

Why health needs to act now

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Wiser Healthcare



I have no conflicts of interest





TREE STUMPS in the ghost town of St. Thomas, Nev., which resurfa

This Western mega is the worst in a mil Study says it's being driven by c

BY IAN JAMES

The extreme dryness that has ravaged the American West for more than two decades now ranks as the driest 22-year period in at least 1,200 years, and scientists have found that this megadrought is being intensified by humanity's heating of the planet.

In their research, the scientists examined major droughts in southwestern North America back to the

year 800 and determined that the region's desiccation this century has surpassed the severity of a megadrought in the late 1500s, making it the driest 22-year stretch on record. The authors of the study also concluded that dry conditions will probably continue through this year and, judging from the past, may persist for years.

The researchers found the current drought wouldn't be nearly as severe without global warming. They

DOUBLE ISSUE

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LEADERS

HOW CRISIS CAN SAVE US
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THE COLD TRUTH

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if
the workplace

In China's debt
African nations' risks in borrowing
from Beijing — MARKET INSIGHT, PAGE 10

warmer by nel warns

d ♦ Call for urgent emission cuts



Briefing

» **Samsung chief to be released**
Eight months after being sent back to jail for bribing South Korea's president, Samsung's chief is to be freed, a decision that will refocus attention on links between chaebol groups and government. — PAGE 4

» **Taliban sweeps over north Afghanistan**
An offensive by the Islamist group led to the capture of five provincial capitals over the weekend, piling pressure on Kabul's beleaguered government as US forces prepare to leave. — PAGE 1

» **Oil dips below \$70 on Asia demand fears**
Oil was hit with renewed selling pressure, falling below \$70 a barrel and adding to last week's steep losses on concerns about the Delta Covid variant sapping demand in Asia. — PAGE 9

» **CI&R given time for Morrisons offer**
The British regulator has given Clayton, Dubilier & Rice an extended deadline to make an offer for Wm Morrison, amid a tussle between two US buyout firms for the UK supermarket. — PAGE 6, LEX, PAGE 18

» **Delta variant stymies China recovery**
China's biggest coronavirus outbreak since last year has added to fears of an economic slowdown, as Beijing rushes to contain a surge in cases linked to the Delta variant. — PAGE 4

» **Cypriot head urges two-state solution**
North Cyprus's leader will press his government's push for a two-state solution at the UN next month, calling for a "reality check" after half a century of failed efforts to reunite the divided island. — PAGE 2

» **BioNTech posts €3bn quarterly earnings**
The German biotech's sales beat expectations for a second consecutive quarter as profits soared to almost €2.8bn on high demand for its coronavirus

Carbon budget

Estimating and tracking the remaining carbon budget for stringent climate targets, Rogelj et al, *Nature* 2019

