



TRADE, THE ENVIRONMENT AND CLIMATE INEQUALITY

CLIMATE CHANGE IS ACCELERATING

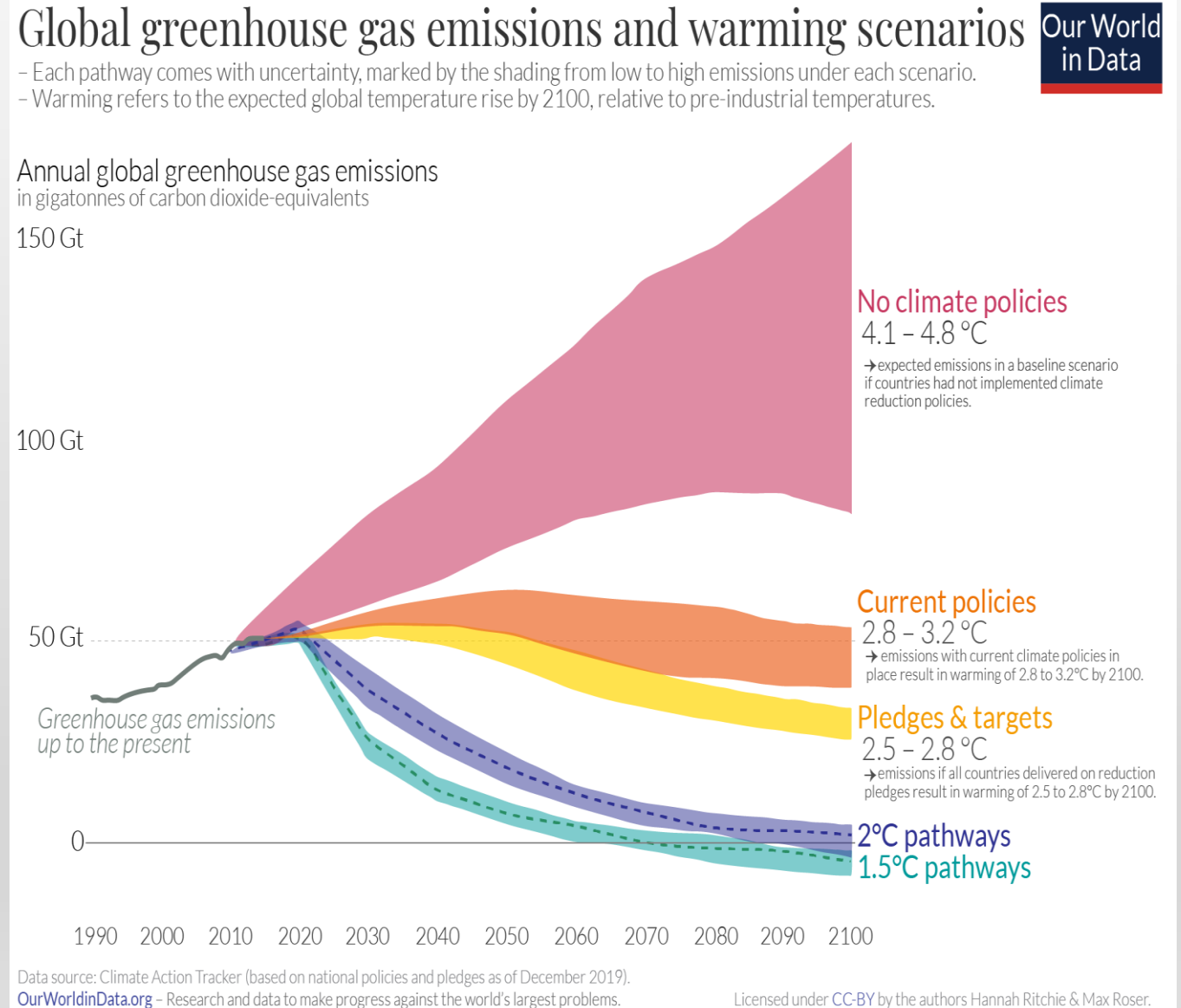
On current trends, temperatures will continue to rise.

