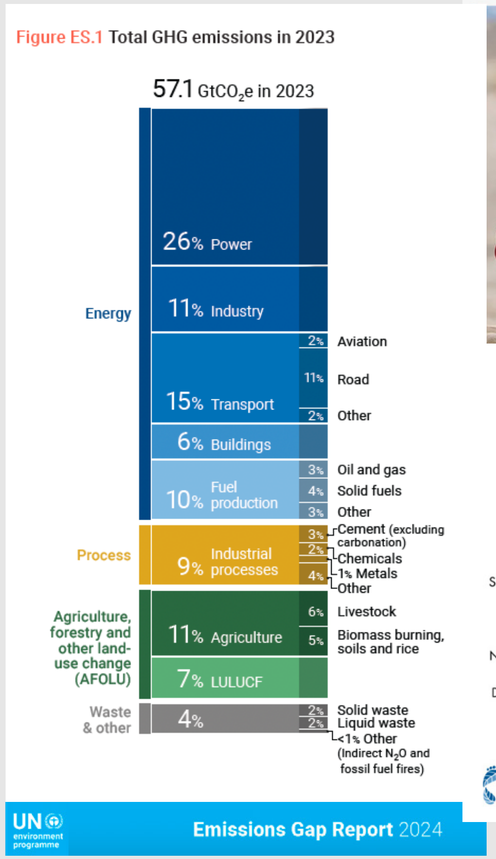
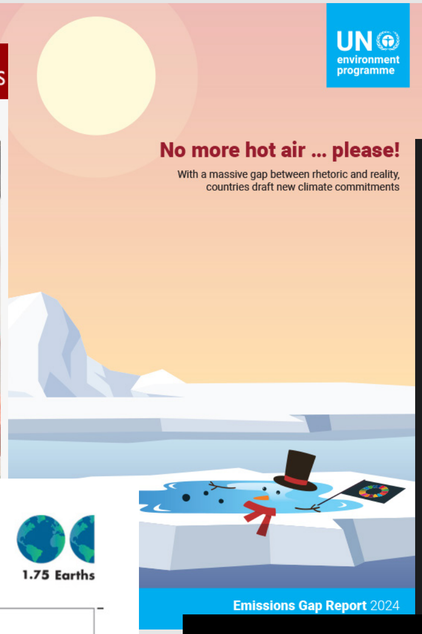
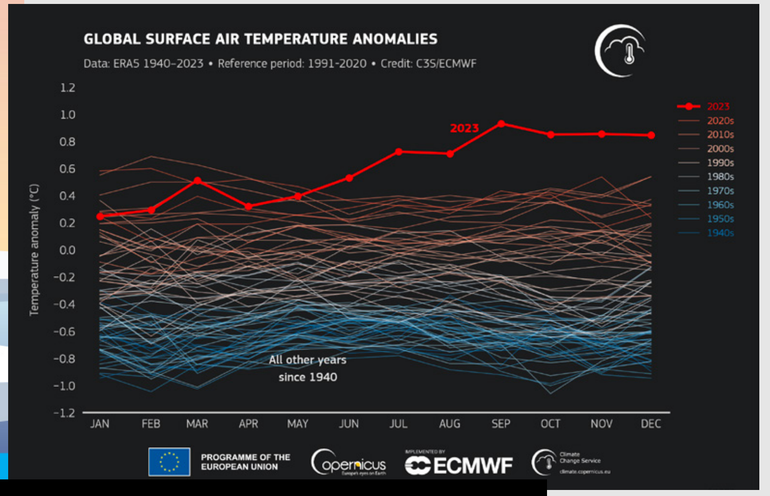
Making Data Visible

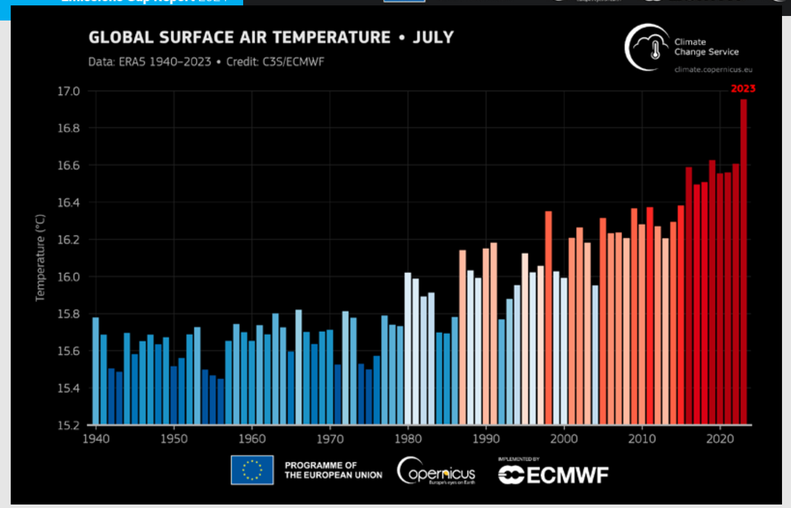
Yesim Tuzun

MAGCD Symposium 2024









Data visuals and information on environmental harm, often come across as distant, unrelatable.

Reference

Speculative Everything
by Anthony Dunne & Fiona Raby

Using design as a form of critique is just one use for design, as is communication or problem solving. We believe that some design should always question prevailing values and their underlying assumptions and that this activity can sit beside mainstream design rather than replace it. The challenge is to keep evolving techniques that are appropriate to the times and identifying topics that need to be highlighted, reflected on, or challenged.

Dunne, A. and Raby, F., 2013. Speculative Everything: Design, Fiction, and Social Dreaming. Cambridge: MIT Press.

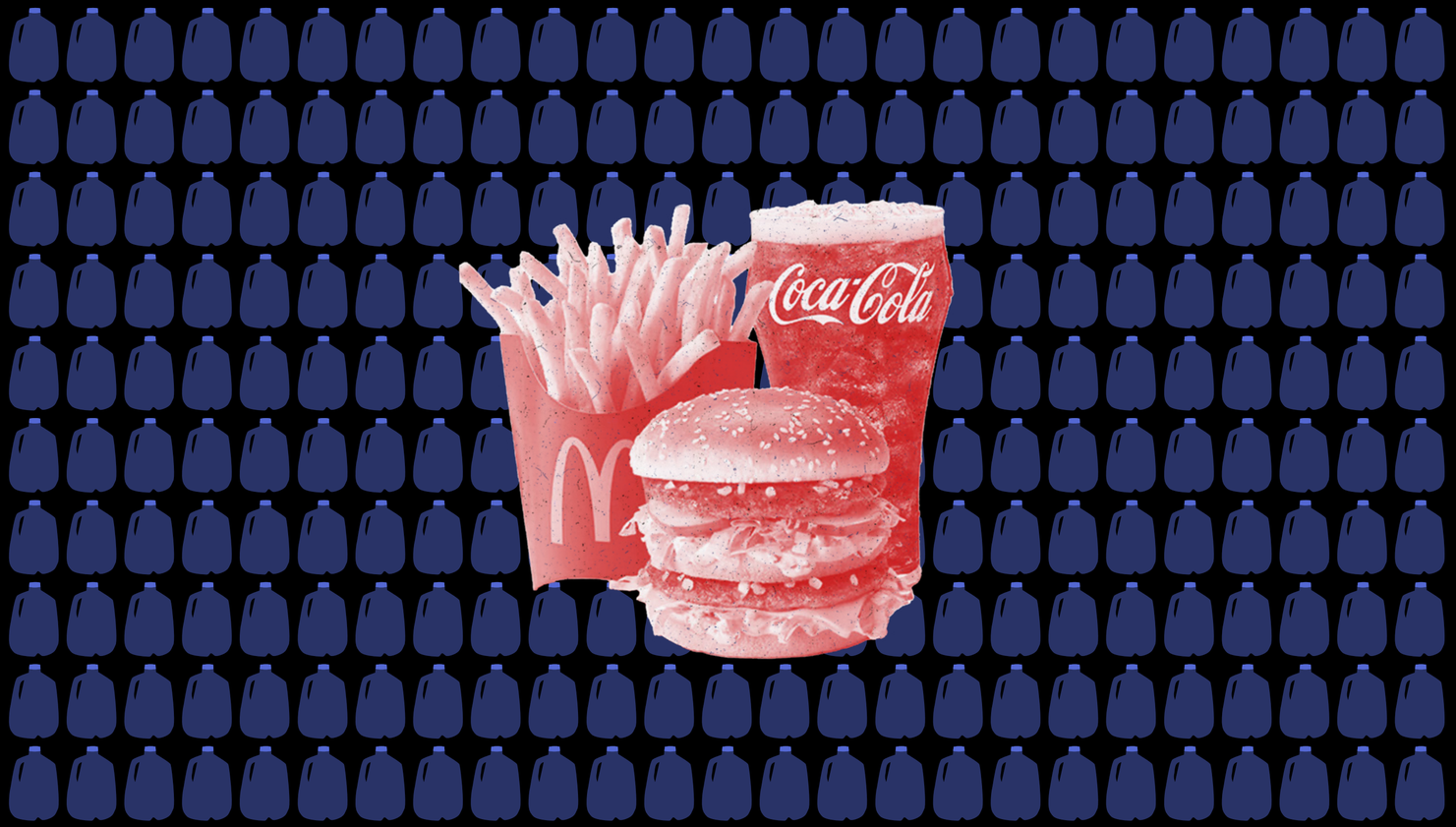
The hidden water footprint
of a **bigmac menu** is

= **1232 litres**

Mekonnen, M.m. And Hoekstra, A.y. (2012) A Global Assessment Of The Water Footprint Of Farm Animal Products, Ecosystems, 15(3): 401-415.