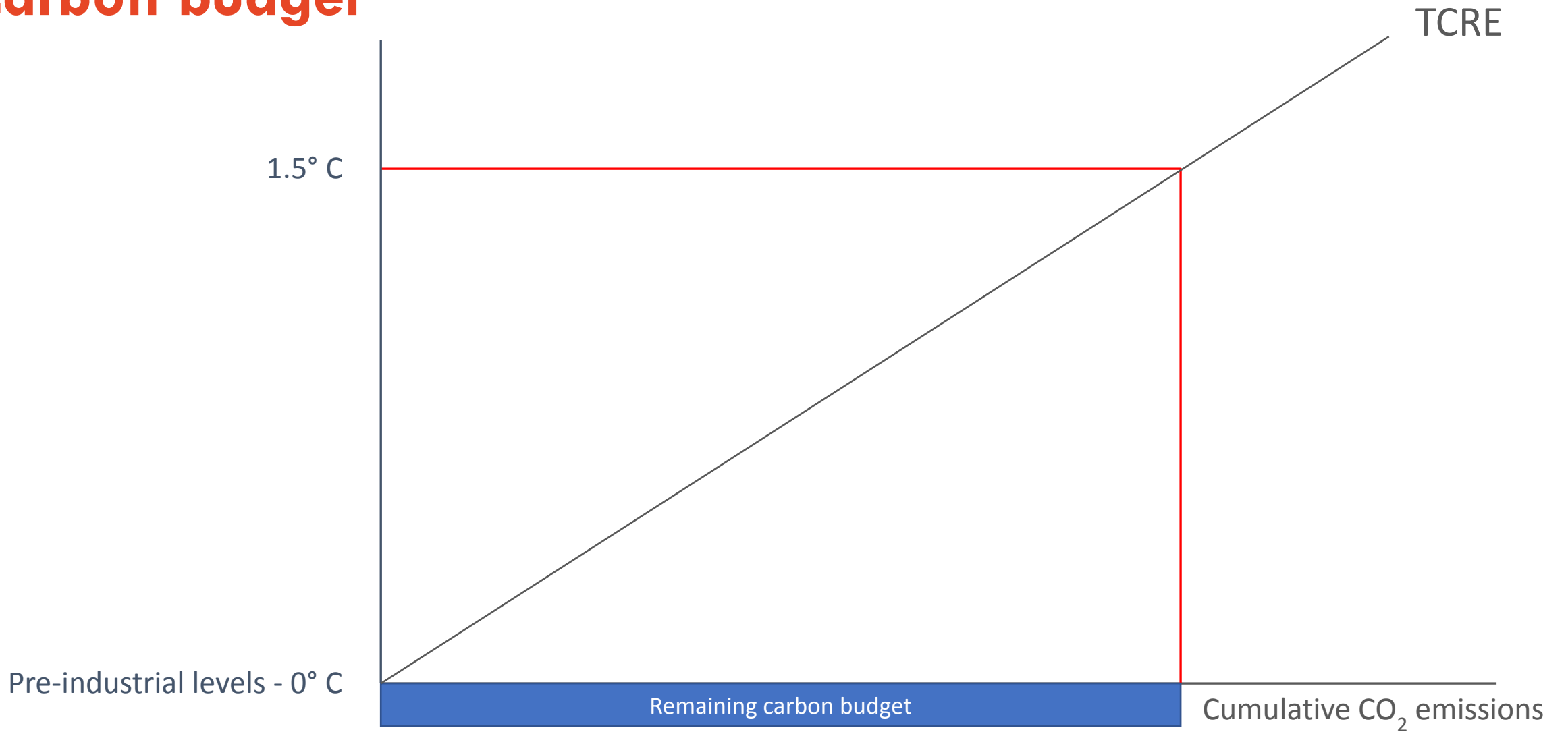
Temperature
Change

Transient climate response to cumulative carbon emissions

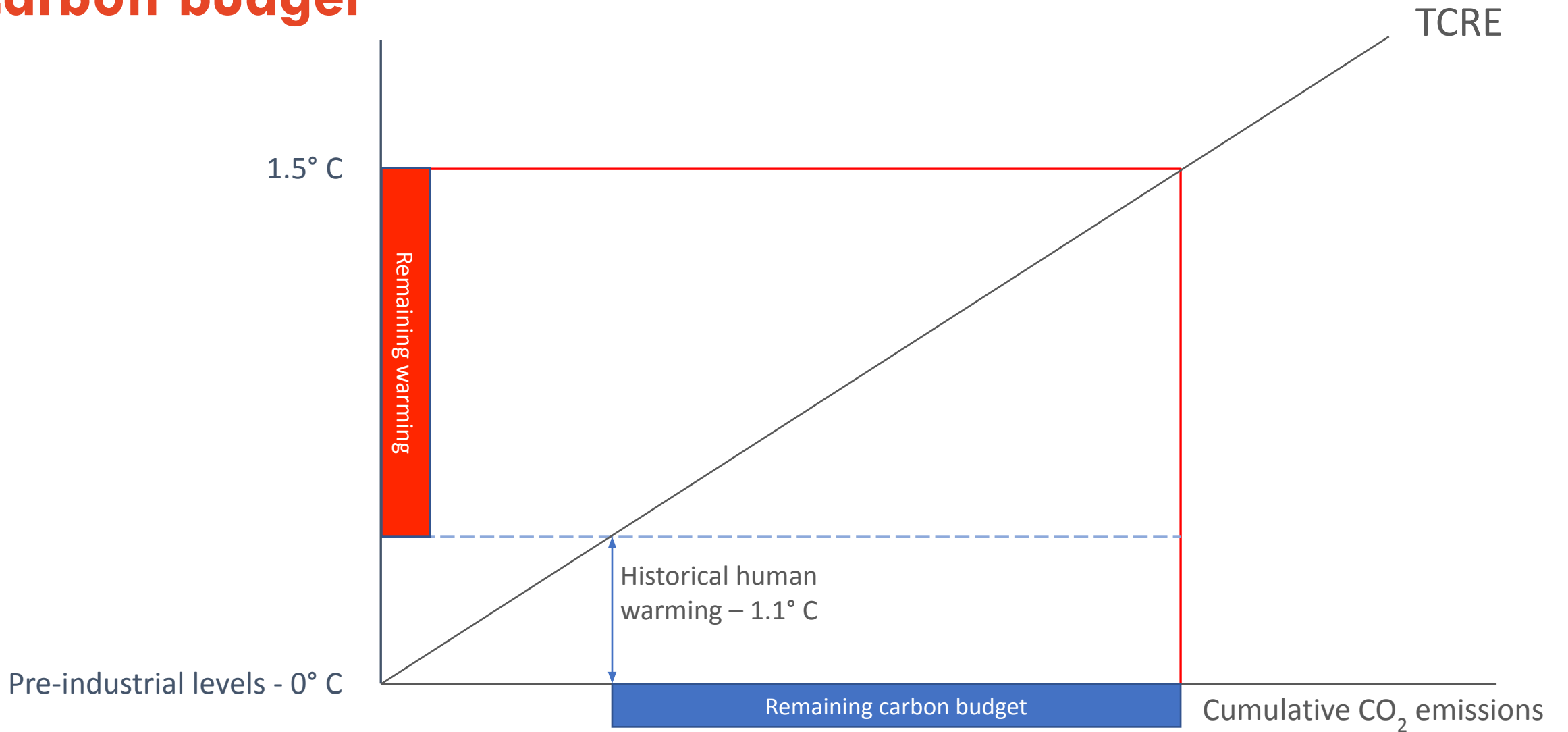
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Cumulative CO₂ emissions