The average global temperature has already increased by approximately 1.0°C relative to pre-industrial levels.

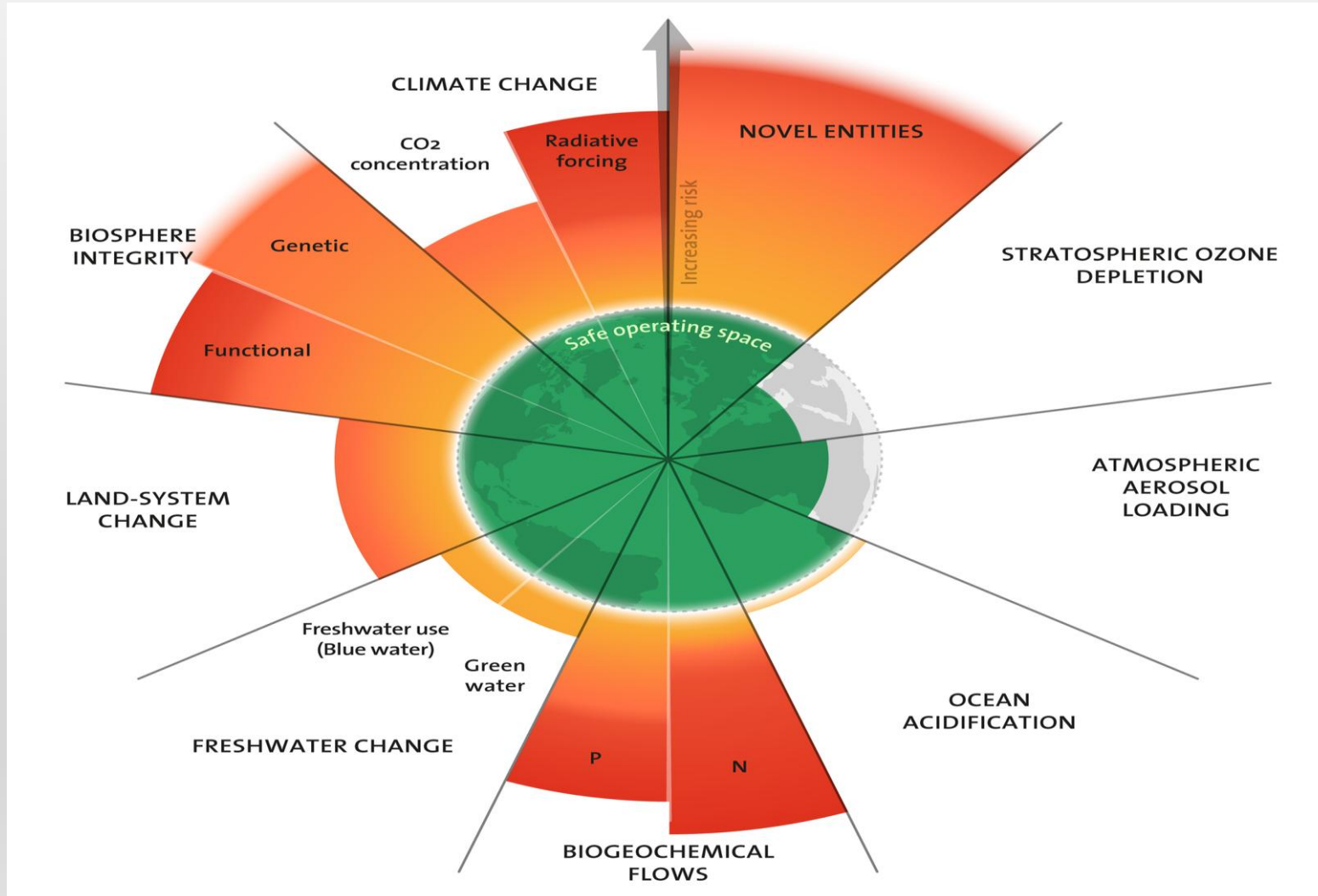
Global warming is likely to reach 1.5°C soon after 2030 if it continues to increase at the current rate.