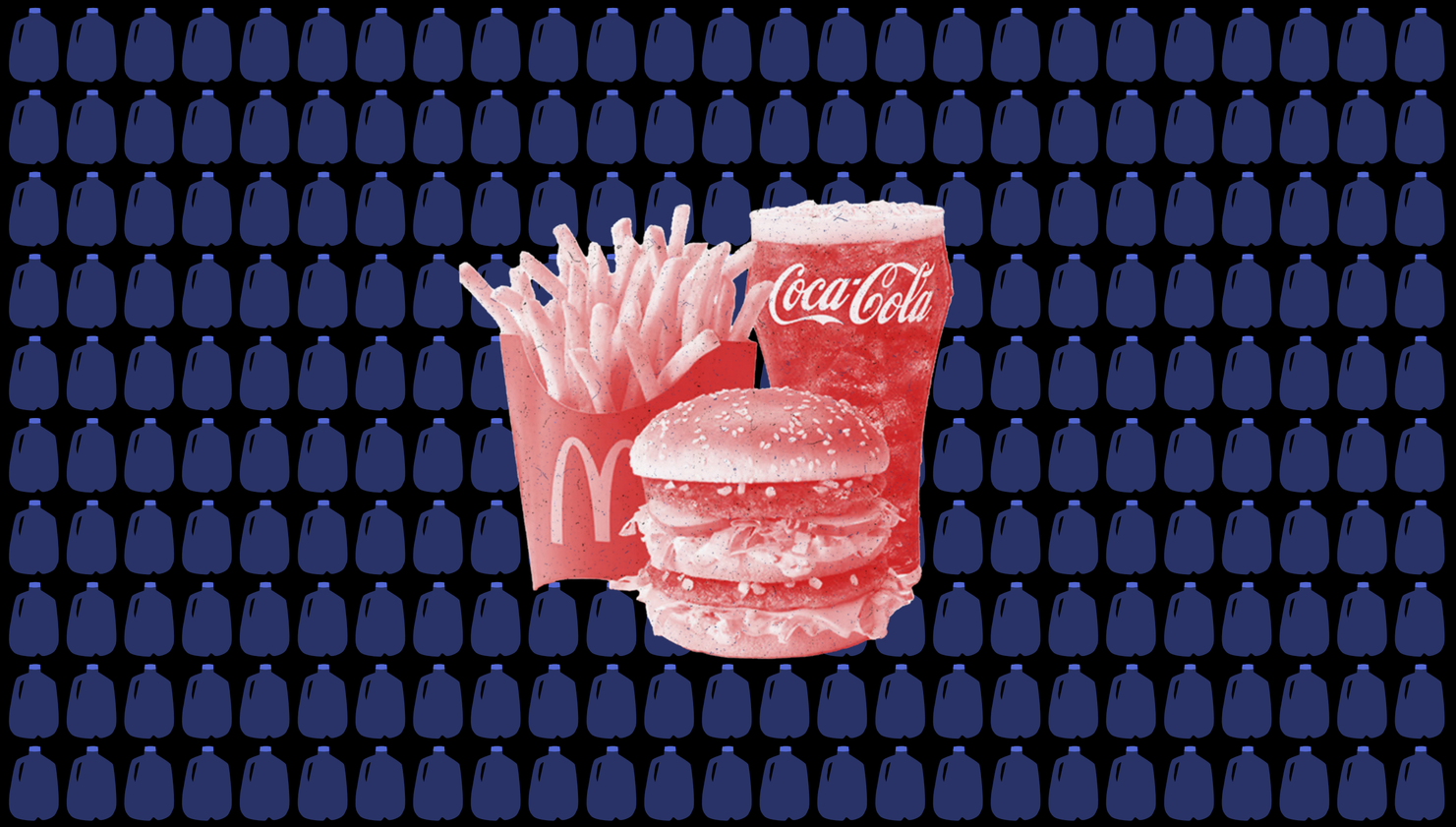
The hidden water footprint
of a **bigmac menu** is