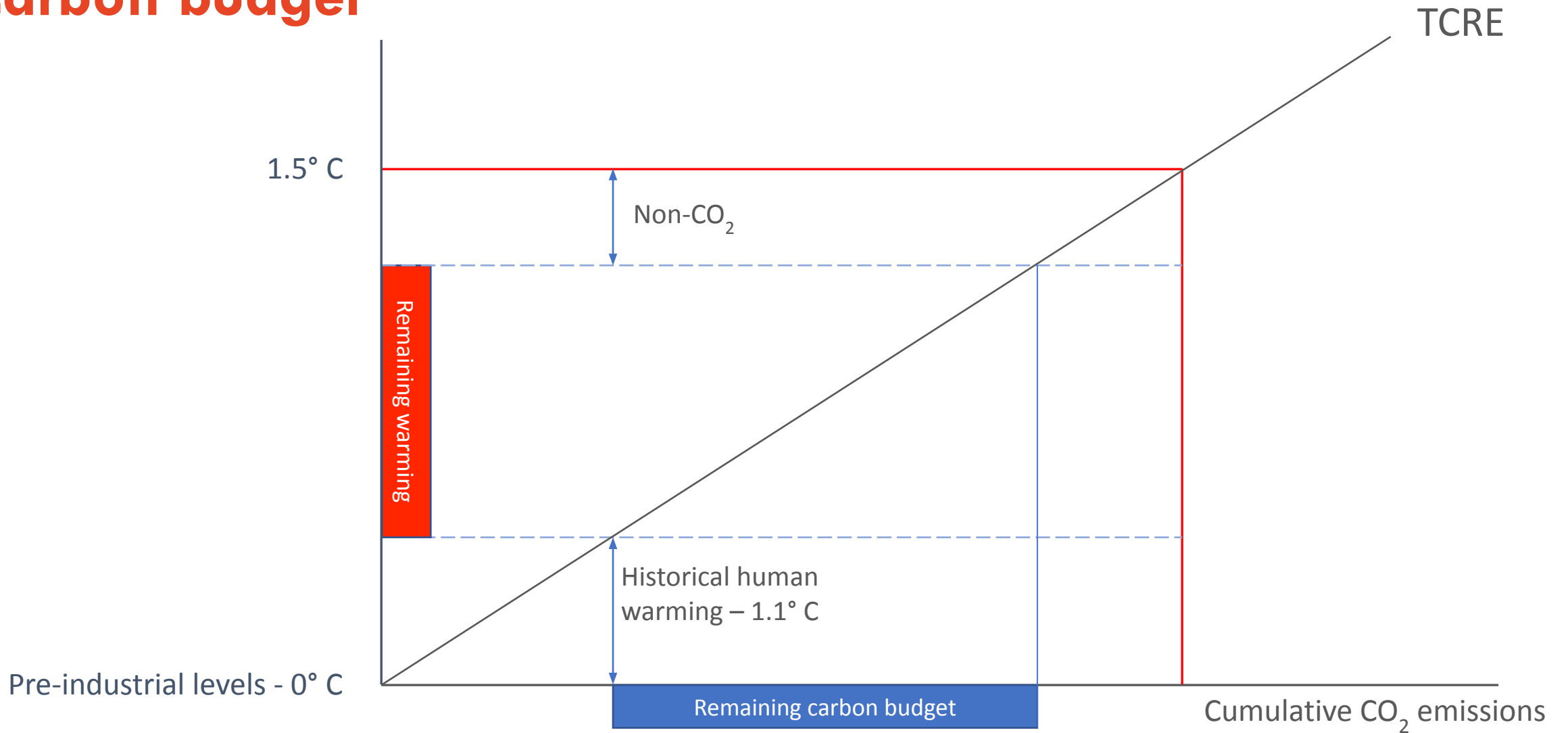
Carbon budget



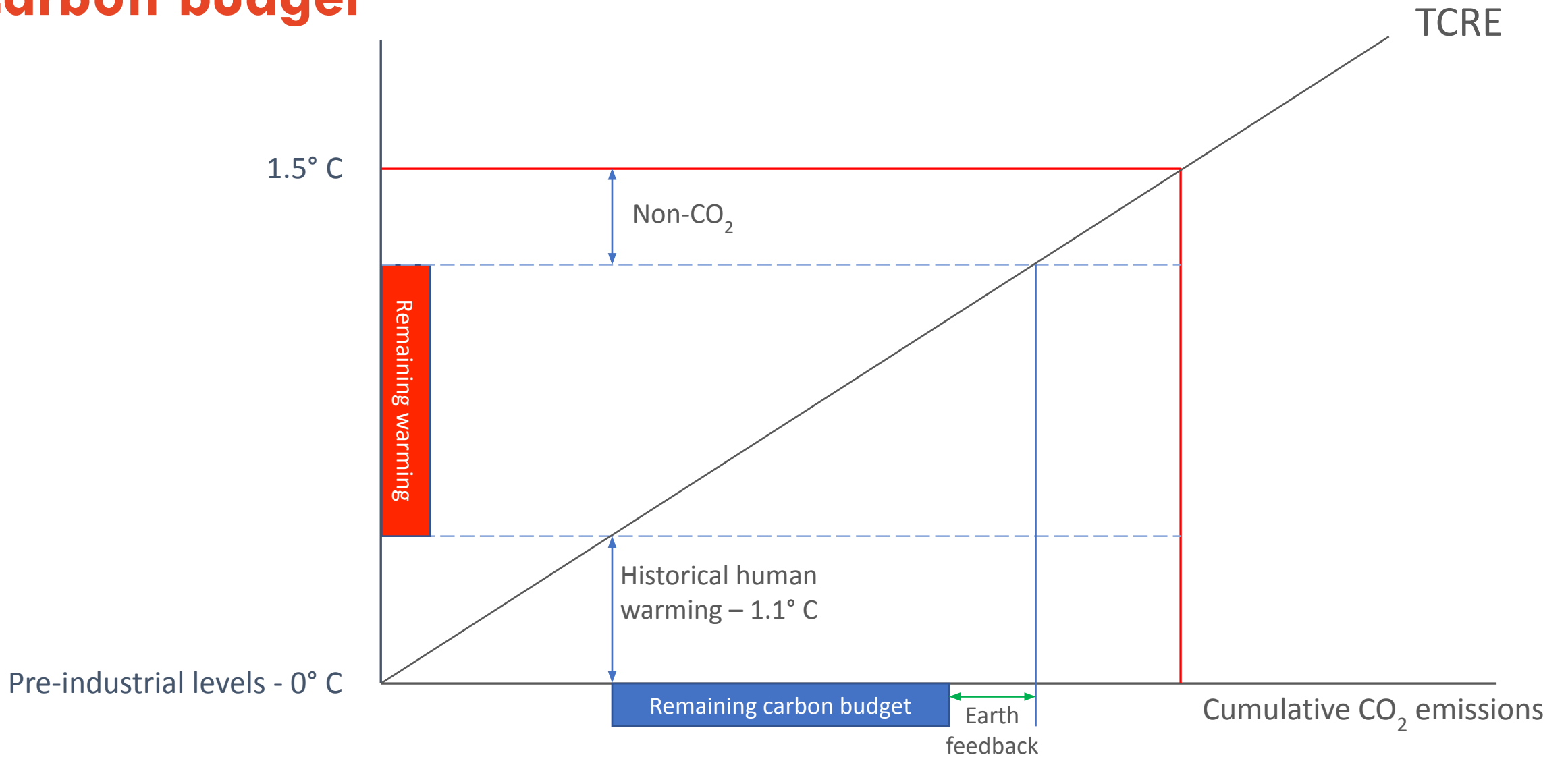
Carbon budget



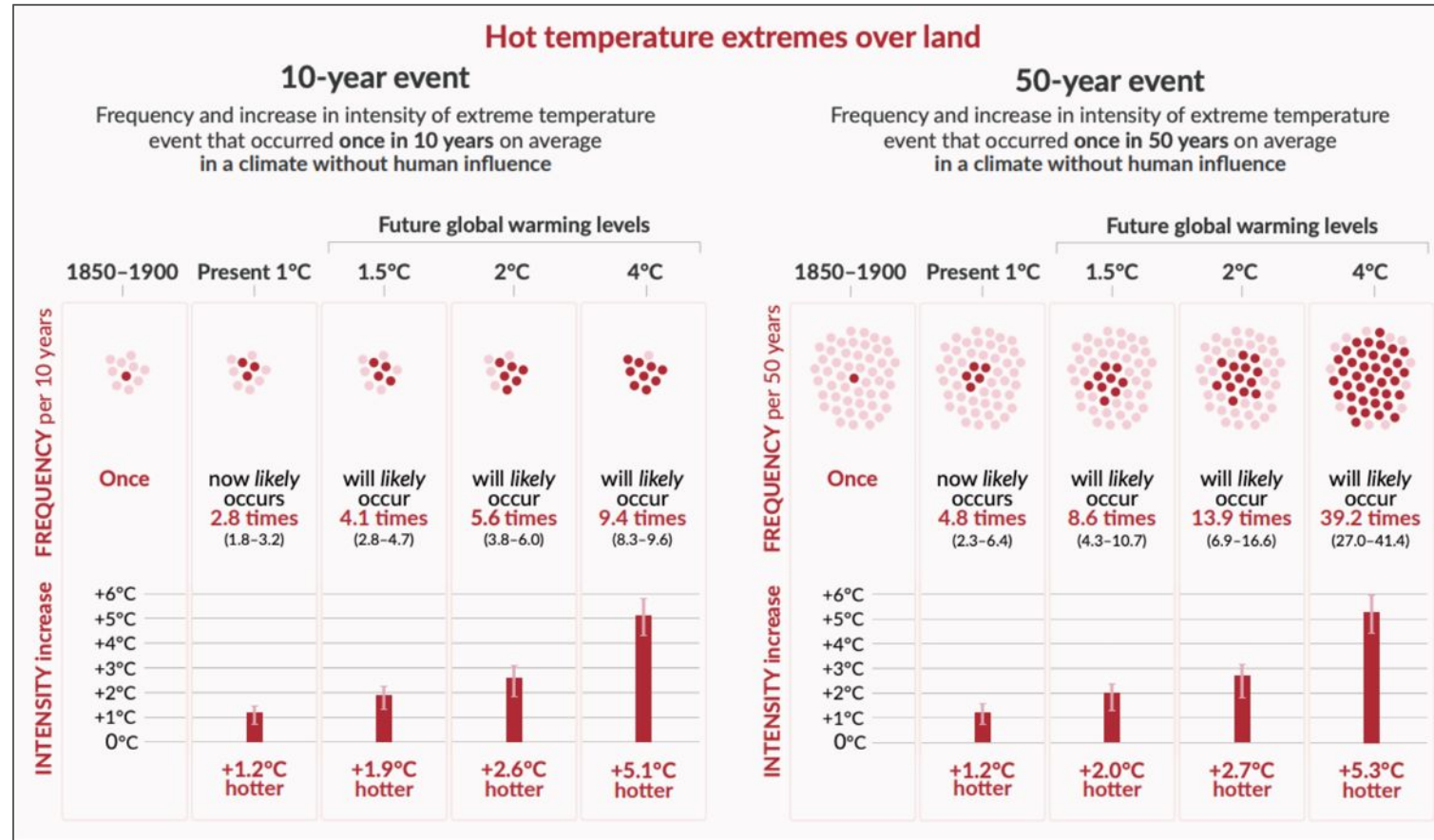
Carbon budget



Carbon budget

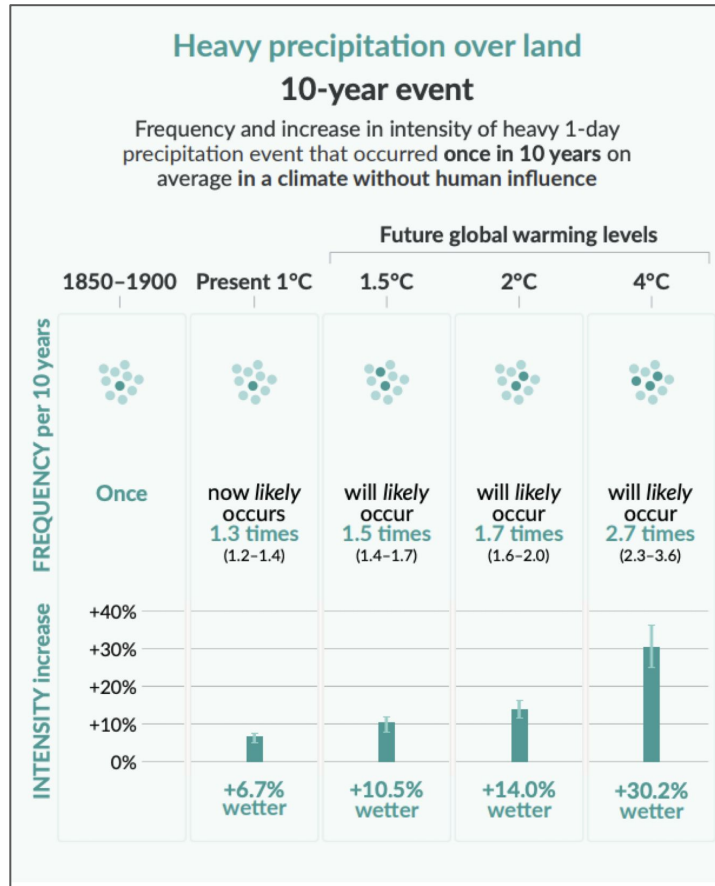


Extreme temperature events