The challenge now is to limit the rise by 2°C .

This requires carbon emissions to decline by 25% by 2030 and reach net zero by 2070.

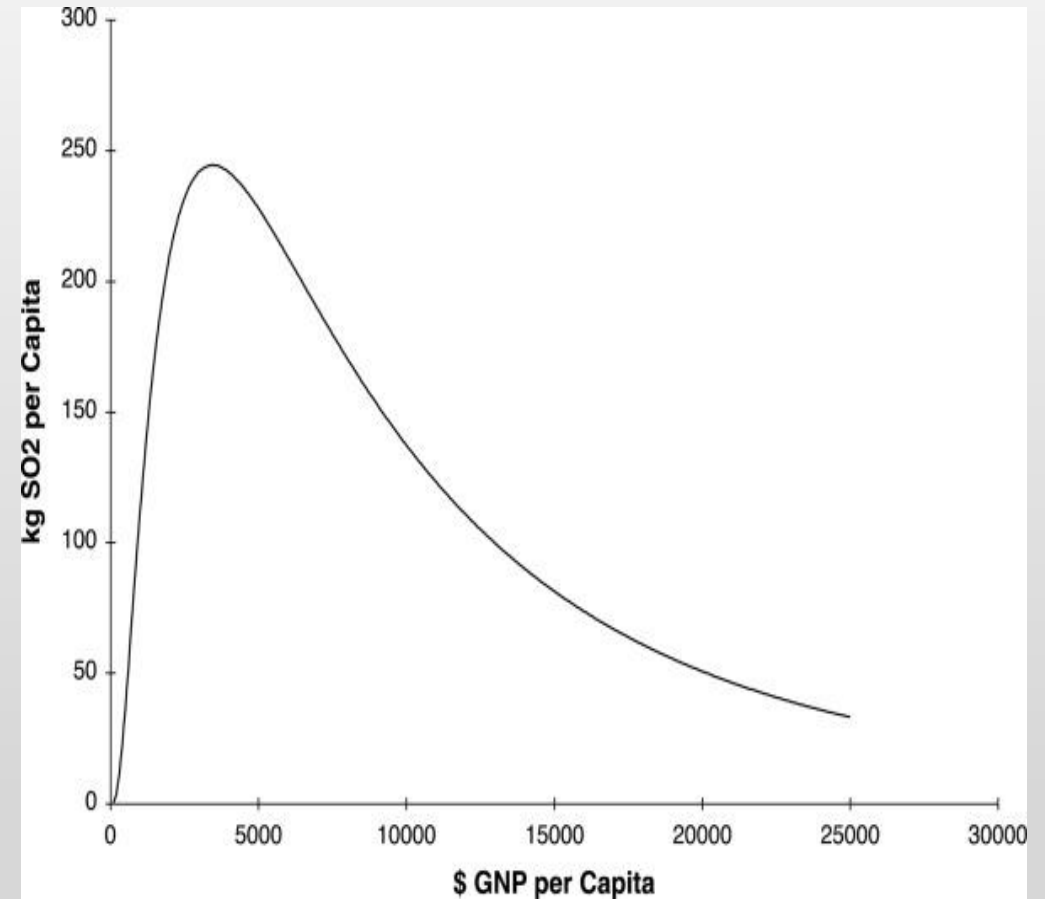


7 OUT OF 9 PLANETARY BOUNDARIES HAVE ALREADY BEEN BREACHED



CLIMATE CHANGE AND THE ECONOMY

- The environmental Kuznets curve suggests a relationship between various indicators of environmental degradation and per capita income.
- In the early stages of economic growth, pollution emissions increase and environmental quality declines.
- But beyond some level of per capita income (which will vary for different indicators) the trend reverses, so that at high income levels, economic growth leads to environmental improvement.
- This implies that environmental impacts or emissions per capita are an inverted U-shaped function of per capita income.
- But there's no actual evidence of this! Instead rich countries continue to dominate in carbon emissions.



WHAT IS CLIMATE IMPERIALISM?

