

**WHAT CAN I DO ABOUT
CLIMATE CHANGE AS A
DEVELOPER... AND A
HUMAN BEING?**



- > JULIEN
- > DEVELOPER ADVOCATE @ADYEN
- > JAVA MAGAZINE
- > @JLENGRAND

- > #MEETUPS #KOTLIN #GARDENING



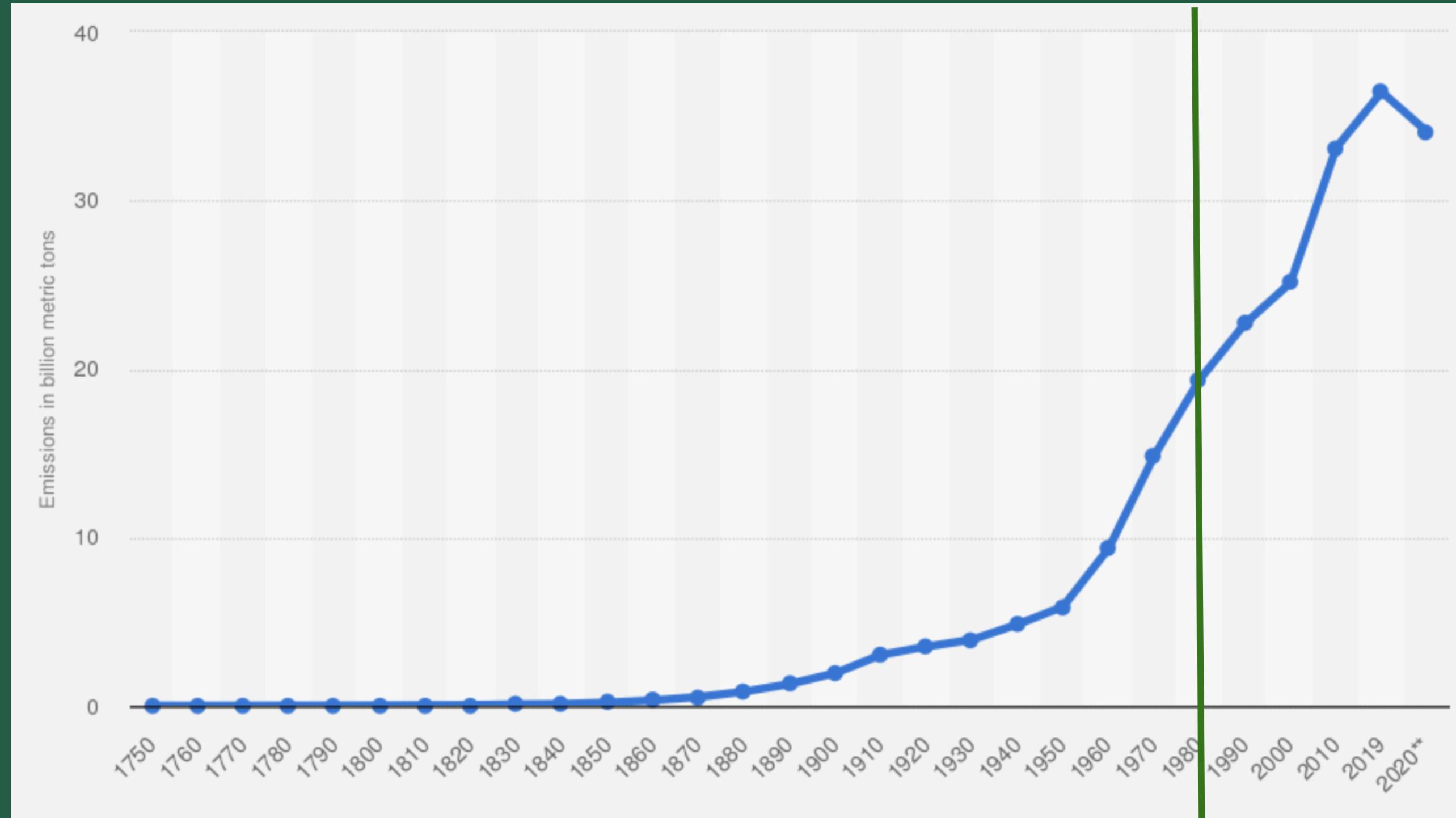
- > ! I'M NOT A CLIMATE SCIENTIST :)
- > 🙌 LET'S DO IT POSITIVELY
- > 🤚 NO POINTING FINGERS



CONTENT

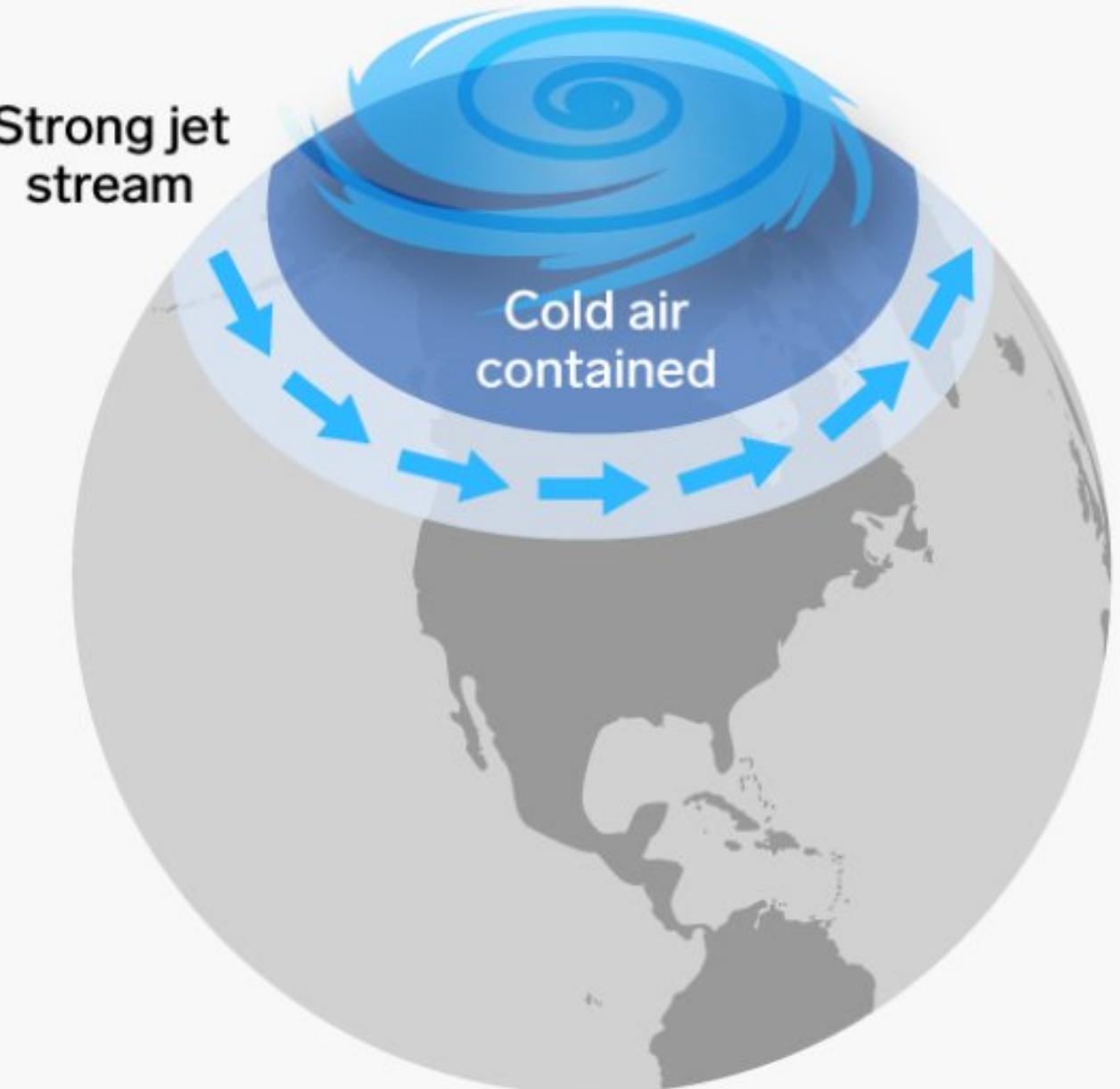
- > CURRENT SITUATION
- > TACKLING IT WITH TECH
- > A PERSONAL TAKE
- > FINAL TIPS!