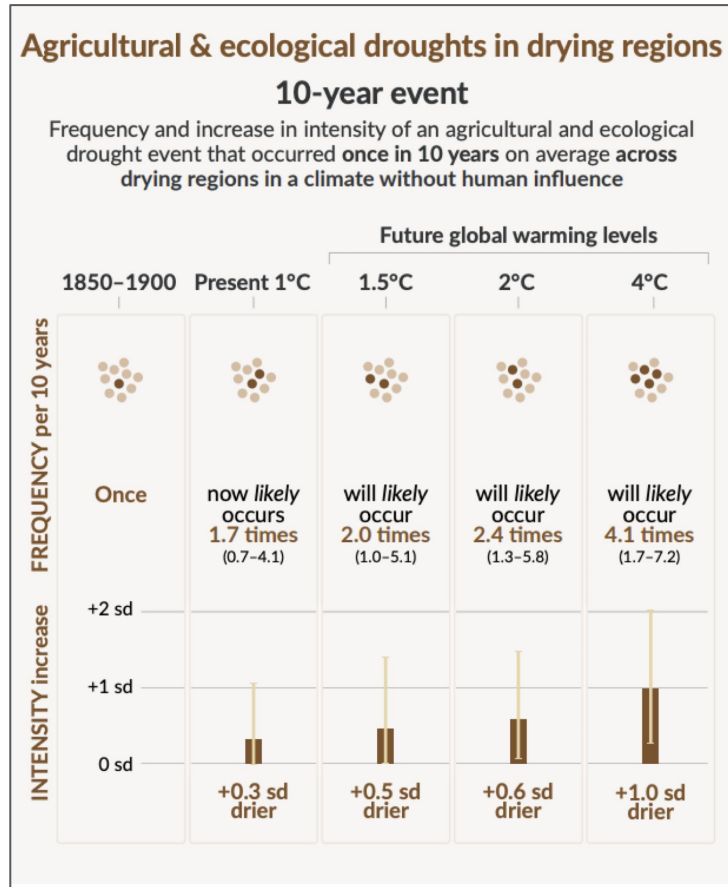
AR6 WG1 Figure SPM.6 | Projected changes in the intensity and frequency of hot temperature extremes over land, extreme precipitation over land, and agricultural and ecological droughts in drying regions. IPCC 2021