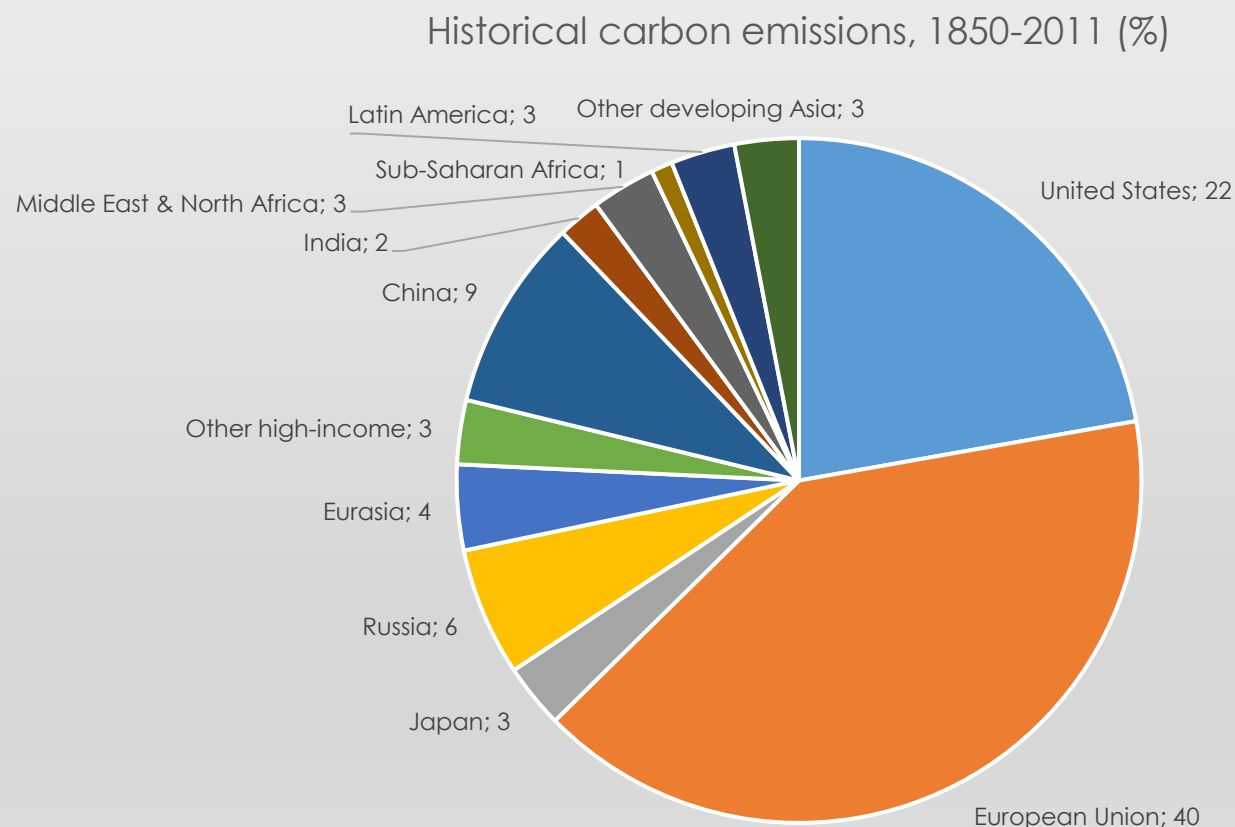
- Imperialism: the struggle of large, monopolistic capital over economic territory, actively aided and assisted by states.
- The economic territory subject to contestation and control can take many forms:
 - land;
 - resources extracted from nature;
 - labour, both paid and unpaid;
 - markets;
 - newly commoditized services that were formerly seen to be more in the domain of public provision, ranging from electricity to education to security;
 - newly created forms of property like knowledge, or intellectual property;
 - cyberspace.
- Focus on climate imperialism.
- In neoliberal phase of capitalism, environmental interaction with the planet has become one of the most crucial, and the most strongly associated also with coercion, conflict and wars—as well as with legal and economic architecture that appears less coercive.