= **1232 litres**



The hidden water footprint
of a **bigmac menu** is

1232 litres = **8 bathtubs**



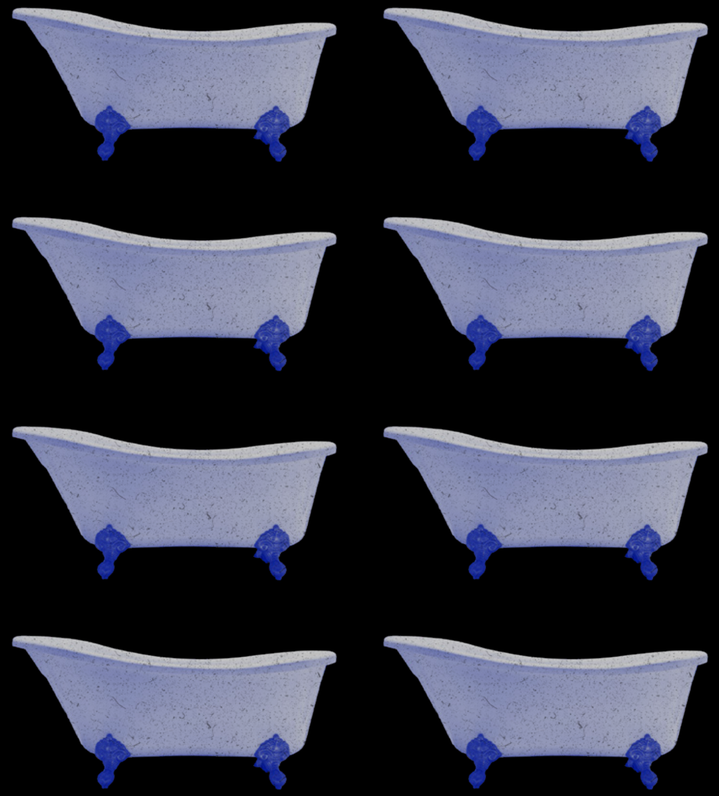


Photo credit JEAN-PIERRE MULLER/AFP via Getty Images

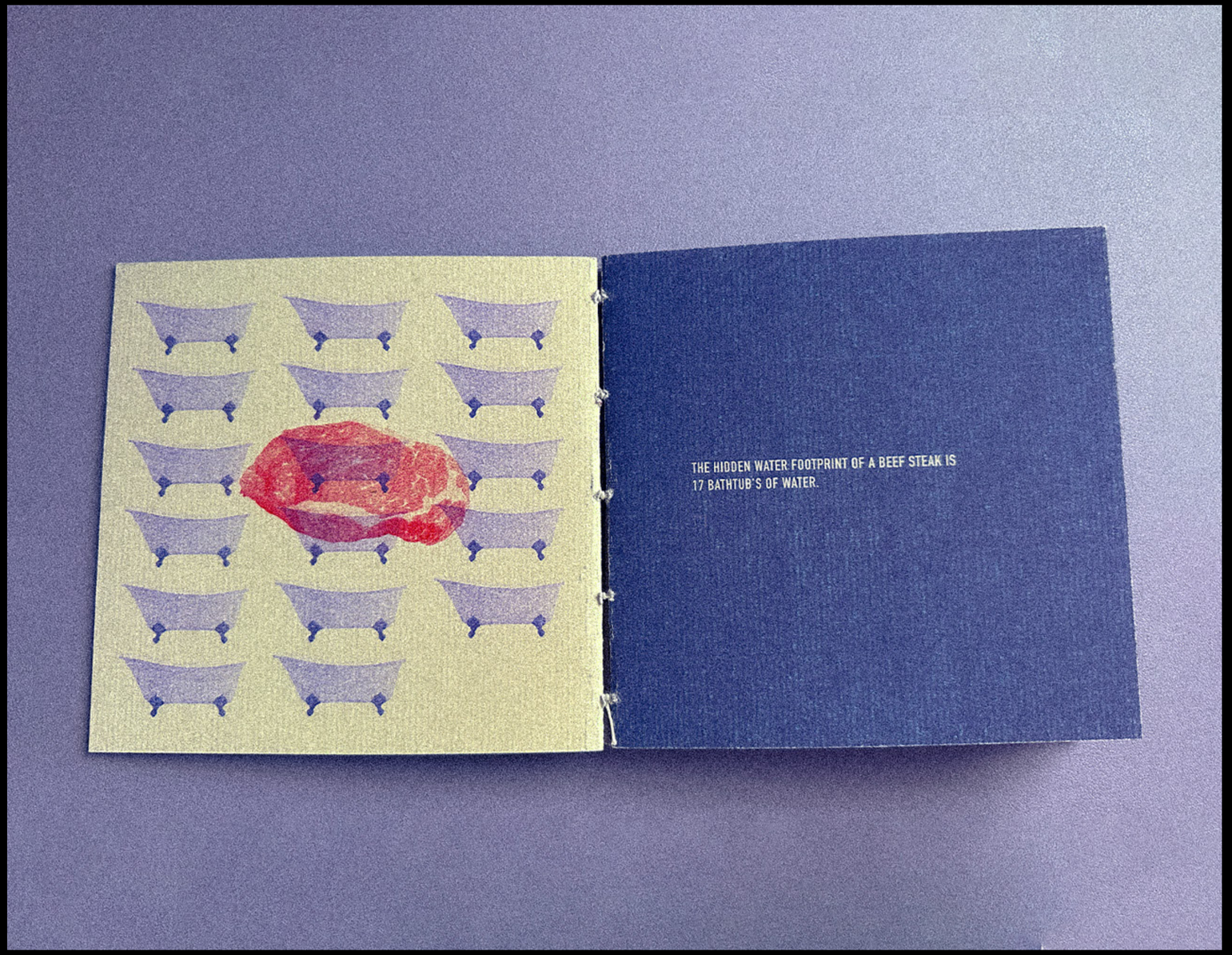
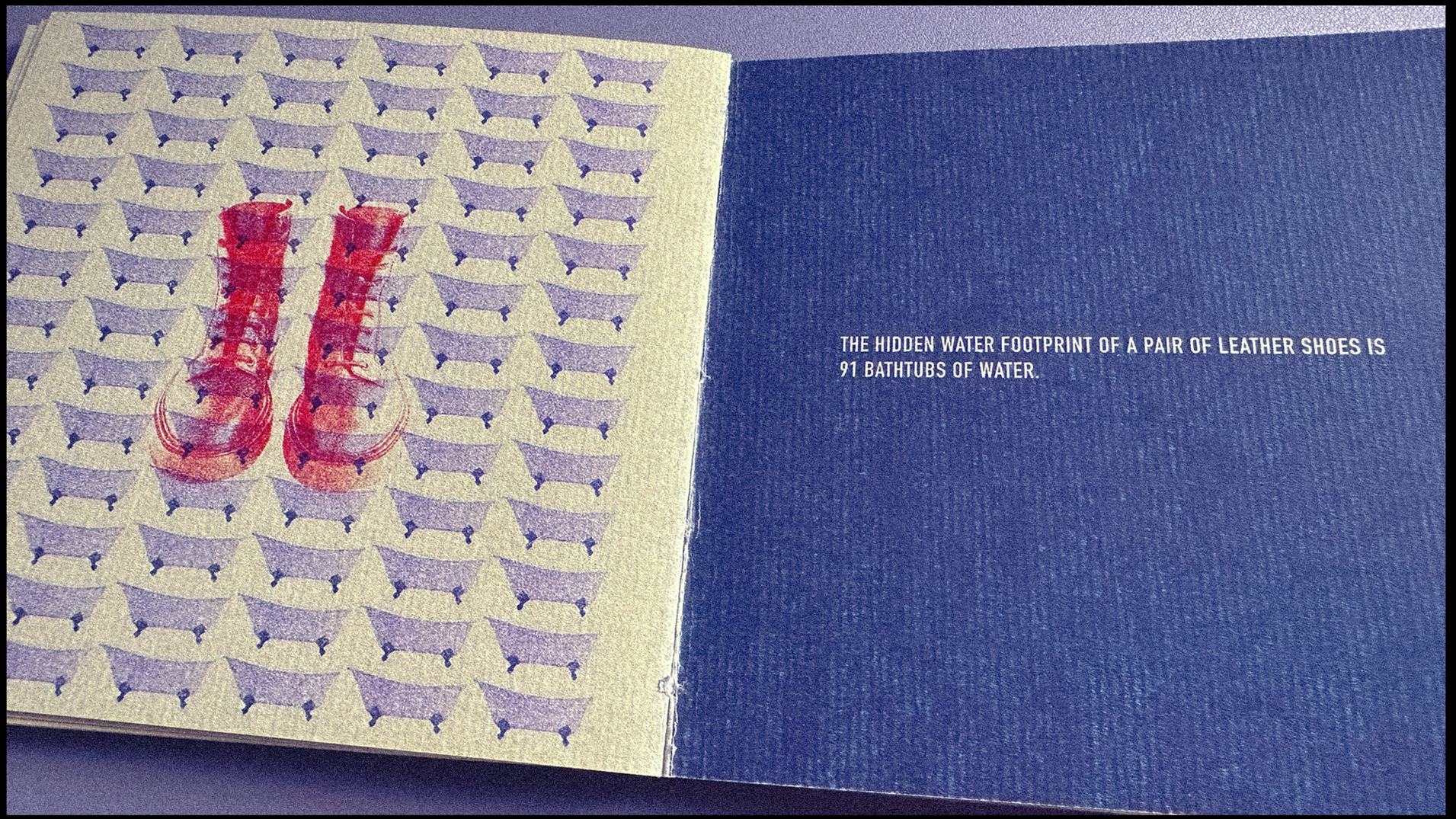


Photo credit Stephen Lovekin via Getty Images

THE HIDDEN WATER FOOTPRINT OF A TSHIRT IS
16 BATHTUBS OF WATER.

THE HIDDEN WATER FOOTPRINT OF A PAIR OF JEANS IS
53 BATHTUBS OF WATER.


THE HIDDEN WATER FOOTPRINT OF A PAIR OF LEATHER SHOES IS
91 BATHTUBS OF WATER.

Reference

Engaging with climate change: psychoanalytic and interdisciplinary perspectives.
by Sally Weintrobe

Ecological debt offers a way to see who uses what natural resources and who owes a debt to whom. Unlike financial debts, ecological debts are absent from corporate and individual accounts, with no plans for repayment. These debts can be owed to other people, species, future generations, and the global commons, which includes resources like air and oceans that benefit all but belong to no one.

Weintrobe, S. (2013). Engaging with climate change : psychoanalytic and interdisciplinary perspectives. Abingdon ; New York: Routledge.

