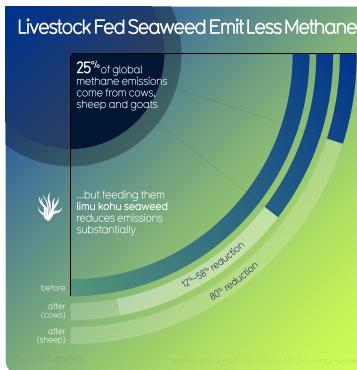
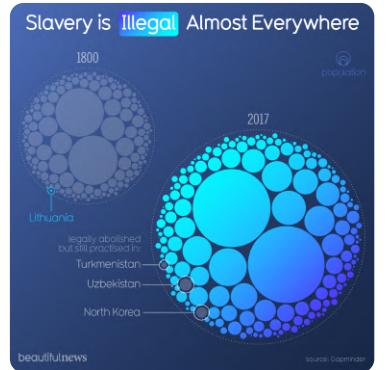
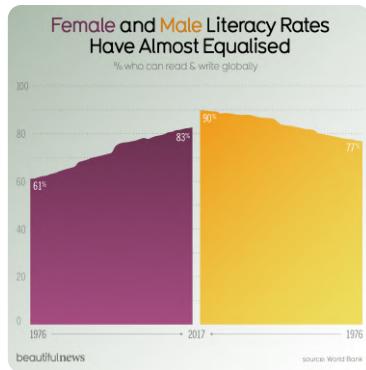
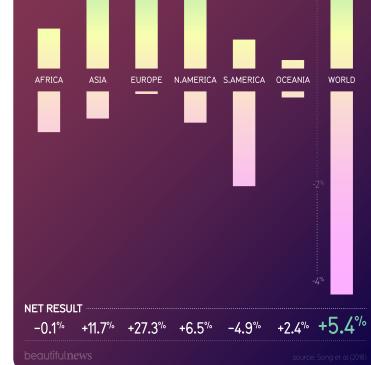
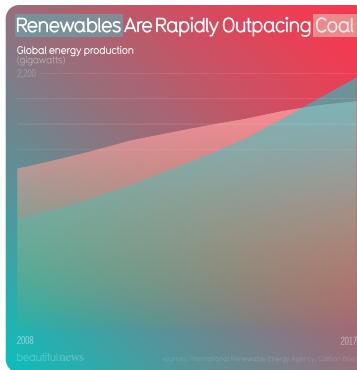
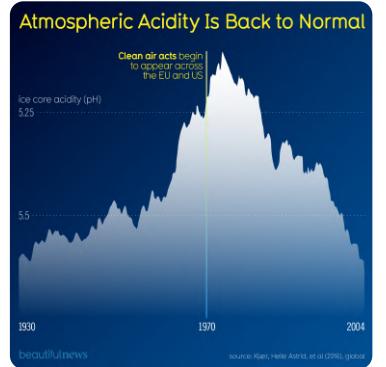
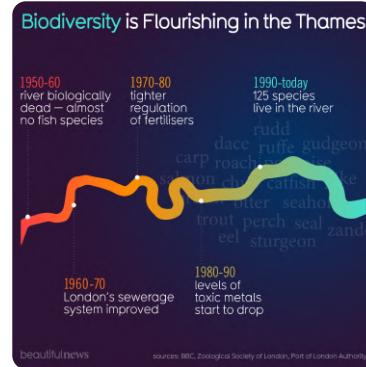
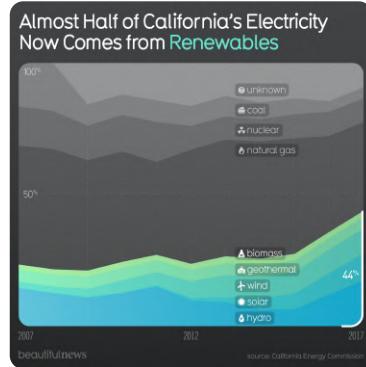
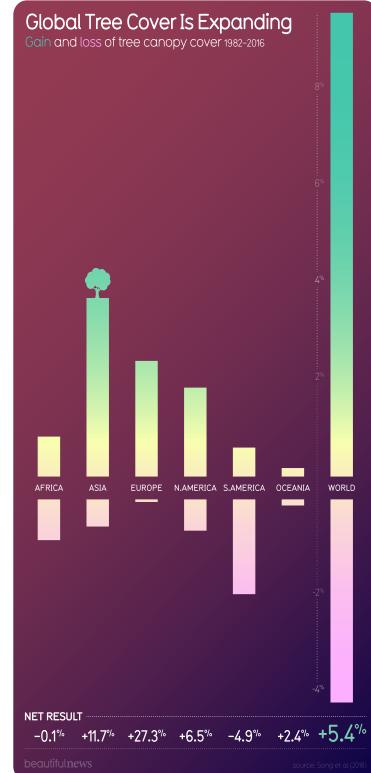
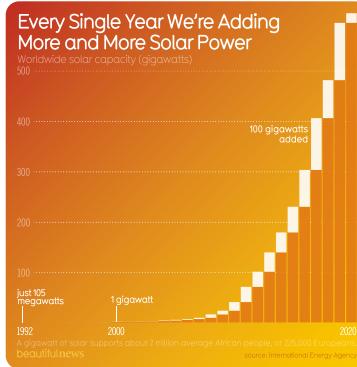
We then solved the resulting problem of the use of different kinds of visualization with the **clear use of colour**, and making sure time runs left to right across the page.