HOW IS CLIMATE IMPERIALISM EXPRESSED?

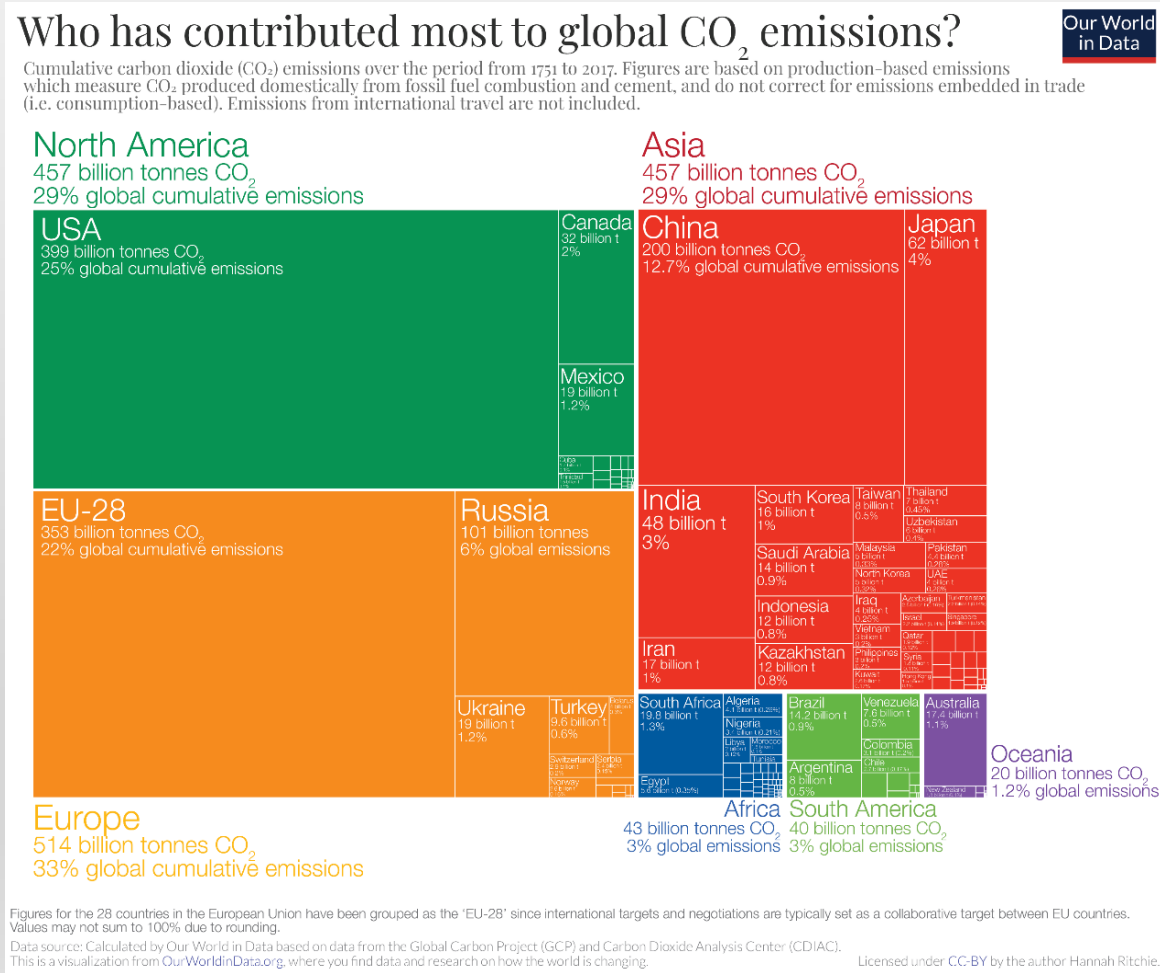
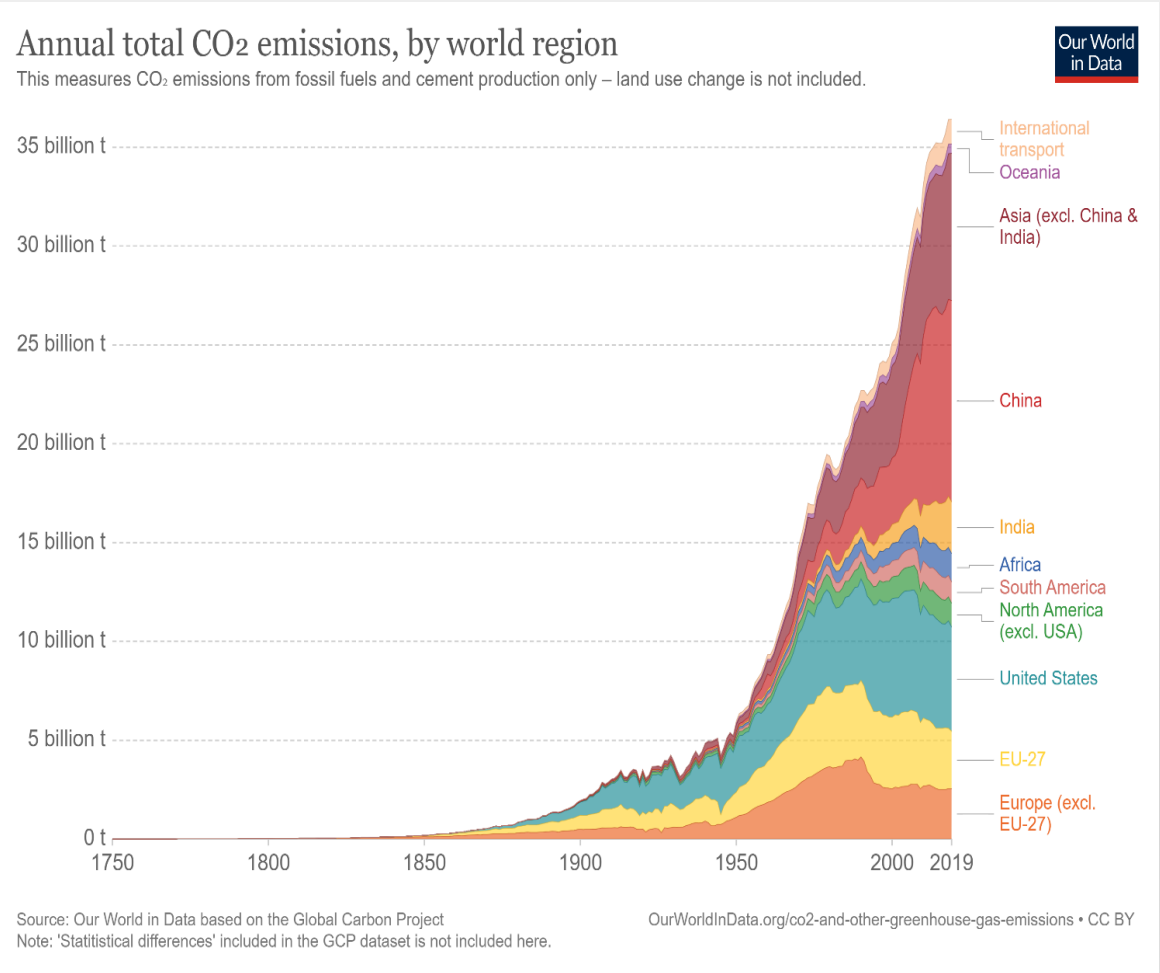
- Core countries and elites globally are able to produce and consume based on an imperialist mode of living, generating increasing global carbon emissions with rising ecological footprints.
- International negotiations address climate change in unequal, deceptive and debilitating ways.
- The operations of global finance and fiscal strategies of major countries increase carbon emissions while failing to make available the required finance for effective mitigation strategies.
- Privatized knowledge monopolies prevent most of humanity from being able to access critical technologies required to confront the climate challenge.
- Changing technological requirements for both mitigation and adaptation give rise to further natural resource grabs aimed particularly at strategic minerals, along with new forms of extractivist competition among the leading powers.