Reference

Pollution Pods

by Michael Pinsky

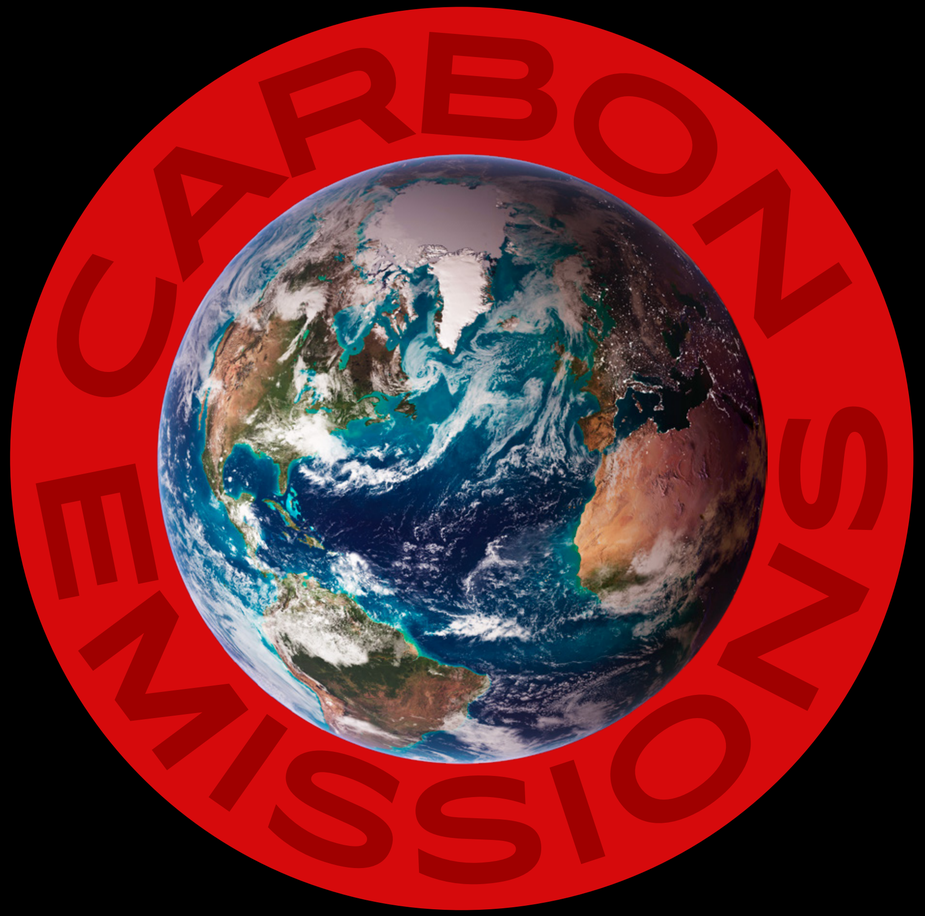
Immersive art installation consists of five interconnected domes, each replicating the air in cities like London, New Delhi, São Paulo, and Beijing. As visitors move through each dome, they experience a shift in air quality, temperature, and humidity - mirroring the environmental conditions in each city. The project combines scientific data with visual art to help visitors understand how air pollution affects our world and health.

Reference

Powers of Ten™

Short Documentary by Charles & Ray Eames (1977)

Eames, C. and Eames, R. (1977). Powers of TenTM (1977). YouTube. Available at: https://www.youtube.com/watch?v=0fKBhvDjuy0

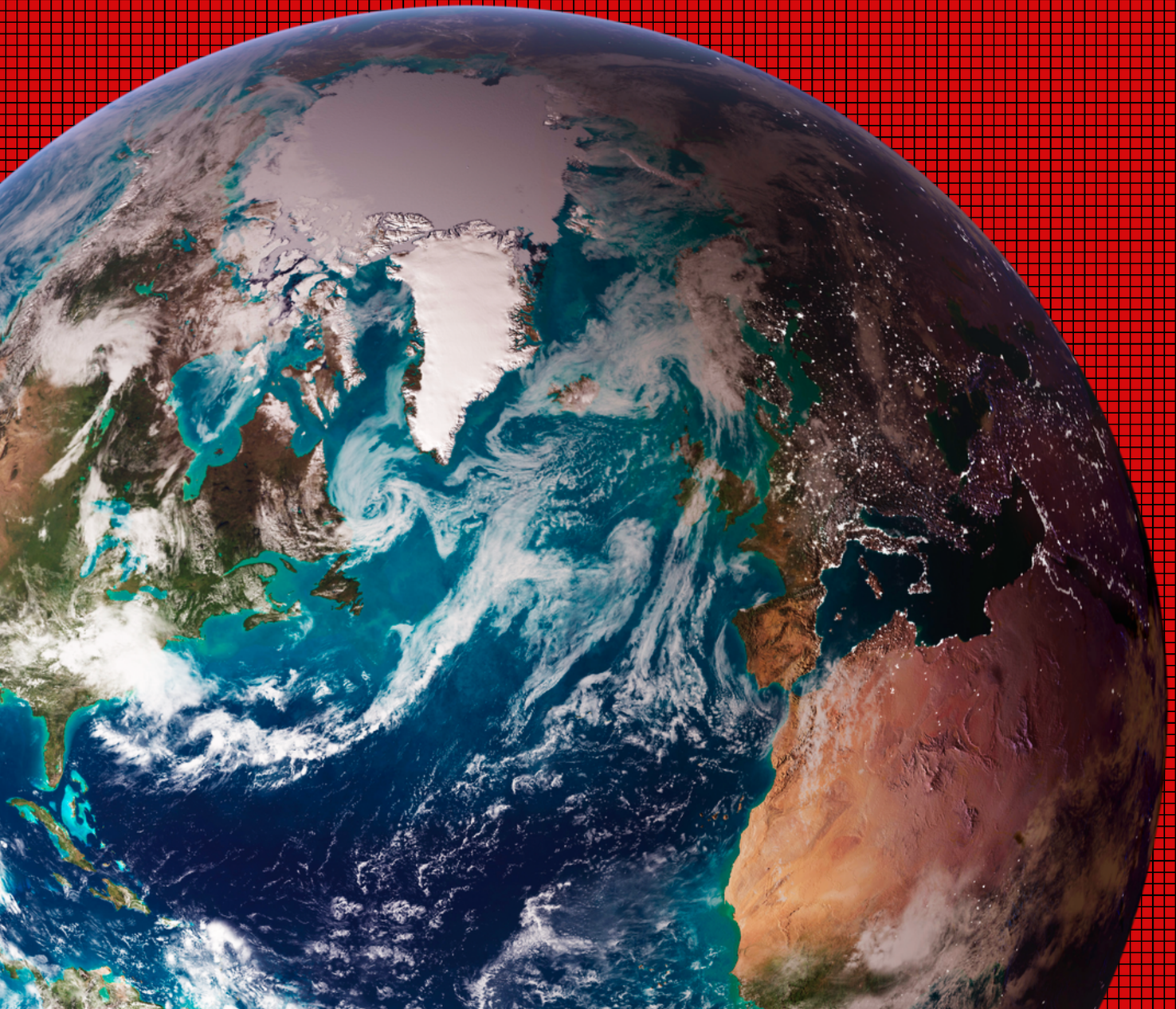


53.7 billion tonnes

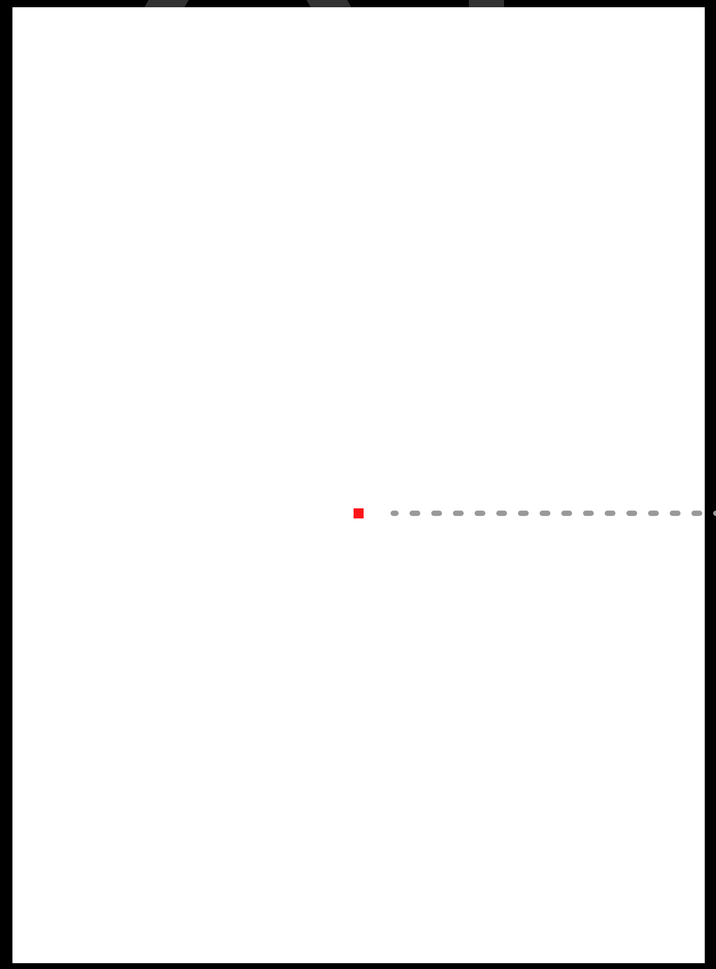
=

53.700.000.000 tonnes

European Commission (2023). EDGAR - The Emissions Database for Global Atmospheric Research. [online] edgar.jrc.ec.europa.eu. Available at: https://edgar.jrc.ec.europa.eu/report_2023..