LET'S LOOK INTO THE
SITUATION BEFORE
DIVING FURTHER

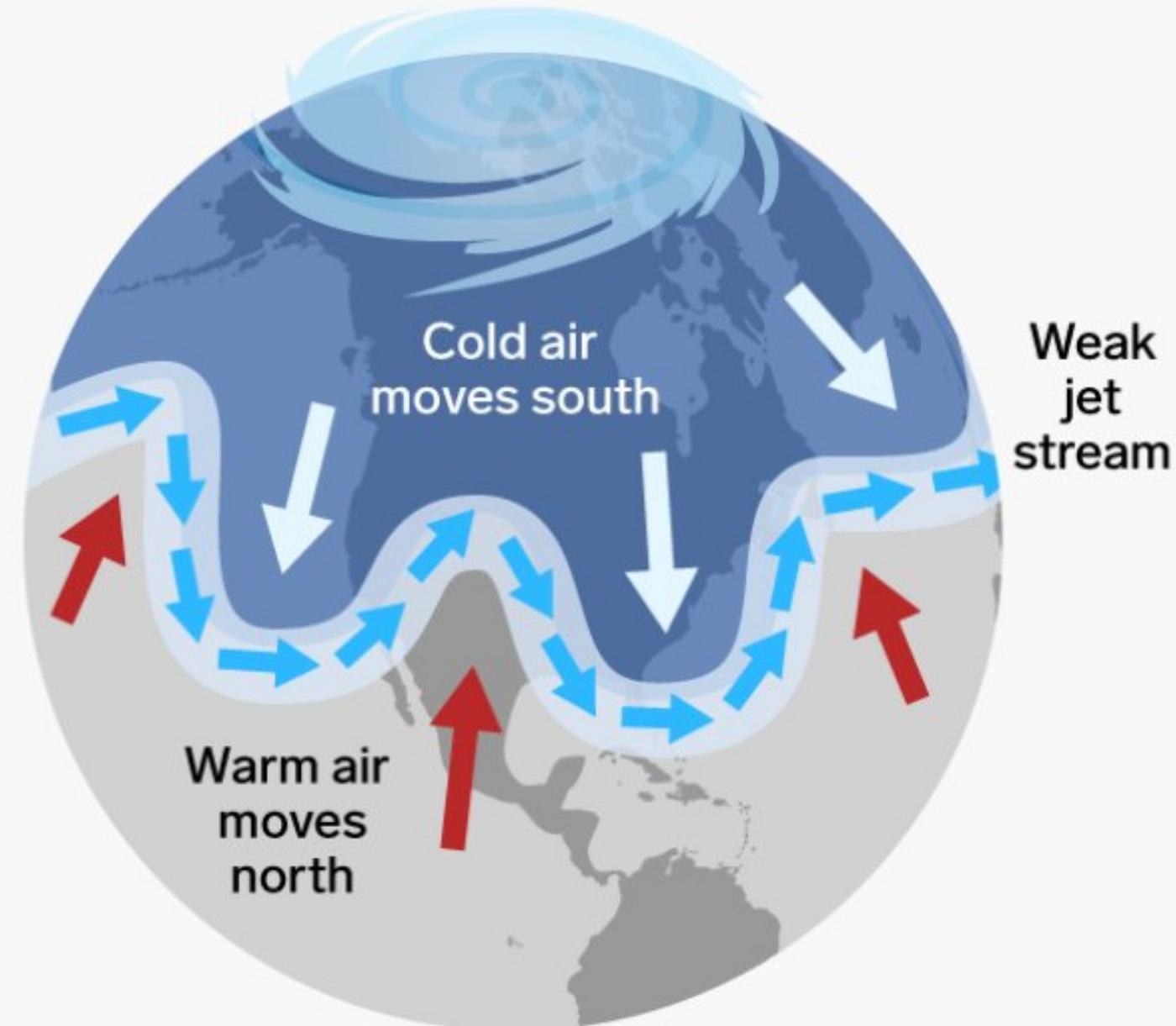


48% OF WORLD TOTAL GLOBAL EMISSIONS SINCE I WAS BORN

Stable polar vortex



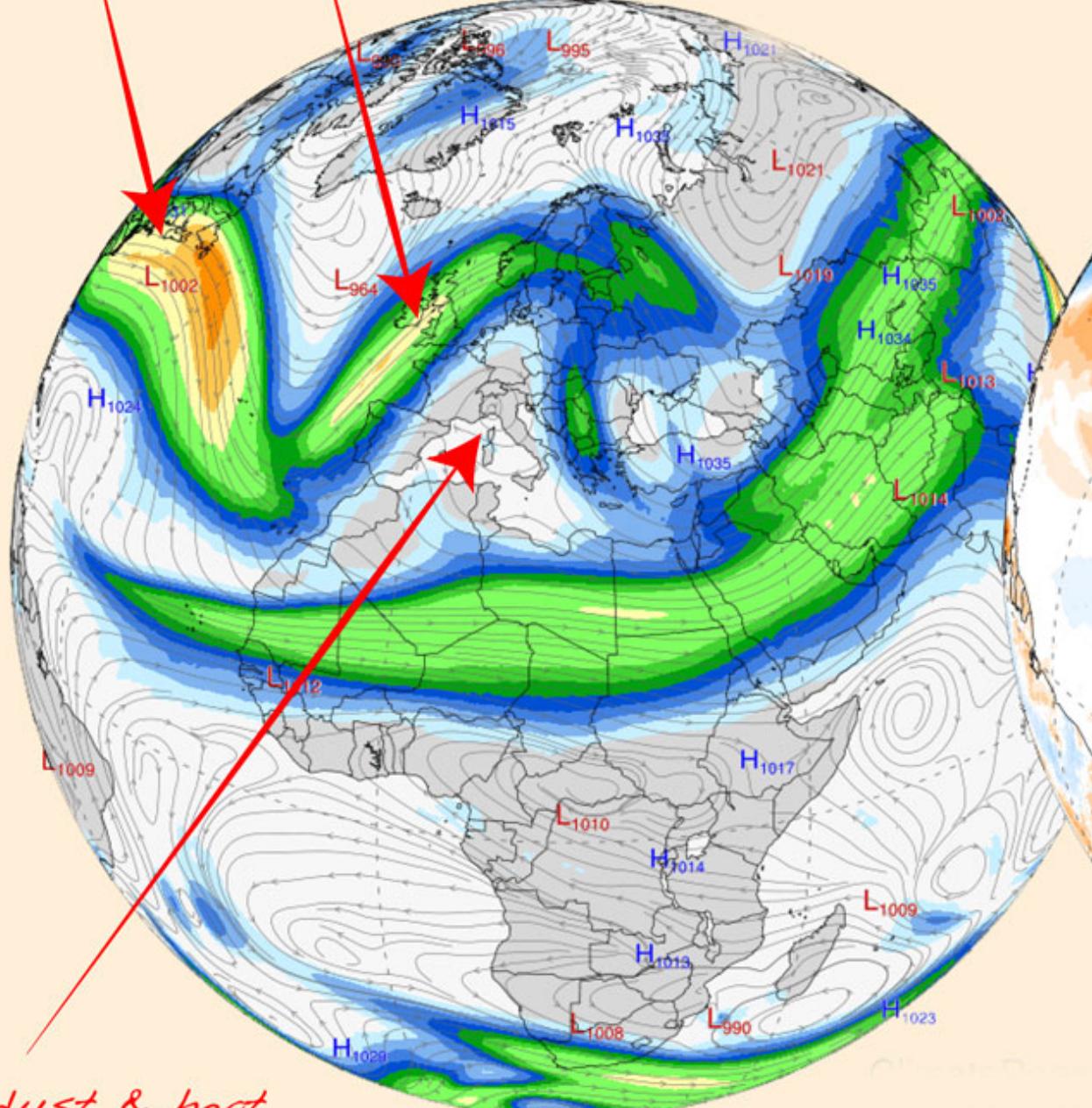
Wavy polar vortex



GLOBAL "WARMING" IS A BAD TERM.

Jet Stream Speed

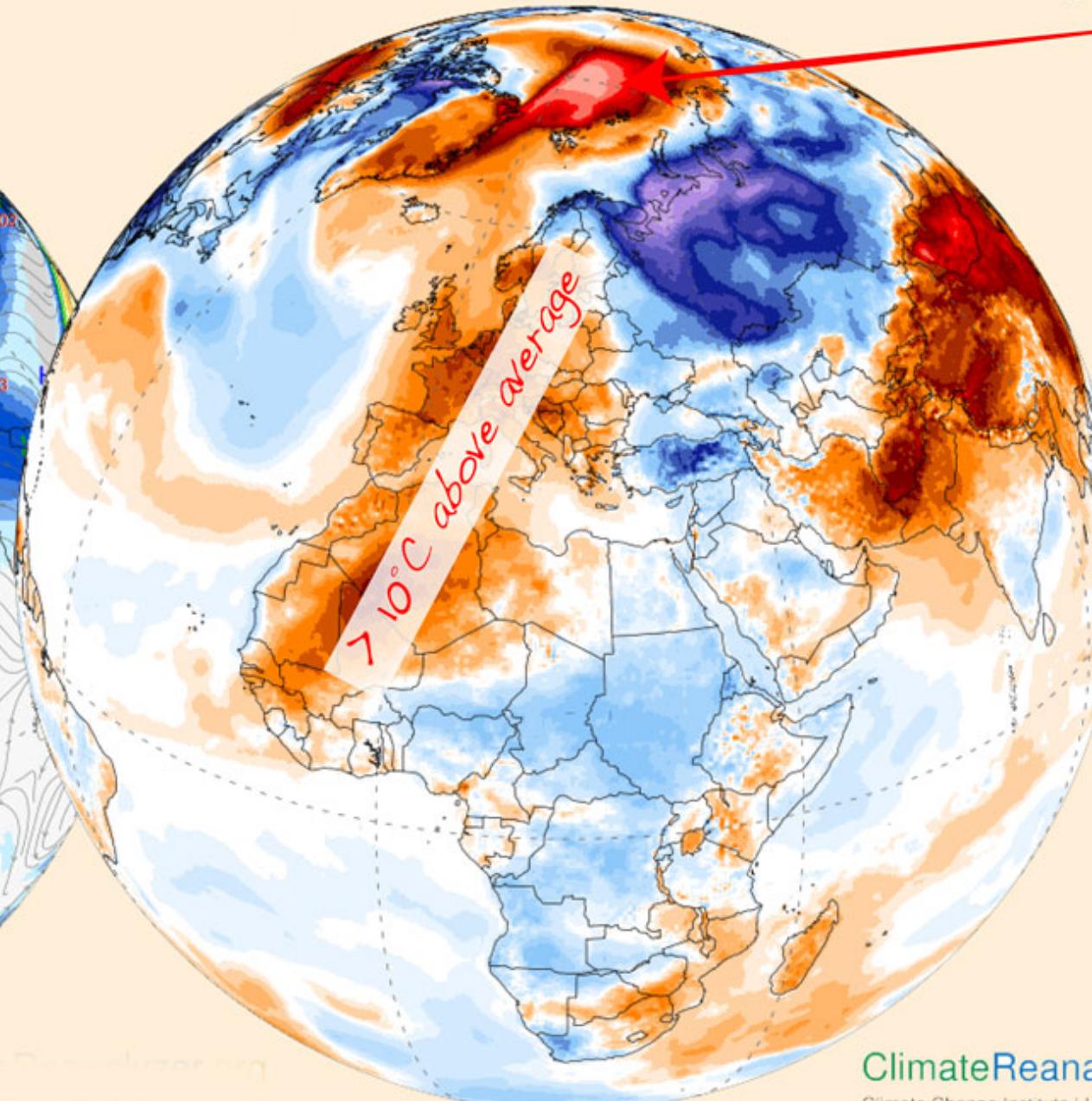
meandering jetstream



2m Temperature Anomaly

vs. 1979–2000 average

> 20°C above average



Saharan dust & heat

Thomas Ronge
@RemoteLongitude

CLIMATE CHANGE IS WATCHING DISASTERS HAPPEN ON OTHER
PEOPLE'S CAMERAS. UNTIL YOU ARE THE ONE FILMING THE
DISASTER

-- UNKNOWN TWITTER USER

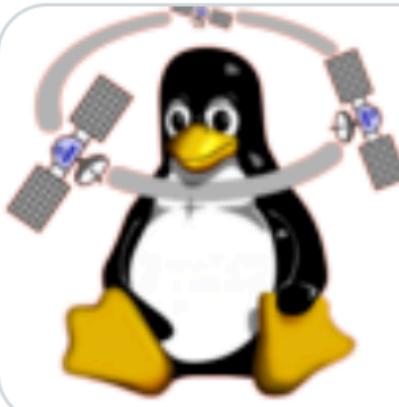


Ariadne Conill
@ariadneconill

...

TIL: Climate change has resulted in the earth spinning faster, cancelling out leap seconds.

“As I previously said, the reason it will affect live GPS is due to, and I hate to say it, global warming causing the earth to speed up, unexpectedly.”



gitlab.com

GPSD time will jump back 1024 weeks at after week=2180 (...)

I just discovered a lurking problem in the timebase.c module in all of the branches for releases >=3.20: In ...