Extreme precipitation



AR6 WG1 Figure SPM.6 | Projected changes in the intensity and frequency of hot temperature extremes over land, extreme precipitation over land, and agricultural and ecological droughts in drying regions. IPCC 2021

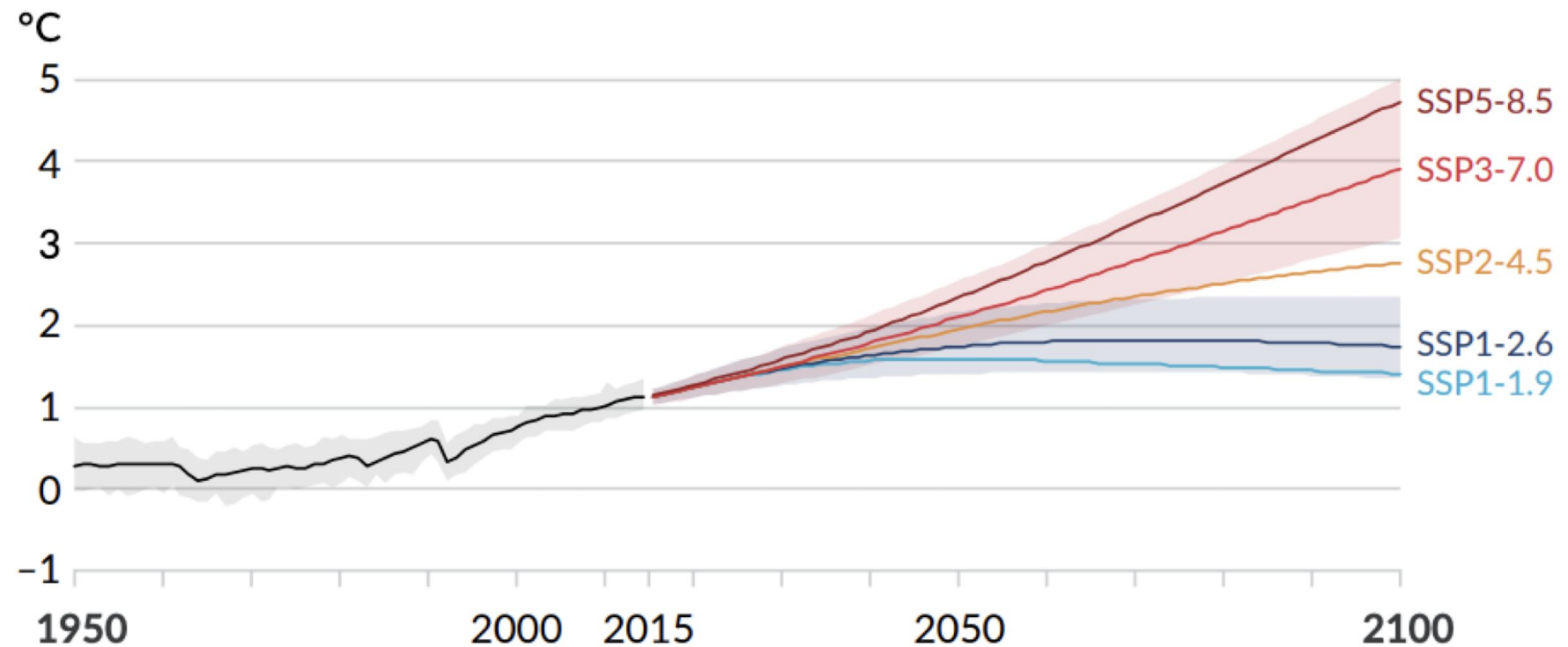
Droughts



AR6 WG1 Figure SPM.6 | Projected changes in the intensity and frequency of hot temperature extremes over land, extreme precipitation over land, and agricultural and ecological droughts in drying regions. IPCC 2021