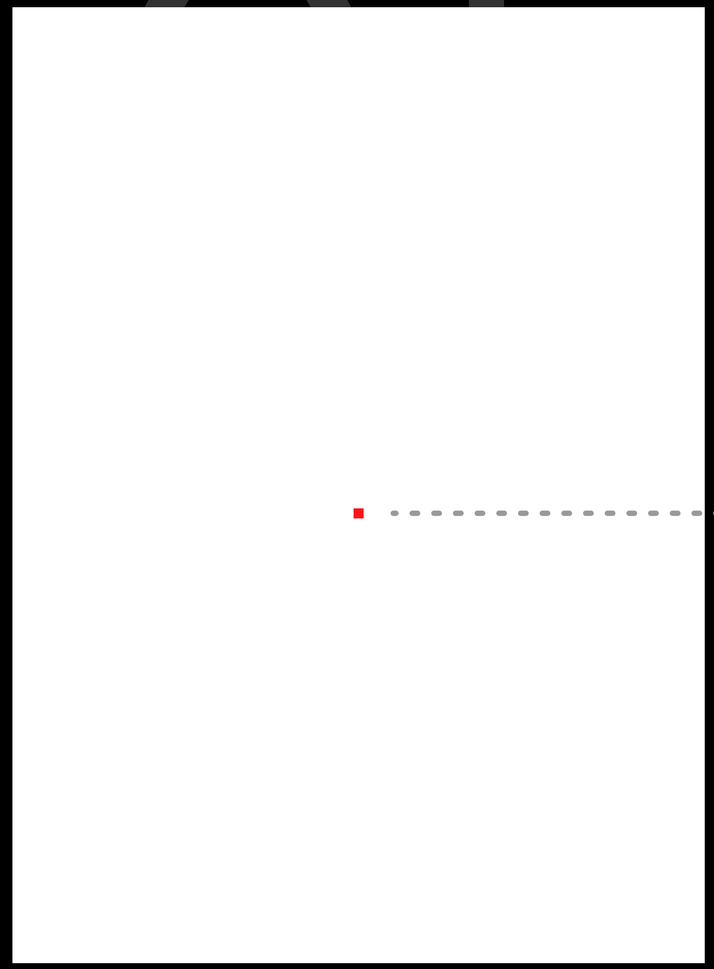


A4



1 red pixel on an A4

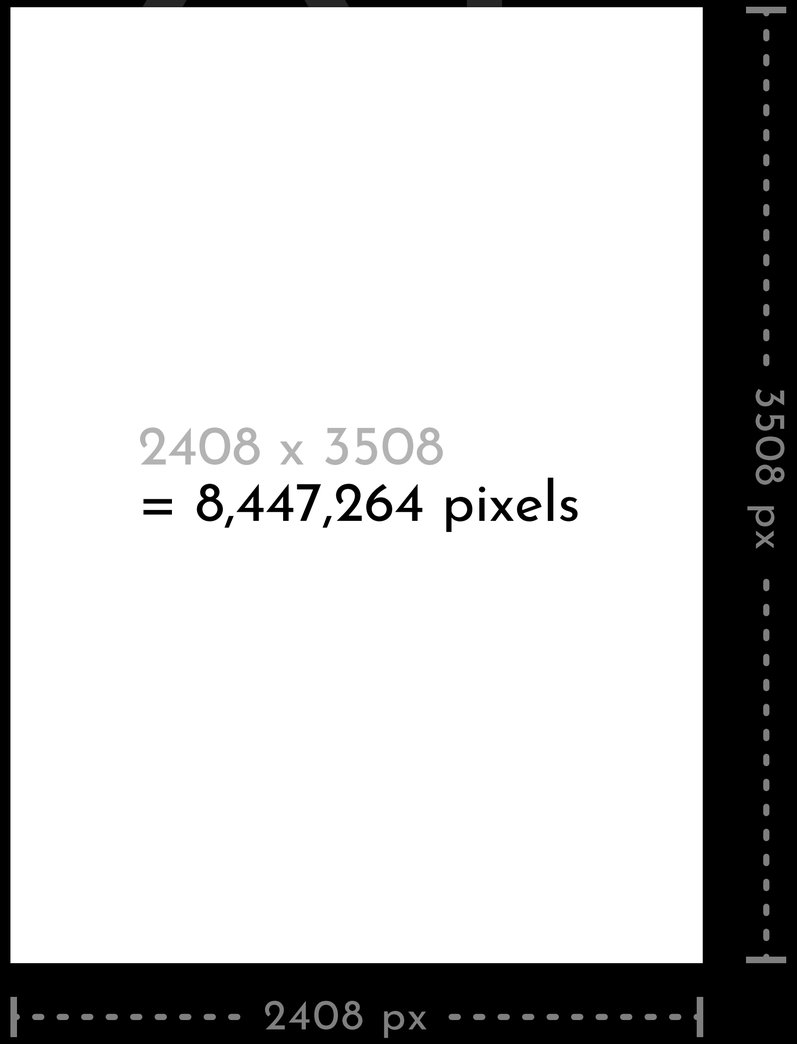
A4



1 red pixel on an A4 = 1 tonne of carbon

1 red pixel on an A4

A4



Adobe (n.d.). A4 format | A4 paper size & uses | A-series paper | Adobe. [online] www.adobe.com. Available at: https://www.adobe.com/uk/creativecloud/design/discover/a4-format.html.

A4

2408 x 3508
= 8,447,264 pixels

3508 px

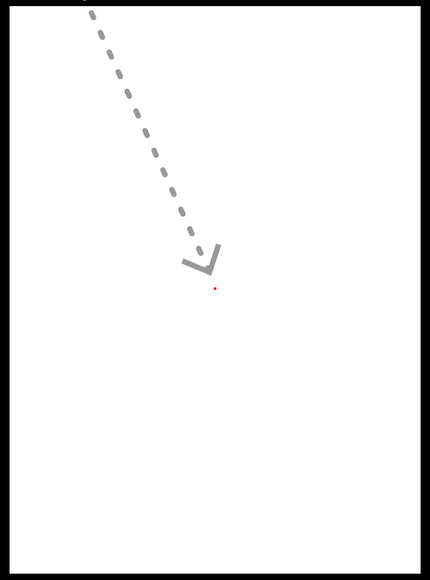
2408 px

A4

8 million red pixels

Adobe (n.d.). A4 format | A4 paper size & uses | A-series paper | Adobe. [online] www.adobe.com. Available at: https://www.adobe.com/uk/creativecloud/design/discover/a4-format.html.

1 red pixel = 1 tonne of carbon



Total Global Carbon Emissions in 2022
53.7 billion tonnes

= 6563 pages

of A4's fully covered in red pixels

European Commission (2023). EDGAR - The Emissions Database for Global Atmospheric Research. [online] edgar.jrc.ec.europa.eu. Available at: https://edgar.jrc.ec.europa.eu/report_2023..