1:52 PM · Aug 2, 2021 · Twitter for iPhone

WITH CRAZY EFFECTS



Felix Miller RE100Japan.org #EnergyTransition
 @_felix_miller

...

If we STOPPED ALL #CO2 #EMISSIONS
NOW...

the earth would only stop warming in 2033 ! !  

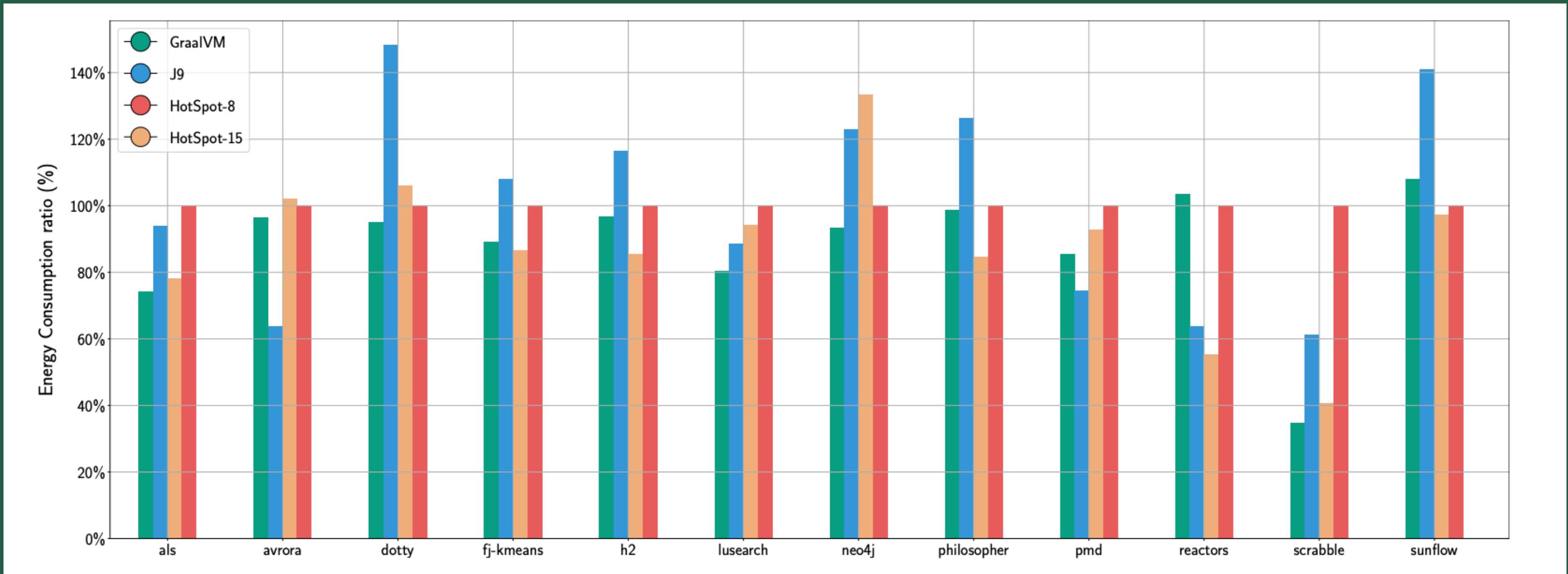


AND A LOT OF LATENCY

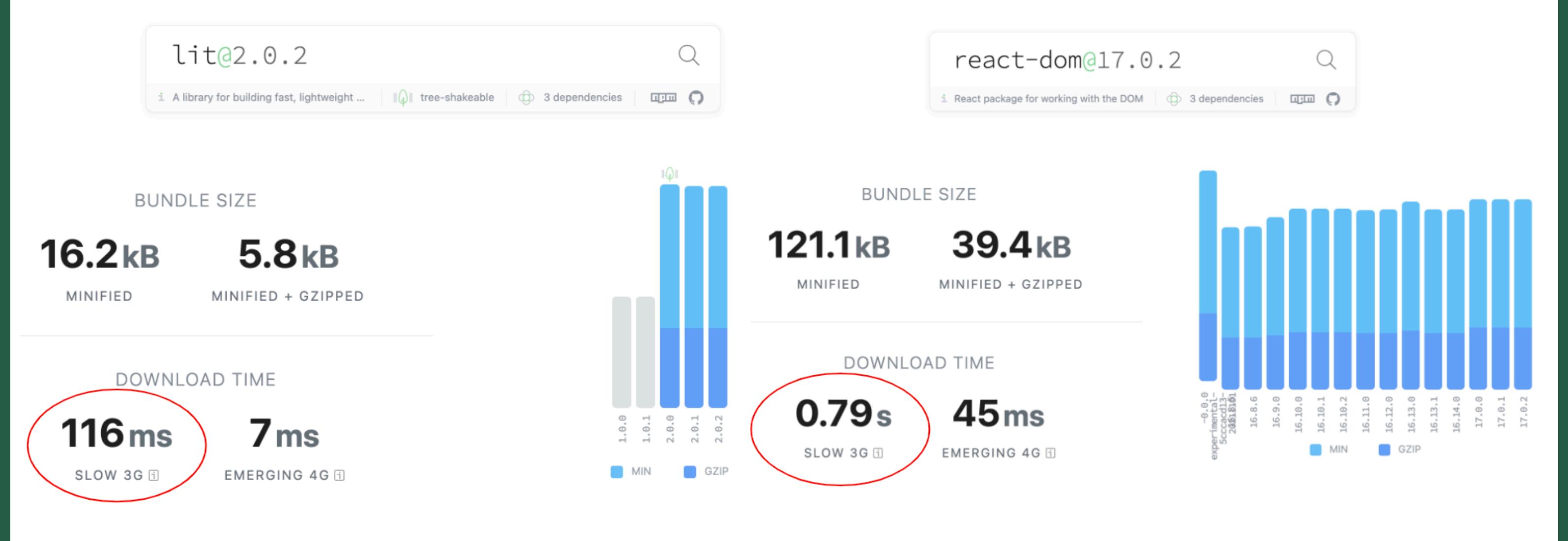
SO LET'S GET TO IT

**REDUCE
REUSE
RECYCLE**

DO YOU REALLY NEED
99.99999%



THE VERSION OF YOUR TOOLS MATTER



ALSO. MAYBE YOU DON'T NEED A FRAMEWORK

CO₂ per transaction



0.43 tCO₂



0.01 tCO₂



0.00000033 tCO₂

CHOICE OF TECHNOLOGY MATTERS

Nike says it's 'actively working' to fix its broken smart sneakers

19 

No timeline on a fix, though

By Ashley Carman | @ashleyrcarman | Feb 21, 2019, 2:00pm EST

f   SHARE



\$
**verge
deals**

Subscribe to get the best Verge-approved tech deals of the week.

Email (required)

By signing up, you agree to our [Privacy Notice](#) and European users agree to the data transfer policy.