The result is a **three-step data narrative** that readers can use to understand how the world can reach zero emissions by 2050.



Beautiful News

Client: Information is Beautiful
Date: Jan 2019 - Jan 2020



A chart a day; the world becoming a better place.

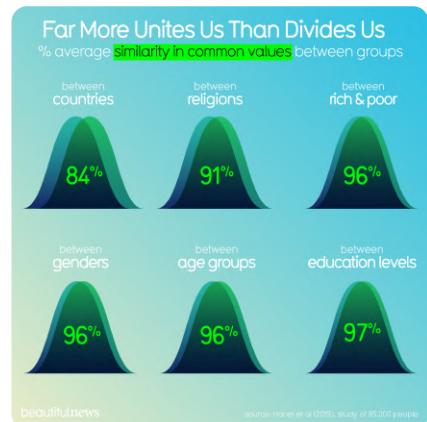
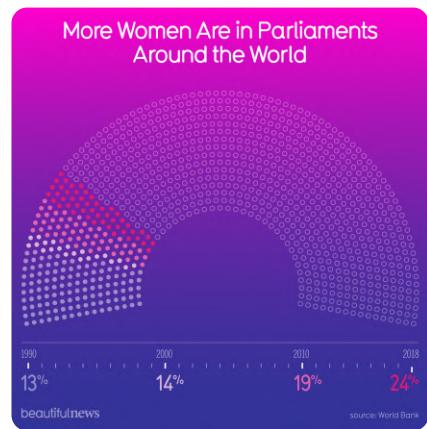
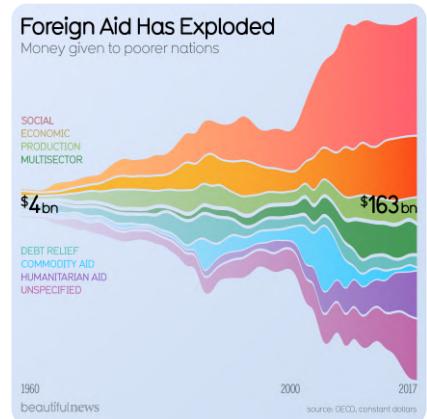
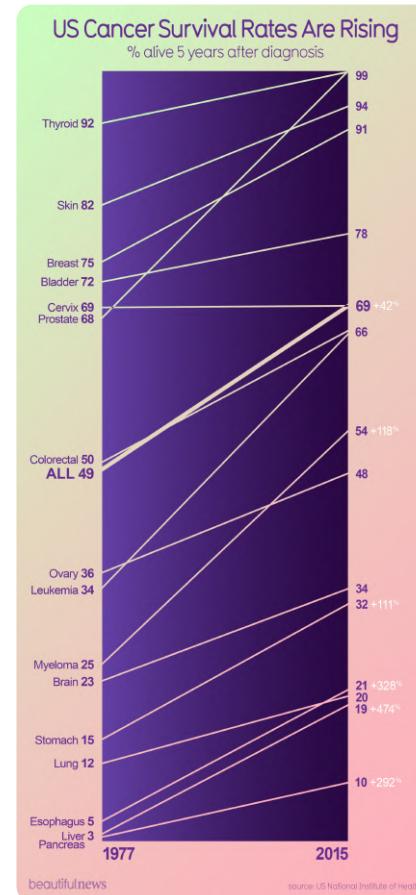
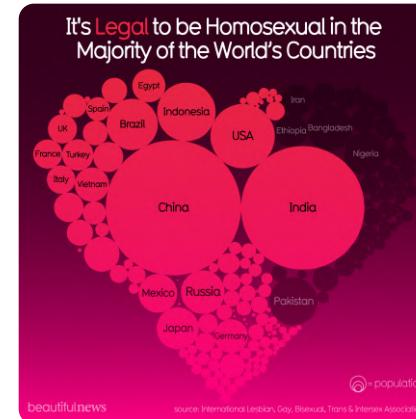
The biggest project I worked on during my time at Information is Beautiful was called Beautiful News. It's a **collection of 365 data visualizations**, - released daily for a year.