32 cm

=

5 x Les Misérables

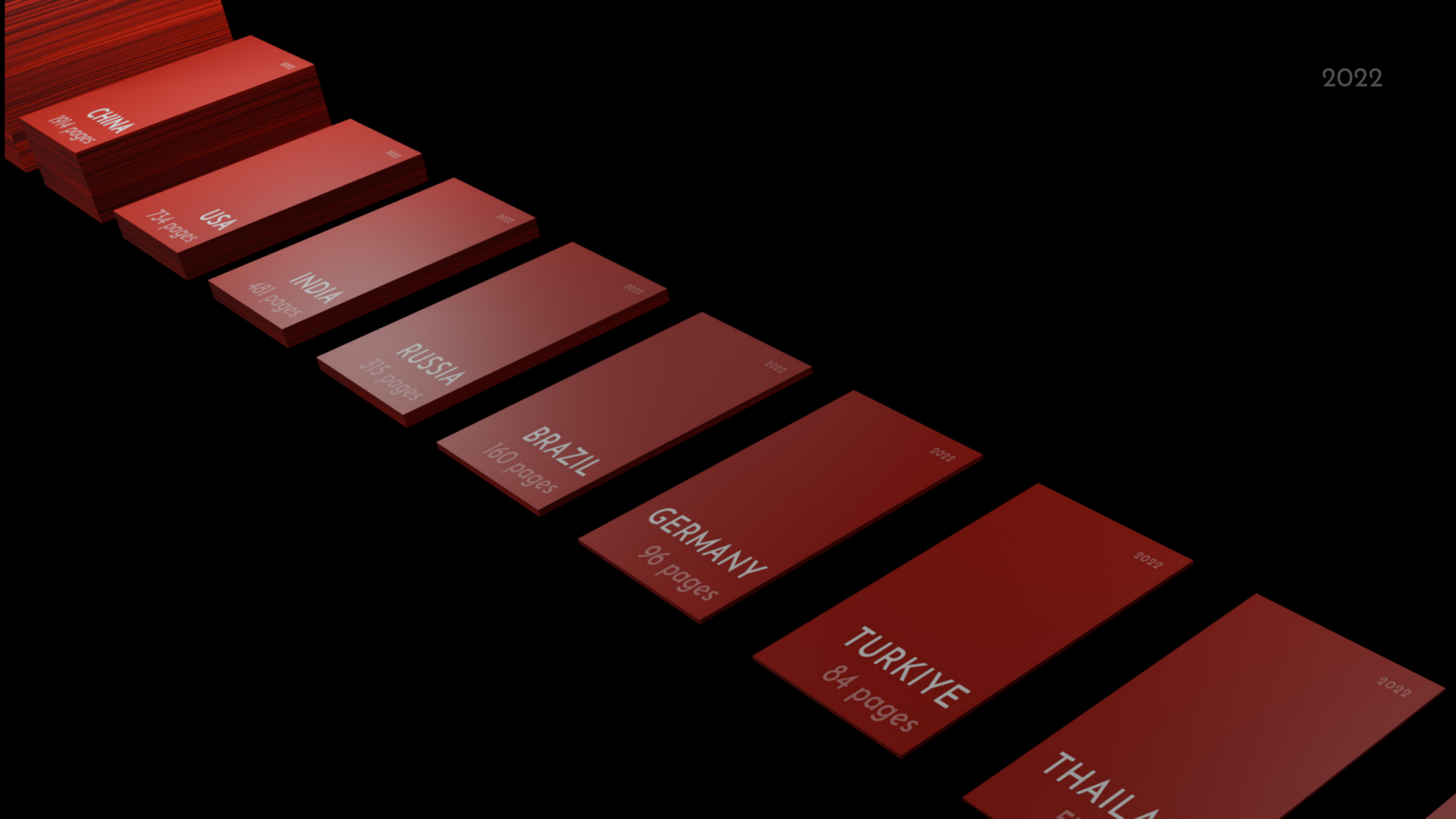
80gsm offset paper: 0.10mm / www.zxprinter.com. (n.d.). The Thickness of Printing Paper List. [online] Available at: https://www.zxprinter.com/support/paper-thickness.html.

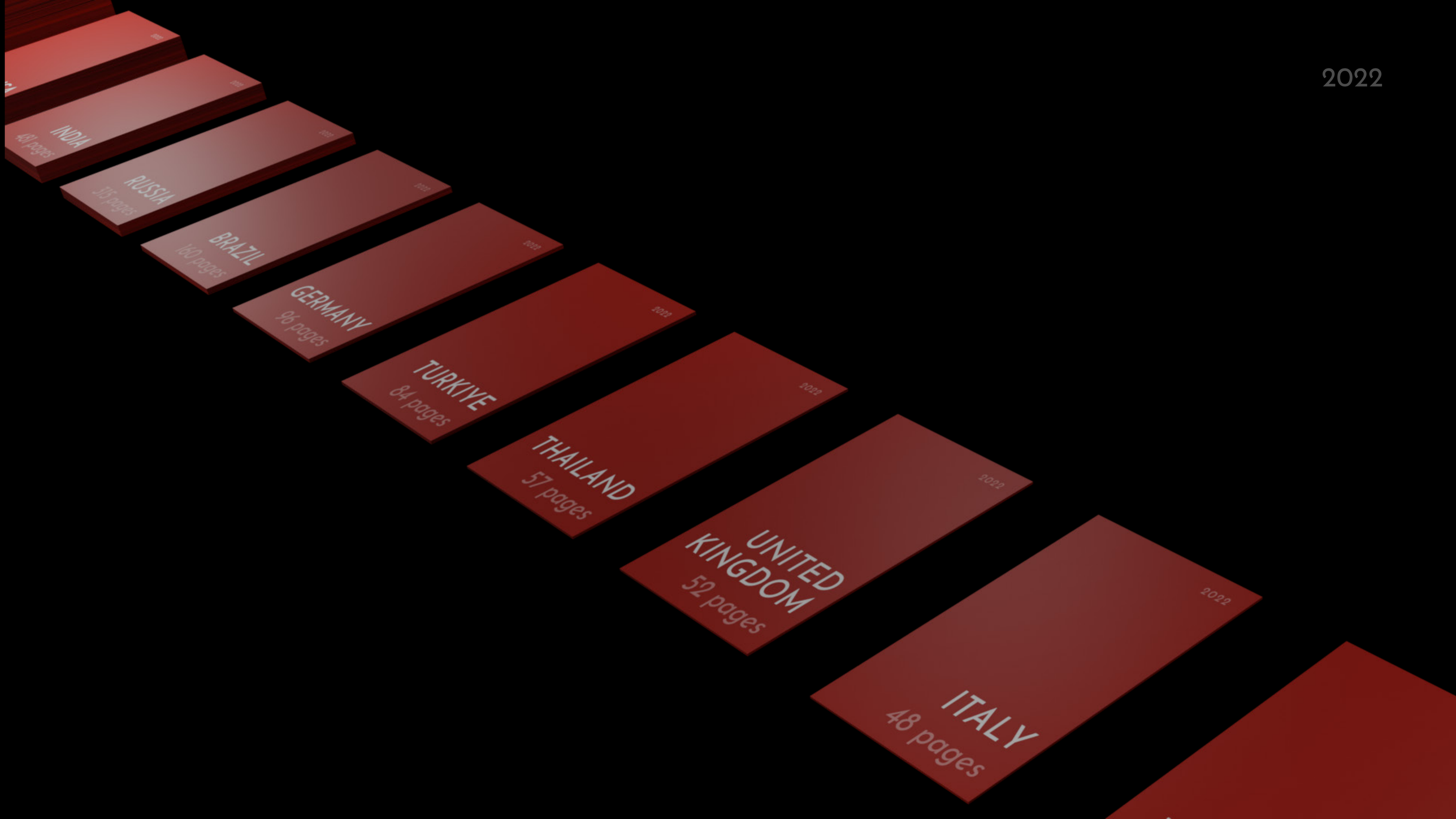
Hugo, V. (2012). Les Miserables. [online] Penguin.co.uk. Available at: https://www.penguin.co.uk/books/35068/les-miserables-by-victor-hugo-trans--christine-donougher/9781846140495.

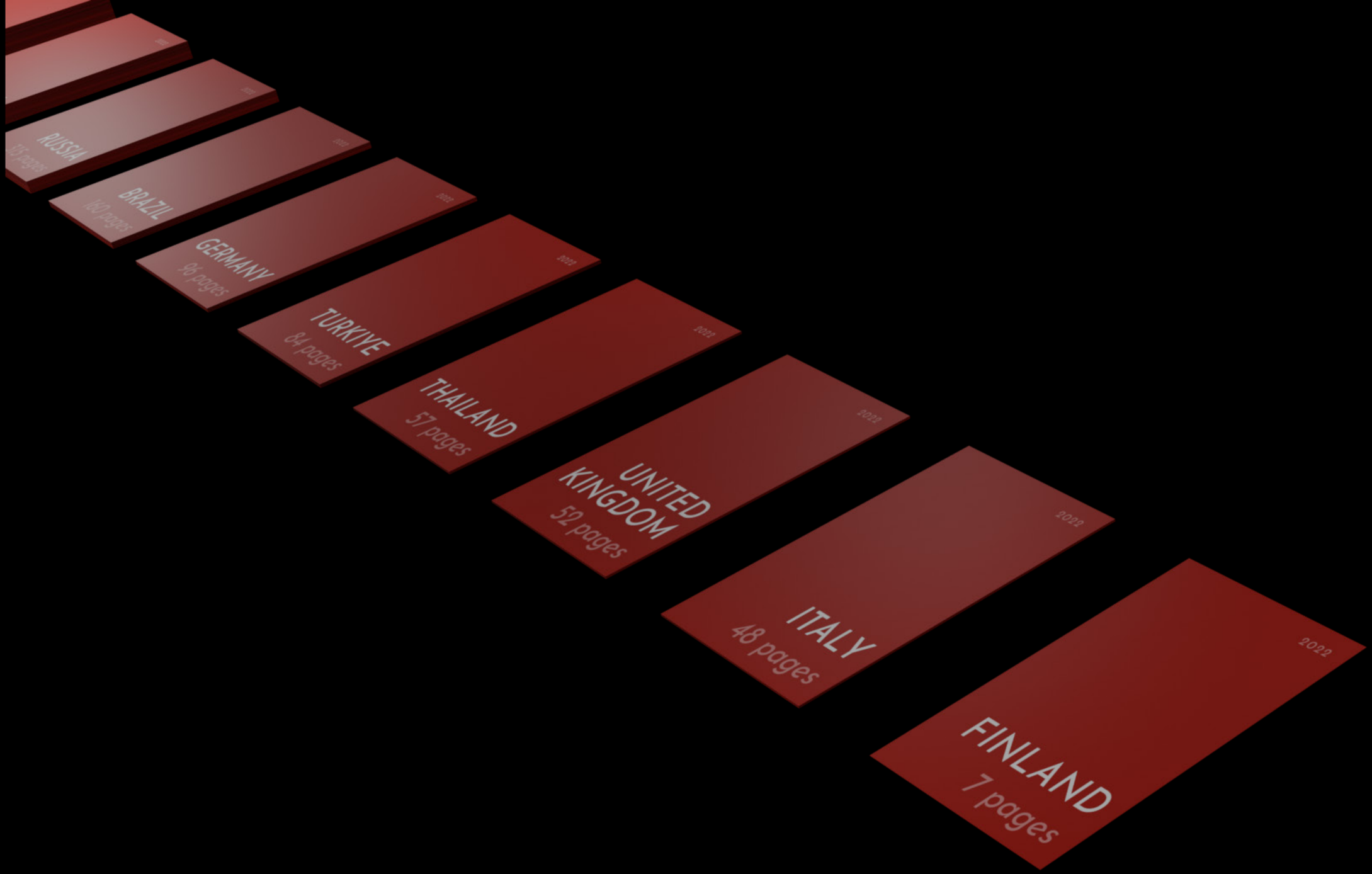
2022
CARBON BOOK
6563 pages
2022
CHINA
1914 pages
2022
USA
734 pages