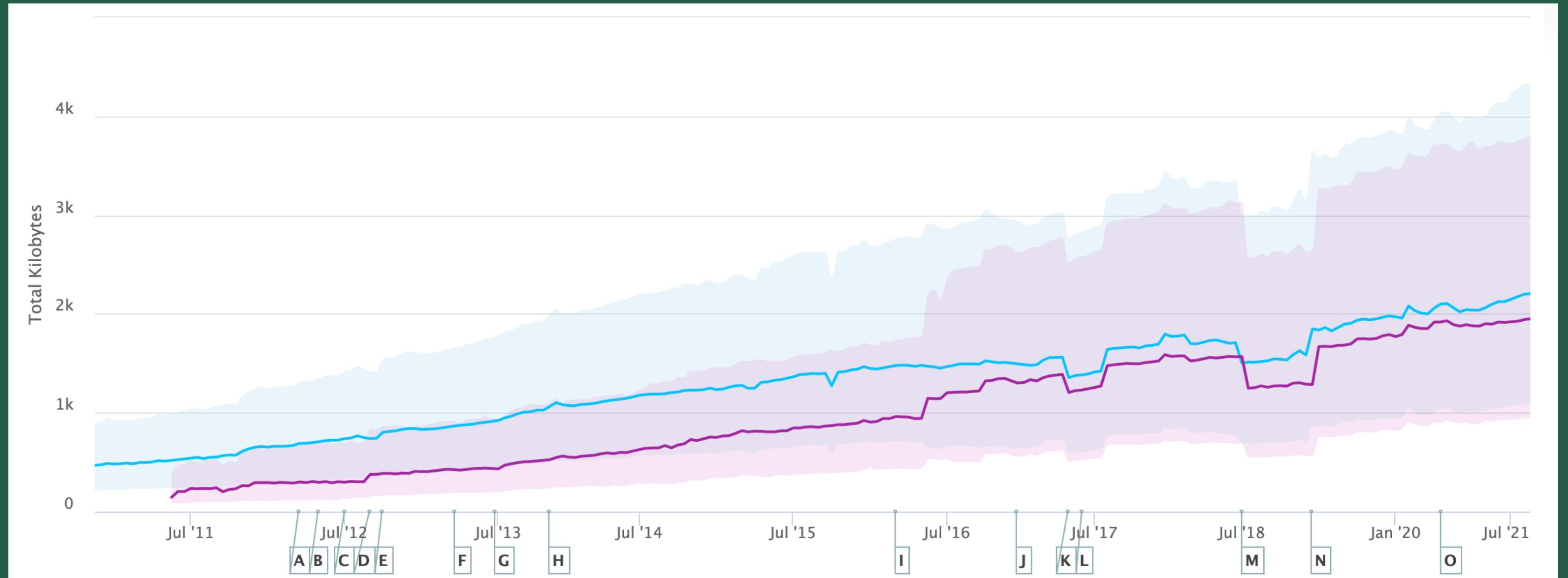
SUBSCRIBE

YOUR SCIENTISTS WERE SO PREOCCUPIED WITH WHETHER OR NOT THEY COULD. THEY DIDN'T STOP TO THINK IF THEY SHOULD.
- DR IAN MALCOLM, JURASSIC PARK

Principles of Green Software Engineering

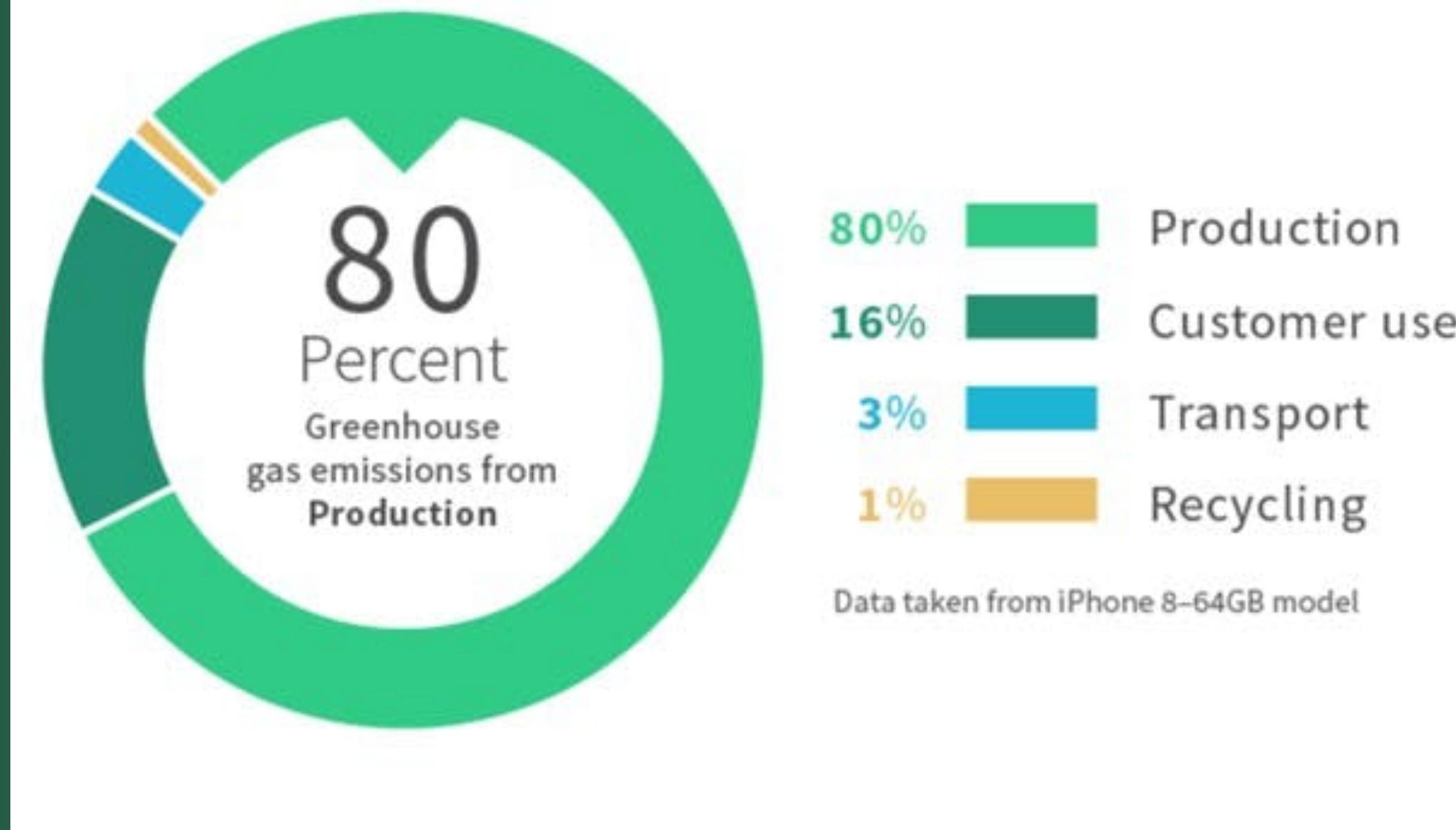
[Endorse the principles](#)[Join the newsletter](#)

PRINCIPLES OF GREEN SOFTWARE ENGINEERING



AVERAGE WEB PAGE SIZE RAISED BY **1240%** IN 10 YEARS

Greenhouse Gas Emissions of a Smartphone



YOUR USERS' SMARTPHONE

- > AVERAGE MOBILE PHONE : **55 KG OF CARBON EMISSIONS**
- > **1.55 BILLION PHONES ARE SOLD PER YEAR**
- > EU 2019 : **14.2 MILLION TONNES OF CO₂**

**BUYING ONE NEW PHONE TAKES AS MUCH ENERGY AS RECHARGING
AND OPERATING A SMARTPHONE FOR AN ENTIRE DECADE**

BUT WAIT A SECOND. . .