Future emissions

(a) Global surface temperature change relative to 1850–1900

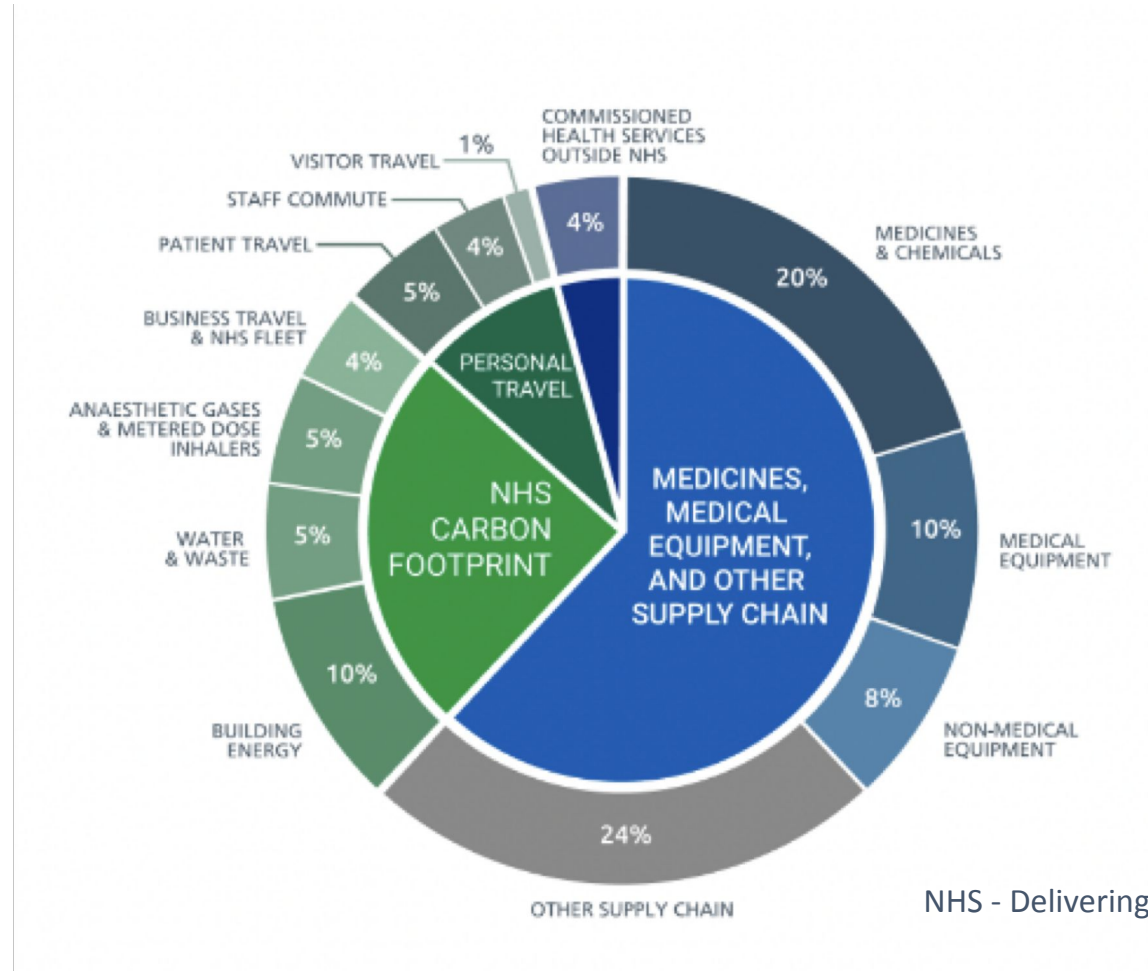


AR6 WG1 Figure SPM.8 | Selected indicators of global climate change under the five illustrative scenarios used in this Report. IPCC (2021)

Healthcare's emissions

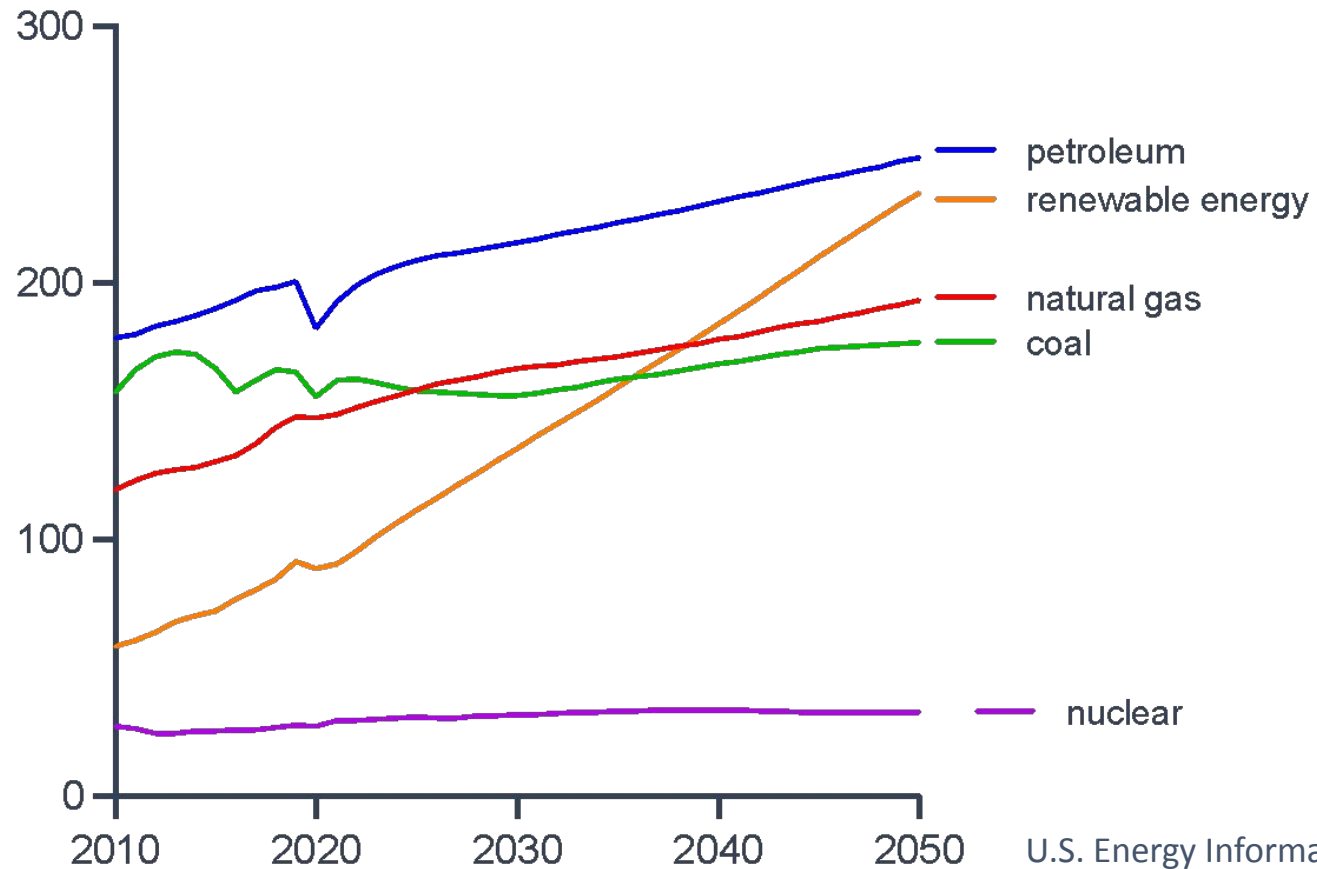
- Healthcare is responsible for 4.4% of carbon emissions
- If global healthcare were a country, it would be the world's 5th largest emitter
- Healthcare's annual emissions result in 3,000,000 DALYs reduction in human health