2022
CARBON BOOK
6563 pages
2022
CHINA
1914 pages
2022
USA
734 pages
2022
INDIA
481 pages
2022

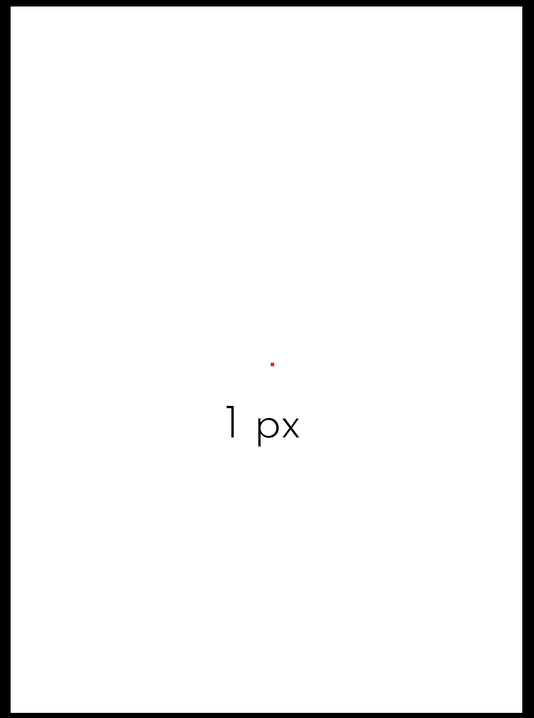
2022
CHINA
1914 pages
2022
USA
734 pages
2022
INDIA
481 pages
2022
RUSSIA
315 pages
2022
BRAZIL
160 pages


2022
CHINA
1914 pages
2022
USA
734 pages
2022
INDIA
481 pages
2022
RUSSIA
315 pages
2022
BRAZIL
160 pages
2022
GERMANY
96 pages
2022
TURKIYE
84 pages
2022

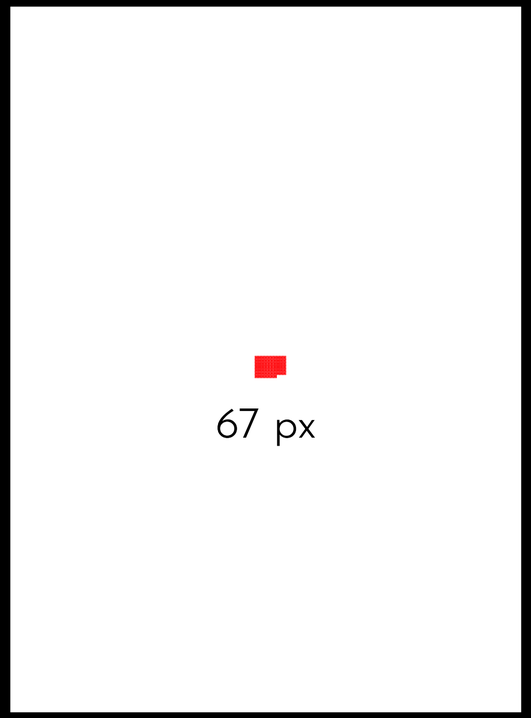

2022
INDIA
481 pages
2022
RUSSIA
315 pages
2022
BRAZIL
160 pages
2022
GERMANY
96 pages
2022
TURKIYE
84 pages
2022
THAILAND
57 pages
2022
UNITED KINGDOM
52 pages
2022
ITALY
48 pages


RUSSIA
BRAZIL
160 pages
GERMANY
96 pages
TURKIYE
84 pages
THAILAND
57 pages
UNITED KINGDOM
52 pages
ITALY
48 pages
FINLAND
7 pages
2022

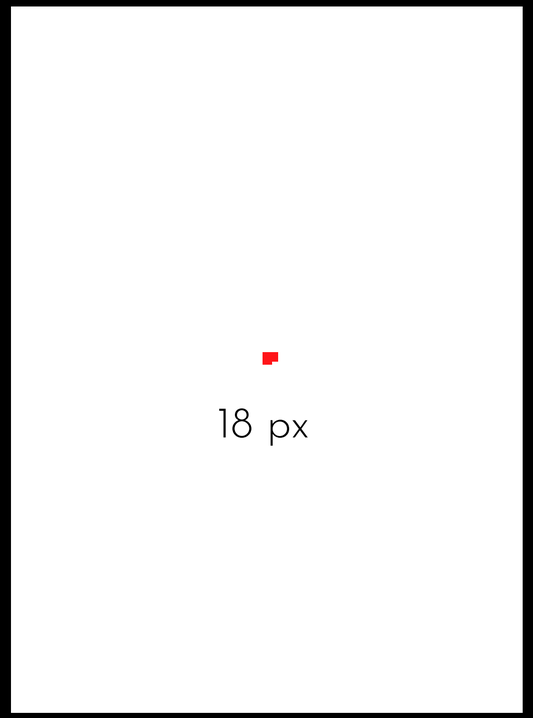
Individual pixels Average Per Person 2022