TODAY'S DEVELOPED COUNTRIES ARE RESPONSIBLE FOR NEARLY 80 PER CENT OF
GLOBAL CUMULATIVE CARBON EMISSIONS OVER 1850 TO 2011

MORE THAN 50 PERCENT OF THESE HISTORICAL EMISSIONS OCCURRED IN THE LAST
30 YEARS, WHEN MORE COULD HAVE BEEN DONE IN TERMS OF CLIMATE MITIGATION



RECENT INCREASES IN TOTAL CARBON EMISSIONS BY CHINA AND INDIA, BUT THEIR PER CAPITA EMISSIONS ARE STILL LOW

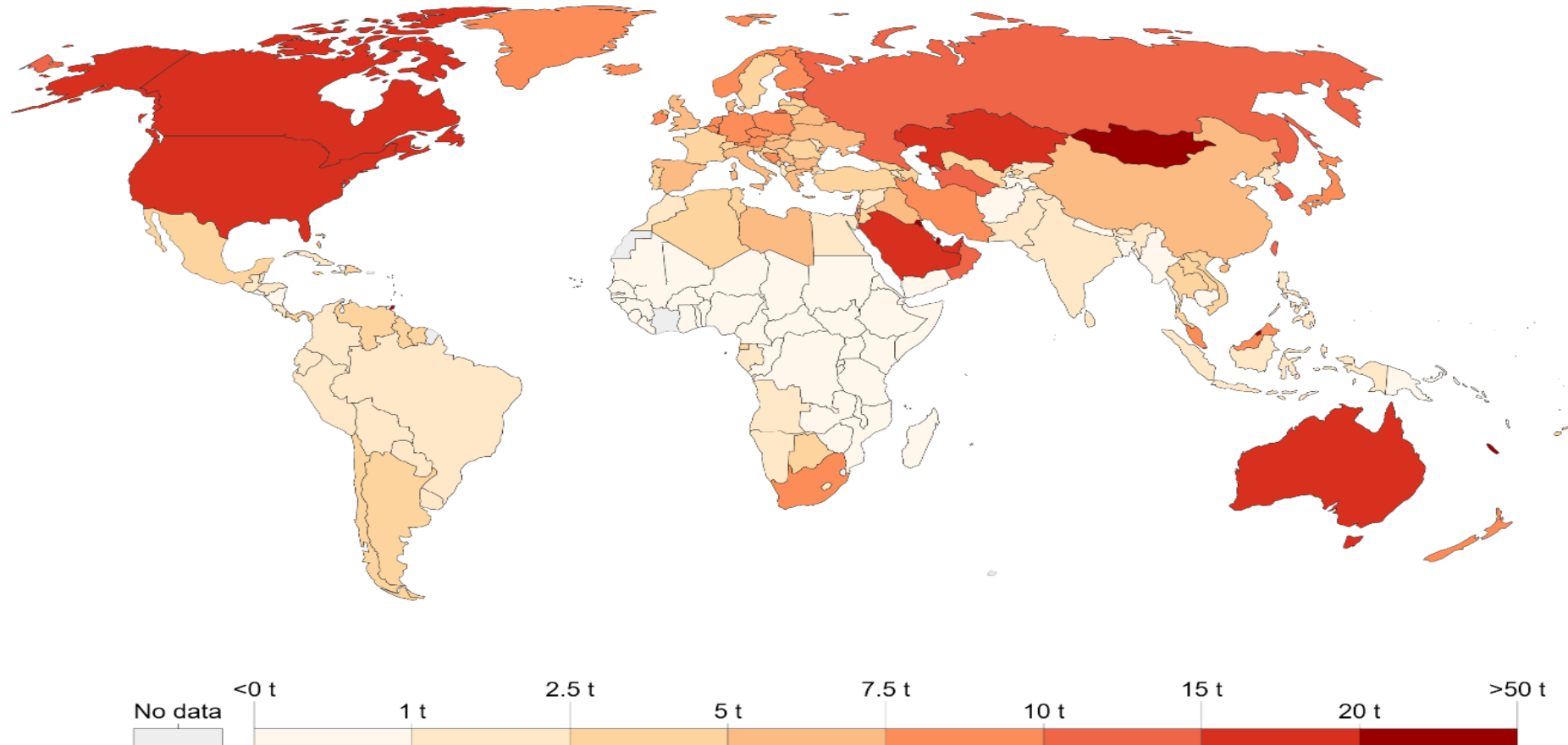


PER CAPITA EMISSIONS BY COUNTRIES

Per capita CO₂ emissions, 2019

Carbon dioxide (CO₂) emissions from the burning of fossil fuels for energy and cement production. Land use change is not included.

