Duncan Geere

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

Portfolio, September 2021
The Drawdown Review

Client: Project Drawdown
Date: January 2020

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

**TOTAL:** MIN 449.2 | MAX 1135.5

**Electricity**

- Shift Production 110.8 / 295.0
- Enhance Efficiency 34.8 / 65.7

**Food, Agriculture & Land Use**

- Address Waste & Fruits 181.4 / 188.3
- Sustain Agricultural Productions 15.5 / 18.0

**Industry**

- Enhance Efficiency 16.9 / 33.1

**Transport**

- Enhance Efficiency 37.4 / 38.9

**Buildings**

- Enhance Efficiency 83.7 / 73.4

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**Support Sinks**

**TOTAL:** MIN 242.3 | MAX 397.8

**Land Sinks**

- Shift Agriculture Holdings 115.9 / 193.3

**Coastal & Ocean Sinks**

- Protect & Restore Ecosystems 1.0 / 1.6

**Engineered Sinks**

- Protect & Restore Ecosystems 32.5 / 72.5

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**Improve Society**

**TOTAL:** MIN 85.6 | MAX 85.4

**Health & Education**

- Health & Education 35.4 / 35.4
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.
Exponential Roadmap

Client: FutureEarth
Date: June 2018 to Feb 2020

ENERGY SUPPLY
- Solar photovoltaics
- Concentrated solar power
- Wind power
- Reduced methane emissions
- Grid flexibility and storage
- Other low-carbon energy

INDUSTRY
- Circular economy
- Supply side efficiencies
- Refrigerant management

BUILDINGS
- Digital automation
- Retrofitting
- Low-carbon heating and cooling
- Low-carbon construction

ENERGY'S OWN EMISSIONS
- 5.9

INDUSTRY
- 16.9

BUILDINGS
- 9.7

TRANSPORT
- 8.4

FOOD CONSUMPTION
- 5.6
- Reduced food waste
- Plant-based diet
- Composting

AGRICULTURE AND FORESTRY
- 6.6
- Sustainable agriculture
- Agroforestry
- Precision agriculture
- Farmland restoration
- Forest management
- Peatlands and wetlands

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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.
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

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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 earned 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.
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.
Loud Numbers

Client: Personal Project
Date: Jan 2020 - June 2021

A data sonification podcast, turning data into sound and music

Loud Numbers is a data sonification podcast, which I created in collaboration with data journalist Miriam Quick. In each episode, we introduce a data story, explain how we sonified it, and then play the sonification we’ve created.

The different episodes take in subjects as diverse as climate change, beer tasting, species loss, European laws, and US inequality, and genres like techno, alternative, classical and jungle. The result showcases the power of sound and music to tell stories with data.

The project has been featured in many newsletters and other podcasts, and we’ve been invited to speak about it to audiences all over the world. For the launch, we also ran a sonification festival of our own – pulling together a diverse collection of speakers to discuss the finer points of the art and science of sonification.

Sonification is still an immature field, and there aren’t really standards yet. By creating this podcast with high production values and appeal outside of the data bubble, we’re working to establish those standards and spread the word about the effectiveness of sonification to a much wider audience.
Get in Touch

duncan.geere@gmail.com

duncangeere.com/contact