HOW MANY OF YOU . . . ?



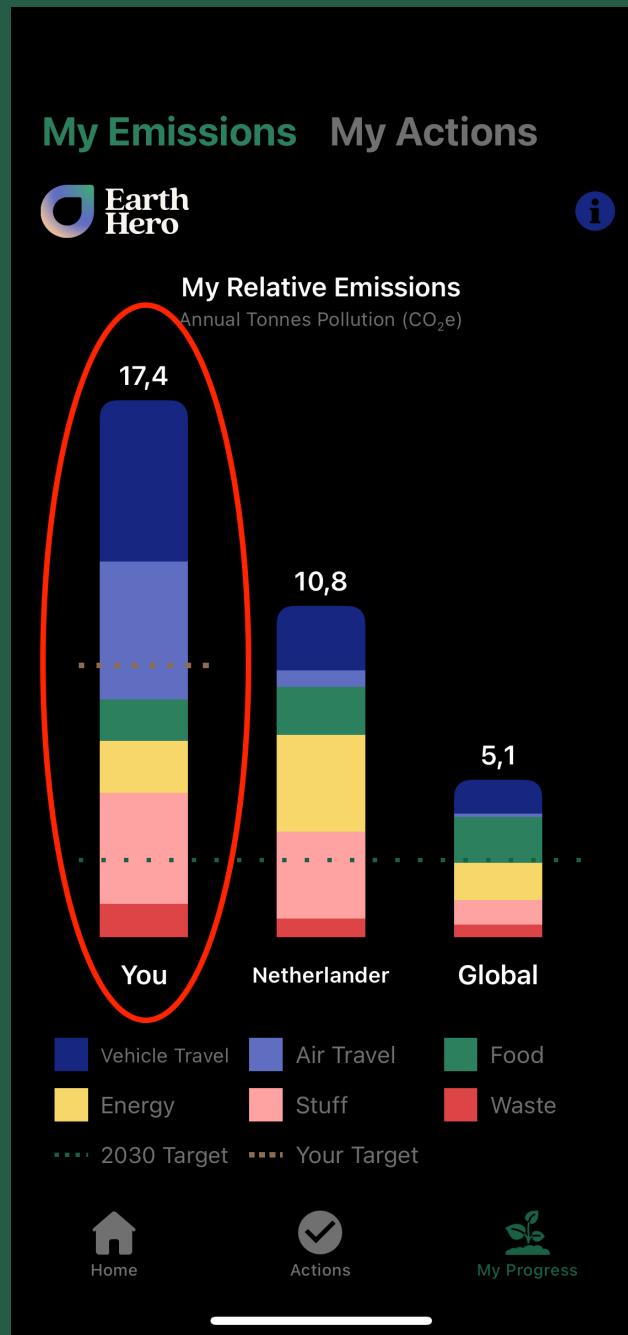
The new MacBook Pro

**IF YOU'RE ASKING YOUR KIDS TO
EXERCISE, THEN YOU BETTER DO IT.
TOO. PRACTICE WHAT YOU PREACH.**

A DIVE INTO MY CARBON FOOTPRINT

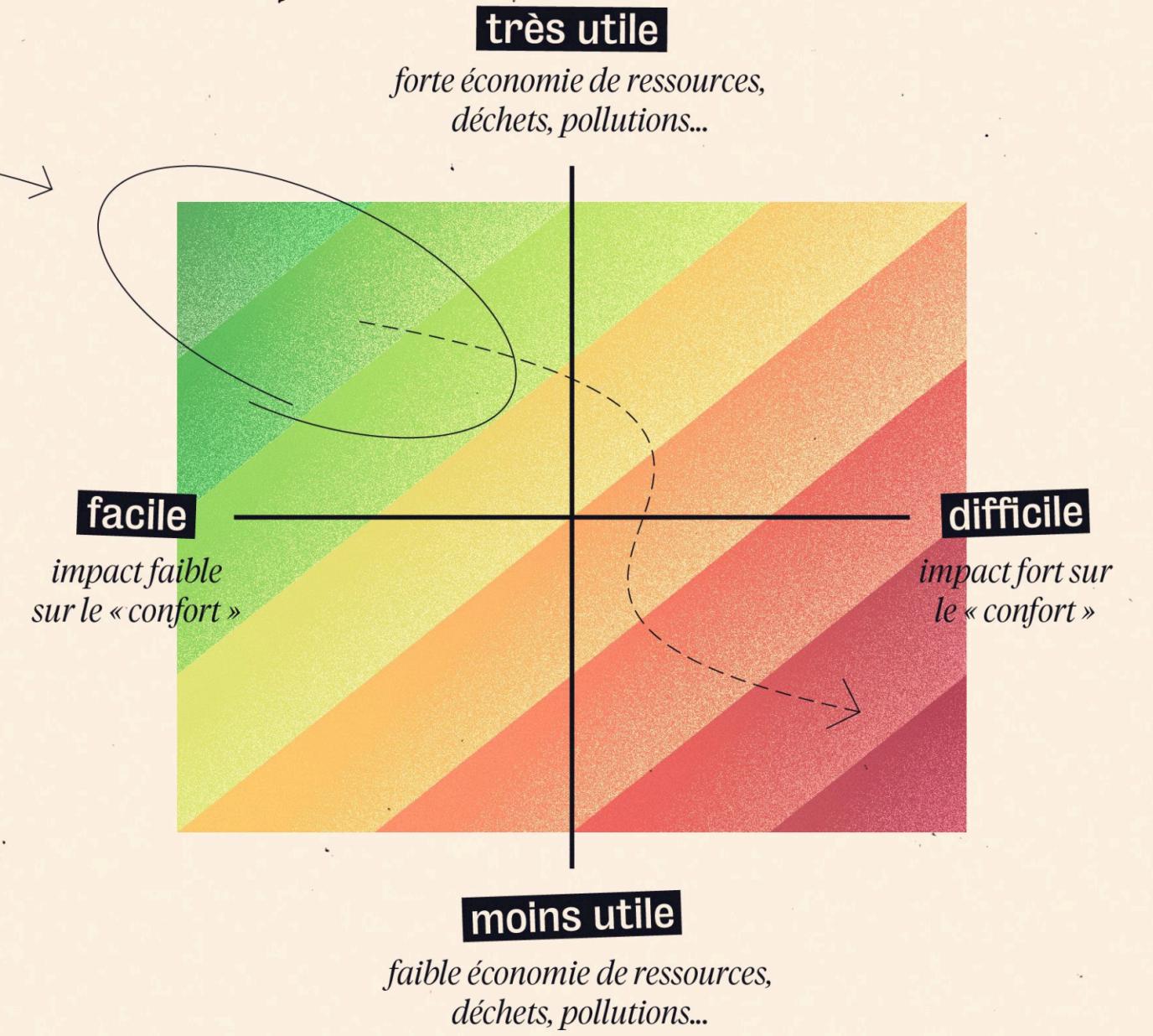
CO₂ EMISSIONS IN A NUTSHELL

- > GLOBAL AVERAGE : 4.5 TONS / PERSON / YEAR
- > AVERAGE NETHERLANDS : 8.42 TONS / PERSON / YEAR
- > TARGET : 3 TONS / PERSON / YEAR