NHS footprint

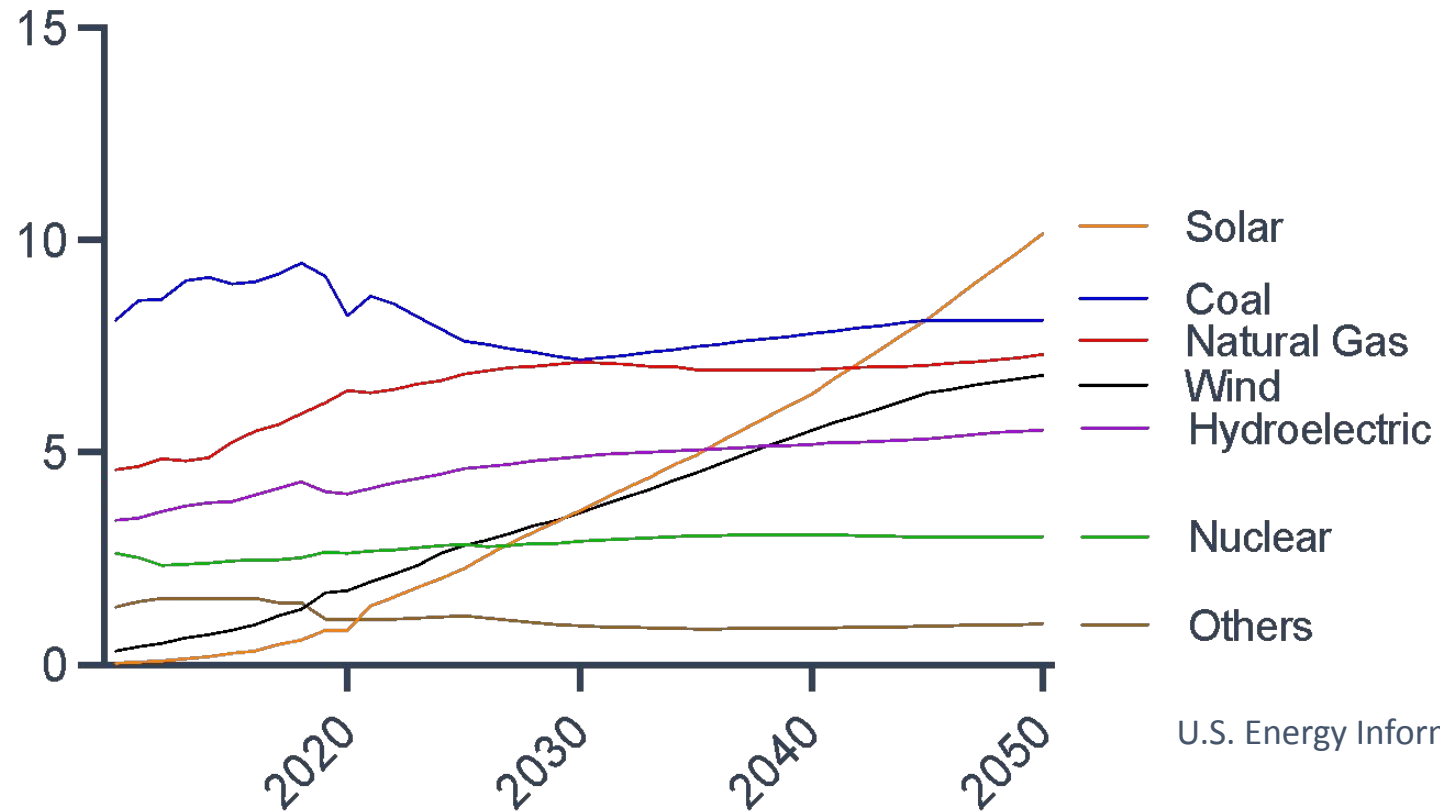


NHS - Delivering a 'Net Zero' National Health Service (2020)

World energy consumption



World electricity consumption



U.S. Energy Information Administration (2021)

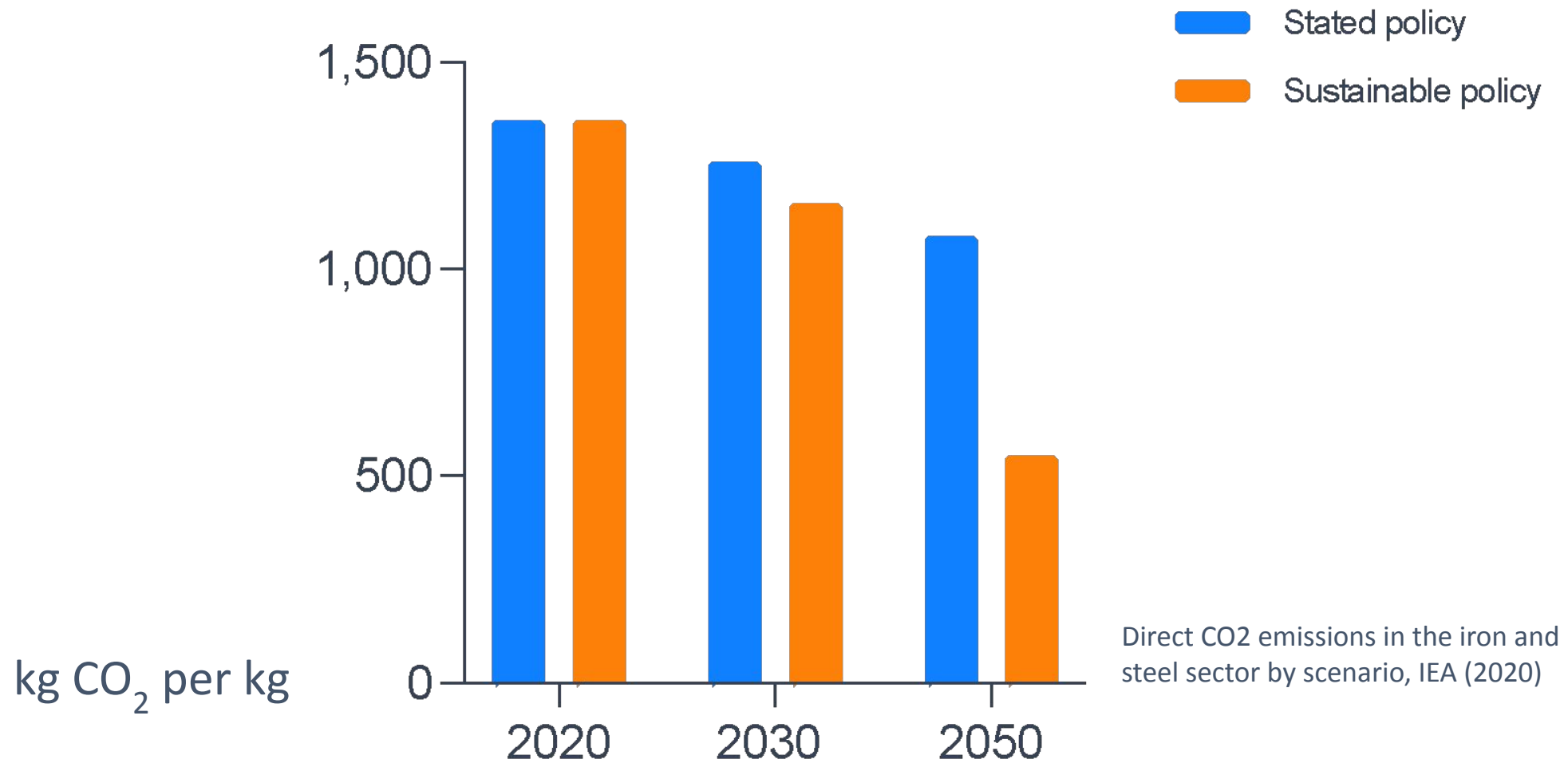
What do we use?