I coordinated and managed the team working on the project from the start of production, building the **systems and processes** necessary to shepherd each graphic from a rough idea to a polished product.

I also contributed in terms of **sketching** and **developing** concepts, **researching** data, **designing** the graphics, **developing** the audience for the project, and **perfecting** the editorial elements.

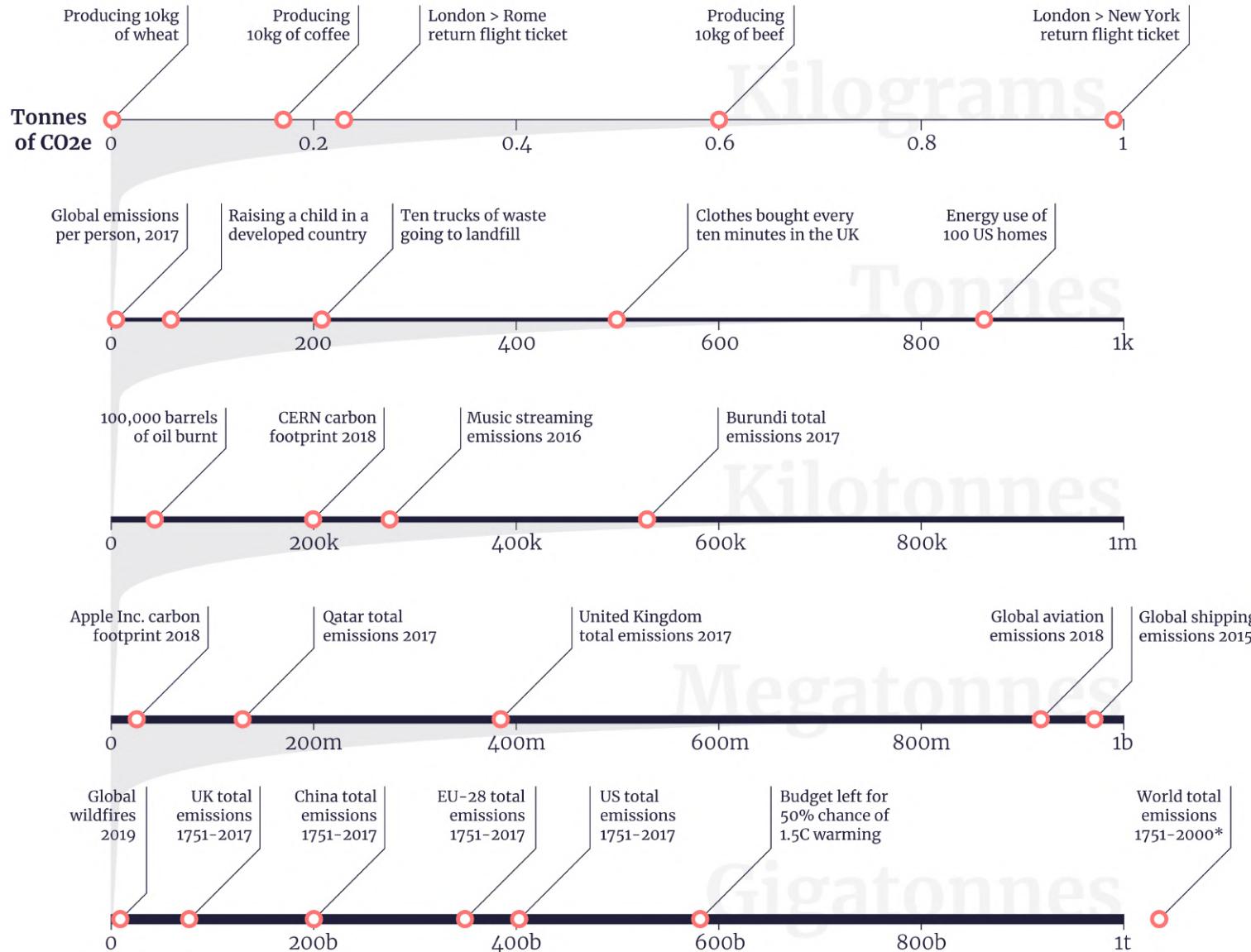
At the time of writing, the project has amassed **40,000 Instagram followers, 14,000 Twitter followers and 10,000 Facebook followers**. It has earnt plaudits from Bill Gates, Max Roser, Steven Pinker and other thought leaders.

Most importantly of all, it's **fighting the dominant media narrative** that the world is a terrible place that's getting worse. Instead, it highlights the slow developments and quiet trends that go unseen and uncelebrated.



Carbon in Context

Client: Personal Project
Date: April 2020



An alternative to log scales for comparing diverse numbers.

When **communicating climate change**, the media throws around kilograms, tonnes and gigatonnes of carbon, but it's hard for a general audience to understand how they compare.