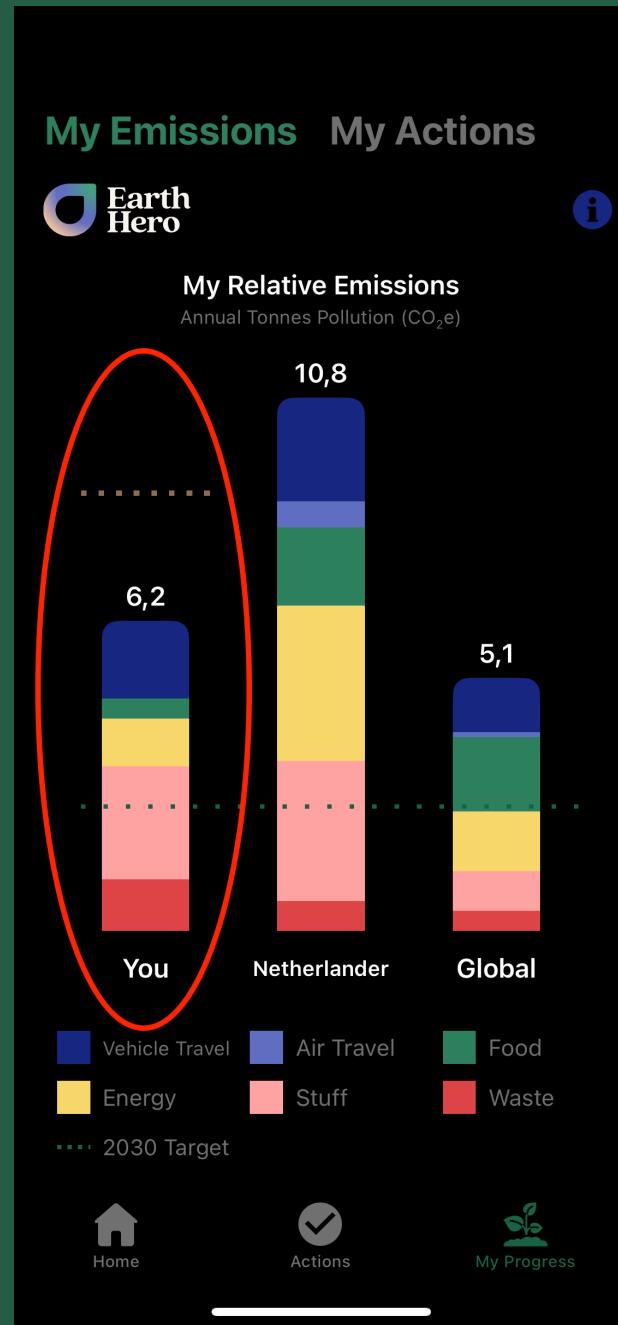


MY FOOTPRINT IN 2018

- > TECH REPRESENTS ONLY 1/3 OF MY EMISSIONS
- > OVER HALF IS ME TRAVELLING
- > A TRIP TO SAN FRANSISCO = ROUGHLY 2 TONS OF CO2



LET'S PRIORITIZE



MY FOOTPRINT TODAY (THANK YOU REMOTE WORK!)



WE ARE NOT PERFECT. WE DON'T NEED TO BE ZEALOTS



BUT WE DO NEED TO BE PASSIONATE



AND BRING THE NEXT GENERATION WITH US



The Lengrand-LAmbert

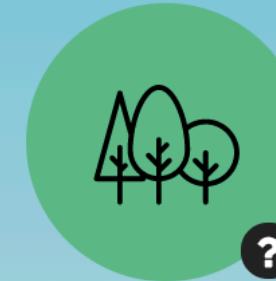
Member #29769



6 months
climate positive



16.38t
of carbon reduction



263
trees in your forest

WE CAN COMPENSATE FOR WHAT WE CAN'T REDUCE.

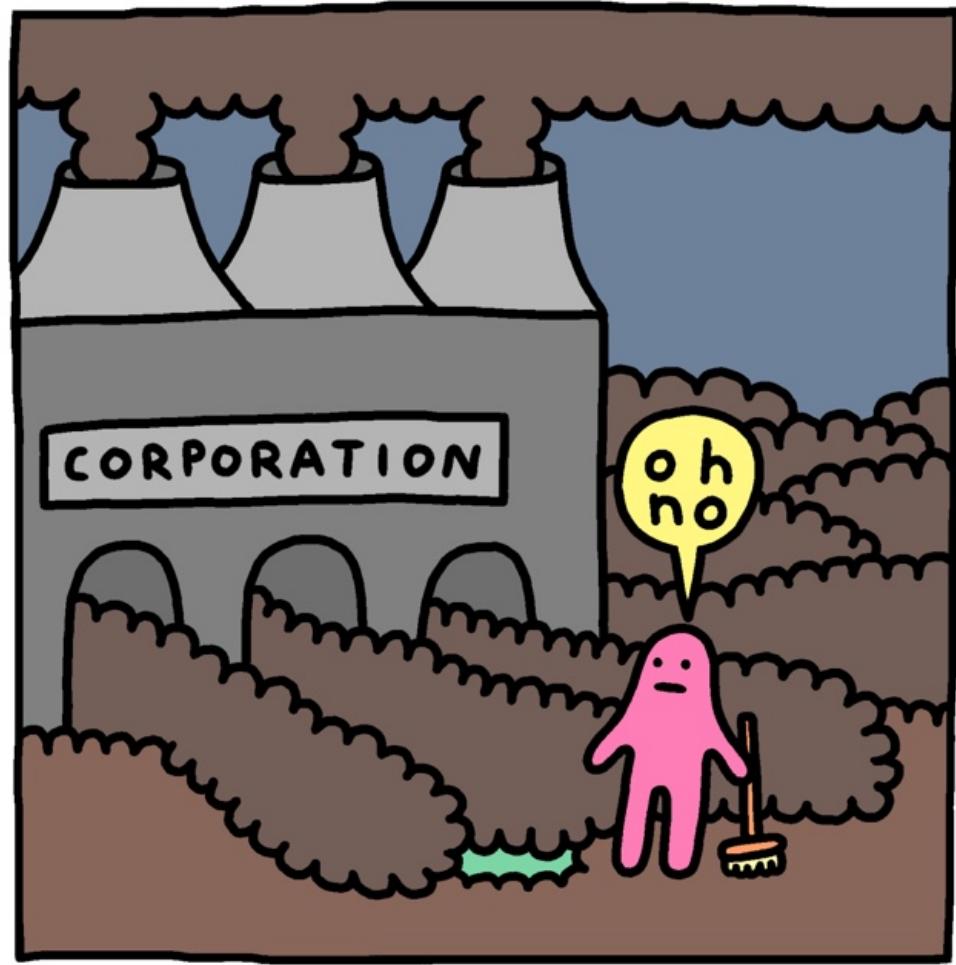
SOME ADDITIONAL THOUGHTS

**GLOBALLY, THE RICHEST 10% ARE THOSE WITH INCOMES ABOVE
ABOUT \$35,000 A YEAR...**

IF WE ARE NOT THE CHANGE, WHO IS ?