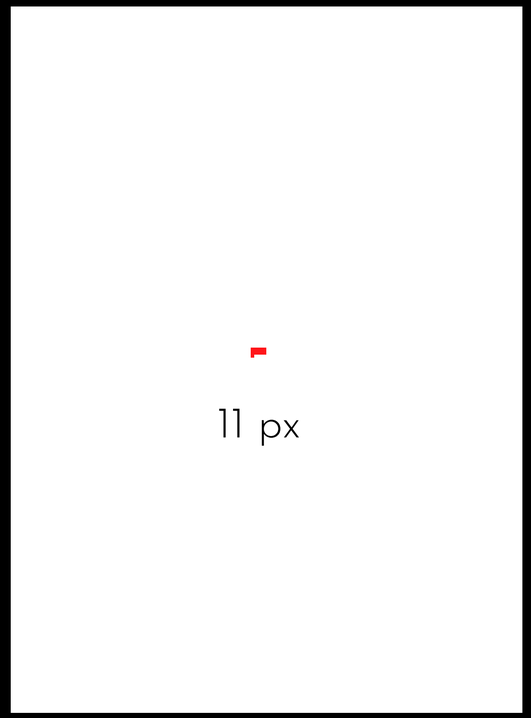
1 tonne of carbon



someone from Qatar



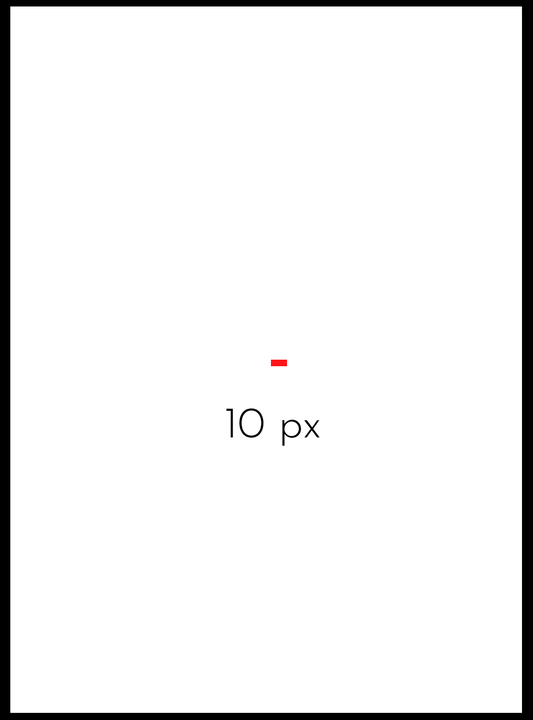
someone from United States of America



someone from China

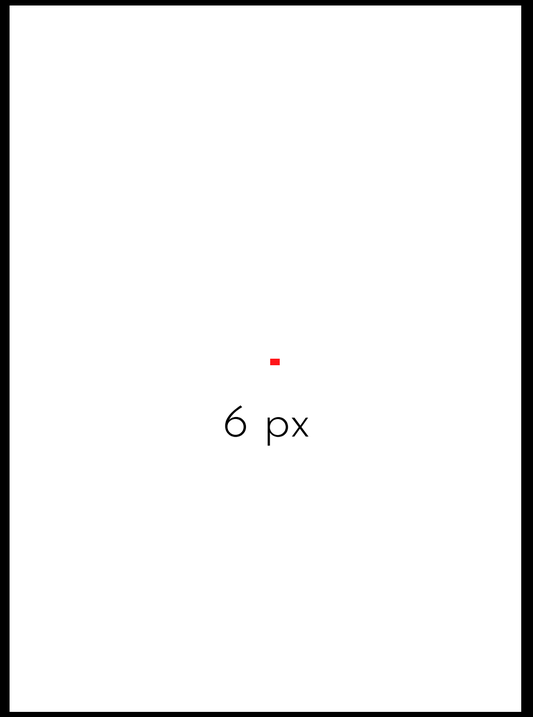
European Commission (2023). EDGAR - The Emissions Database for Global Atmospheric Research. [online] edgar.jrc.ec.europa.eu. Available at: https://edgar.jrc.ec.europa.eu/report_2023.

Individual pixels Average Per Person 2022



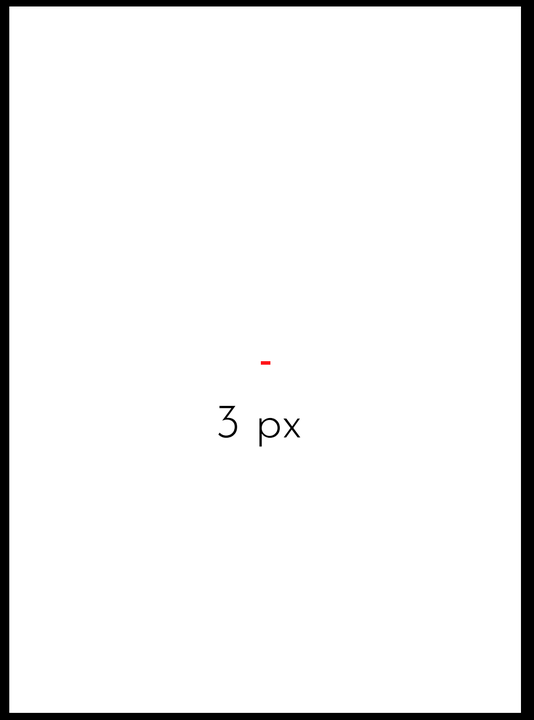
10 px

someone from
Finland



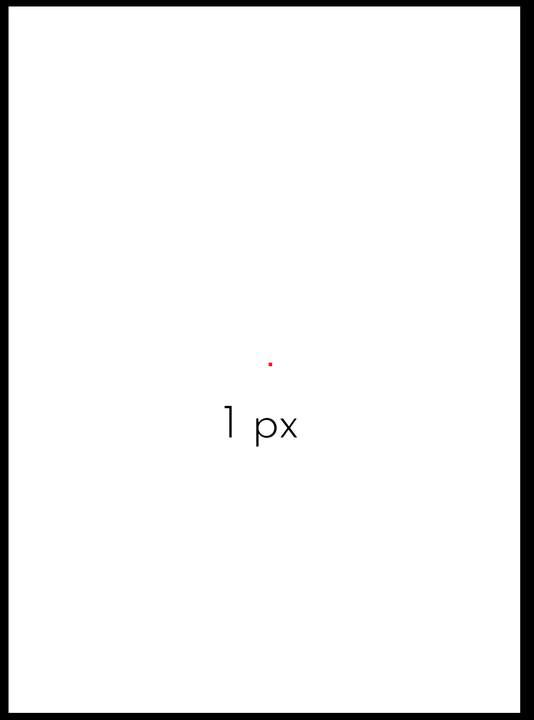
6 px

someone from
United Kingdom



3 px

someone from
India



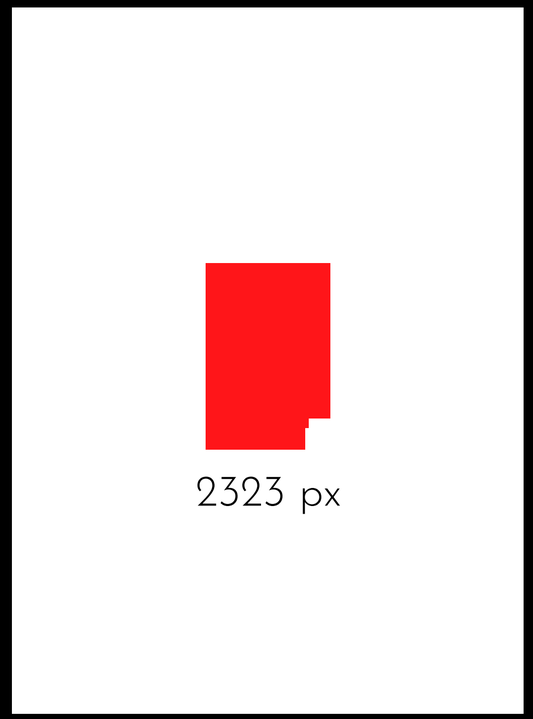
1 px

someone from
Democratic Republic of Congo

European Commission (2023). EDGAR - The Emissions Database for Global Atmospheric Research. [online] edgar.jrc.ec.europa.eu. Available at: https://edgar.jrc.ec.europa.eu/report_2023.

Individual pixels

2022



Two Jet Planes of Elon Musk
in 2022

One metric ton is equal to 1.102311 tons, 2,112 metric tons = 2323 Tonnes of Carbon Emissions. /
https://www.businessinsider.com/elon-musk-private-jet-carbon-footprint-climate-change-2023-4#:~:text=Elon%20Musk%27s%20private%20jet%20emitted,does%20in%20an%20entire%20year&text=Elon%20Musk%20travels%20more%20by,that%20of%20the%20average%20American.

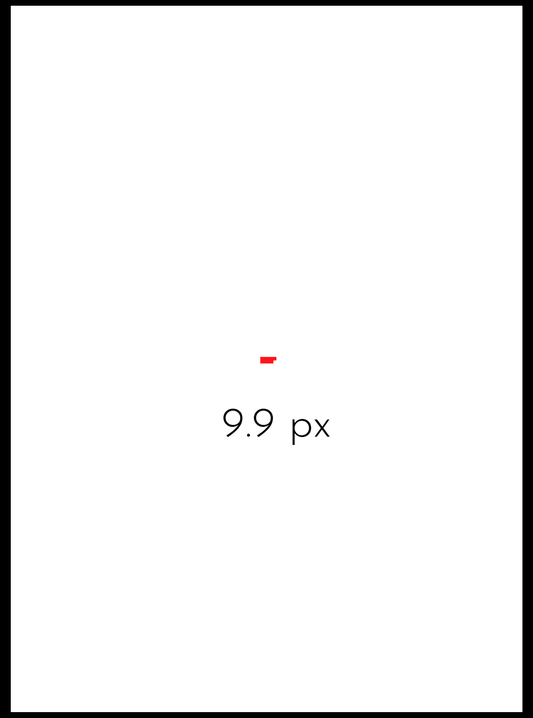
footprint.wwf.org.uk

-

9.9 px

my carbon debt

October 2024



my carbon debt

October 2024

Making Data Visible

Reframing makes abstract data more relatable, clarify the scale of both personal and collective impact. **Visualizing scale could allow us to move back and forth between personal and global views**, could help us understand where our actions fit within the larger environmental picture.

Thank You

Yesim Tuzun

MAGCD Symposium 2024