To solve this problem, I developed a **new type of chart**. Instead of the poorly-understood log scale, I stacked a series of linear scales on top of each other. Each scale makes up just a tiny sliver of the one below.

To ensure this new graphical form was effective, I went through **several rounds of user testing**. During the process the visual forms changed a lot and the communication of information improved dramatically.

The resulting graphic allows the viewer to **quickly put emissions figures into context**, finding others that are comparable.

Air Travel Inequality

Client: Personal Project

Date: September 2019

A poster raising awareness of the injustices around climate action.

A common belief is that the most impactful thing you can do to reduce your carbon footprint is to stop flying, but this is **not true**. For most people, a short-haul family holiday each year makes a negligible contribution to global emissions.

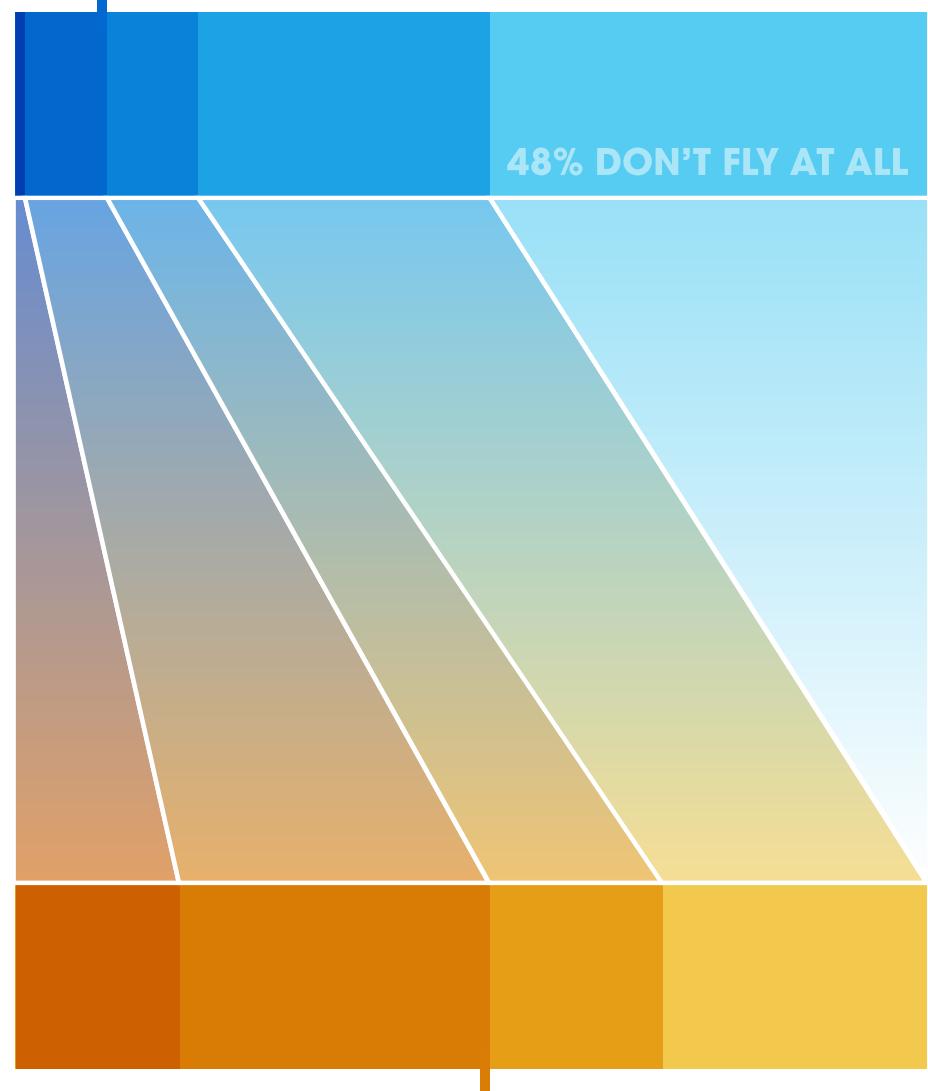
To combat this misconception, I created a simple poster that visualizes UK transport statistics from the UK Department of Transport. It shows how a very small number of people are responsible for a majority of the UK's aviation emissions.

Individuals can and should aim to reduce their personal emissions, but a focus on individual action distracts from the need for larger structural changes in how our society operates.

This personal project was created to further my **goal of encouraging effective climate action**. The colour scheme calls to mind the transition from a cooler to a warmer world, as well as clear blue skies, while the shapes resemble the wings and tail fins of aircraft.

The poster was created in Figma, and published on the web where it can be **freely downloaded and used** with a "No Rights Reserved" public domain license.

10% OF PEOPLE



TAKE 52% OF FLIGHTS

DUNCAN GEERE

SOURCE: UK DEPARTMENT FOR TRANSPORT

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