THE RICHEST 10% OF THE GLOBAL POPULATION, ARE RESPONSIBLE
FOR ABOUT 52% OF GLOBAL EMISSIONS ...

"WE ARE JUST 1% OF EMISSIONS".



webcomicname.com

'IT'S THE BIG CORPORATIONS'. TRUE BUT

- > WE BUY THEIR PRODUCTS
- > WE WORK THERE
- > WE VOTE

Just 100 companies responsible for 71% of global emissions, study says

A relatively small number of fossil fuel producers and their investors could hold the key to tackling climate change



▲ An oil rig exploring for oil and gas. A new report says more than 50% of global industrial emissions since 1988 can be traced to just 25 companies. Photograph: Dazman/Getty Images/iStockphoto

Just 100 companies have been the source of more than 70% of the world's greenhouse gas emissions since 1988, according to a new report.

Adyen launches Restore, enabling climate action at checkout



Download the image above to use for your publication

[Download image.](#)

adyen Our solution ▾ Customers About us ▾ Documentation ▾

Log in

Contact us

How we became climate neutral

To move forward, we looked at the footprint we left behind

Carbon negative commitment

Removing carbon from the atmosphere is an essential way to slow the accumulation of greenhouse gases and mitigate our impact on a warming climate. Shopify is committed to investing **at least \$1 million USD each year into carbon sequestration.**

<https://www.shopify.com/about/environment> ::

[Environment - Shopify](#)



FIGHT CLIMATE CHANGE.

Unlike their $\frac{1}{4}$ lb U.S. beef counterparts, original Beyond Burgers can be made by generating 90% fewer Greenhouse Gas Emissions. *Univ. Of Michigan, 2018, Environmental impact of the original Beyond Burger vs $\frac{1}{4}$ lb. U.S. beef. Life Cycle Analysis

Decrement carbon: Stripe's negative emissions commitment



AND MANY ARE COMMITTING

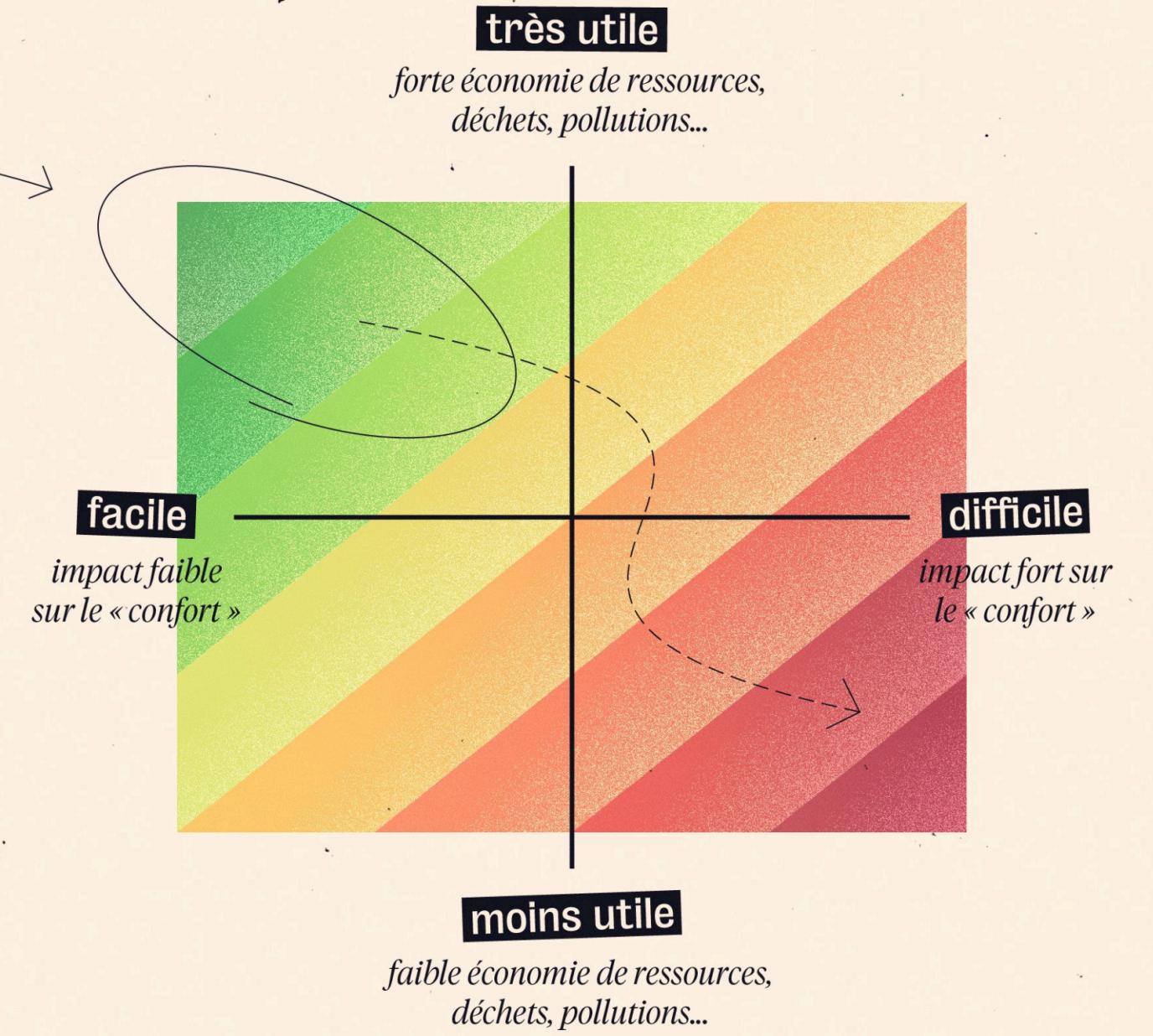
The research found **an hour of streaming emits the equivalent of about 55 grams of carbon dioxide into the atmosphere**, based on a user in Europe. About half the emissions come from the device used itself, with larger and older technology harming the environment the most. 11 Jun 2021

<https://fortune.com/2021/06/11/netflix-streaming-small-carbon-footprint/> :

Netflix has a small carbon footprint according to Carbon Trust

CHECK YOUR FACTS

FINAL TIPS!



PRIORITIZE



NO DOOMING

BEST TIME TO BE ALIVE. DON'T LOSE HOPE

IT'S **REALLY** NOT TOO LATE. BUT WE NEED TO ACT NOW.



**REDUCE
REUSE
RECYCLE**

IMPACT THAT WE CAN MAKE ON OUR APPLICATIONS AS
DEVELOPERS.

WE WILL START BY TALKING ABOUT OUR TECHNICAL STACK AND
WHAT WE CAN DO TO IMPROVE IT. FROM REACTIVE
ARCHITECTURES TO WEB PERFORMANCE. WE WILL RUN THE
NUMBERS AND SEE THE KIND OF IMPROVEMENTS WE CAN REACH
THERE.

BUT WE WILL ALSO LOOK INTO THE LARGER PERSPECTIVE OF
THINGS. AND LOOK CLOSER AT OUR OWN PERSONAL FOOTPRINT.

THE FUTURE MAY LOOK UNCERTAIN. BUT WE CAN ALL START
MAKING A DIFFERENCE TODAY AND LOOK AT THINGS IN A POSITIVE
WAY. SO LET'S DEBUG!