Table 2. Masses of consumables used in the intensive care unit*

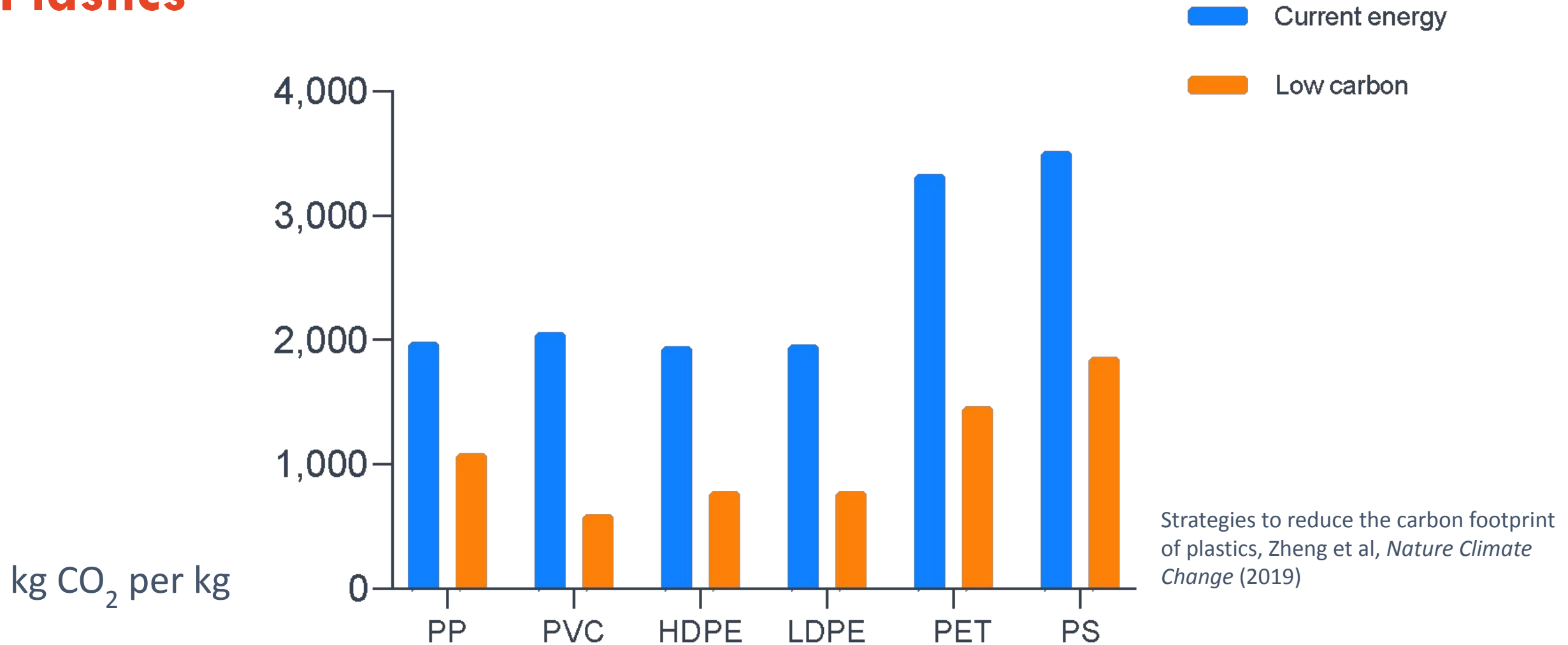
	United States ICU	Australian ICU
	Median (range) [†]	Median (range) [†]
Reusable items		
Cotton laundered (g/day)	4000 (1880–53 070) [‡]	3660 (2280–4600)
Cotton sterilised (g/day)	0	190 (30–680)
Stainless steel sterilised (g/day)	0	20 (0–30)
Single use items		
Cotton (g/day)	5 (0–20)	130 (60–480)
Synthetic rubbers (g/day)	270 (102–426)	1140 (330–2000)
Paper (g/day)	10 (0–20)	60 (50–120)
Plastics (non-PVC) (g/day)	2580 (670–4820)	1830 (680–2950)
Plastic (PVC) (g/day)	560 (230–920)	280 (80–3160)
Stainless steel (g/day)	21 (0–70)	5 (2–10)
Total-single use items	3400 (1000–6300)	3440 (1200–8700)
Oxygen (L)	1844 (0–4410)	2137 (0–7210)
Compressed air (L)	2550 (0–6356)	3878 (0–9585)
Other process data		
Nasogastric feed (mL)	70 (0–670)	510 (0–1640)
Meals [§] (meals/day)	1 (0–2)	0 [§]
Chest x-rays (3 kWh/CXR) [¶]	1.3 (0–4)	0.9 (0.4–1)

The carbon footprint of treating patients with septic shock in the intensive care unit, McGain et al, *Crit Care Resusc* (2018)

Steel



Plastics



Healthcare needs to include carbon as a metric



First, we need to quantify emissions

You can't manage what you don't measure