Our World
in Data



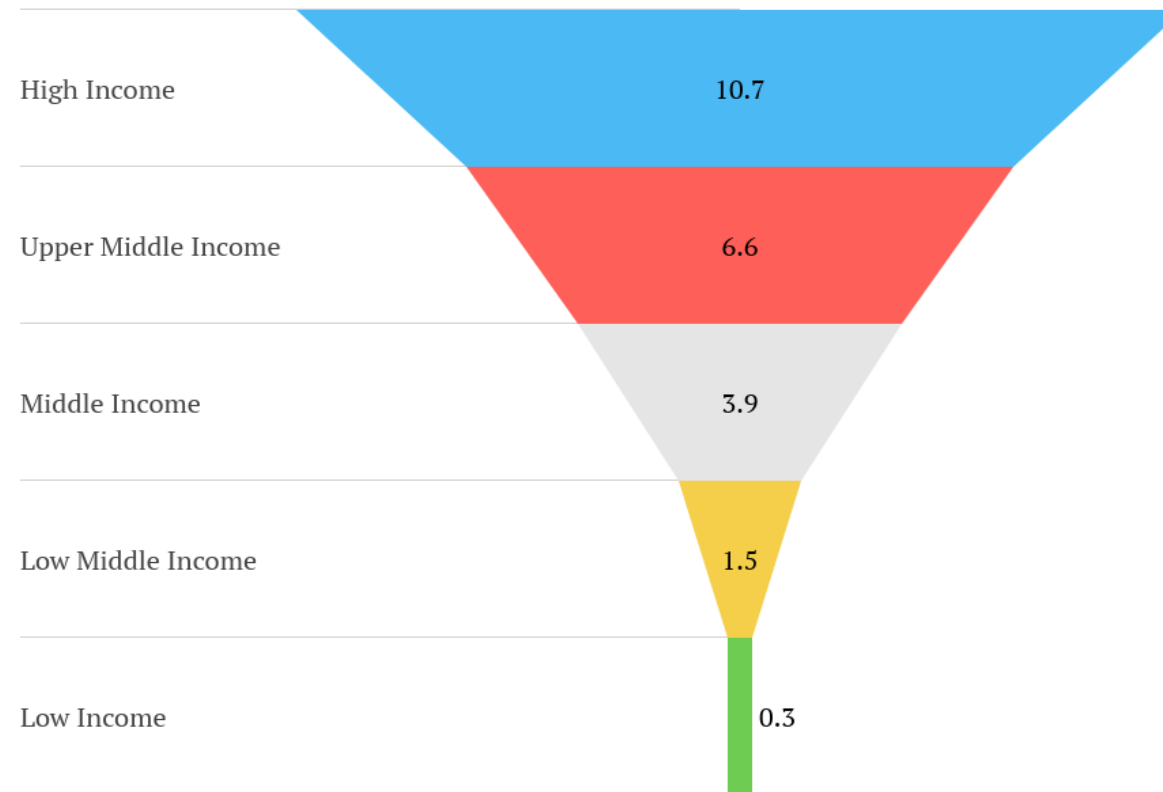
Source: Our World in Data based on the Global Carbon Project; Gapminder & UN

OurWorldInData.org/co2-and-other-greenhouse-gas-emissions/ • CC BY

Note: CO₂ emissions are measured on a production basis, meaning they do not correct for emissions embedded in traded goods.

THE GLOBAL INEQUALITY IN PER CAPITA EMISSIONS

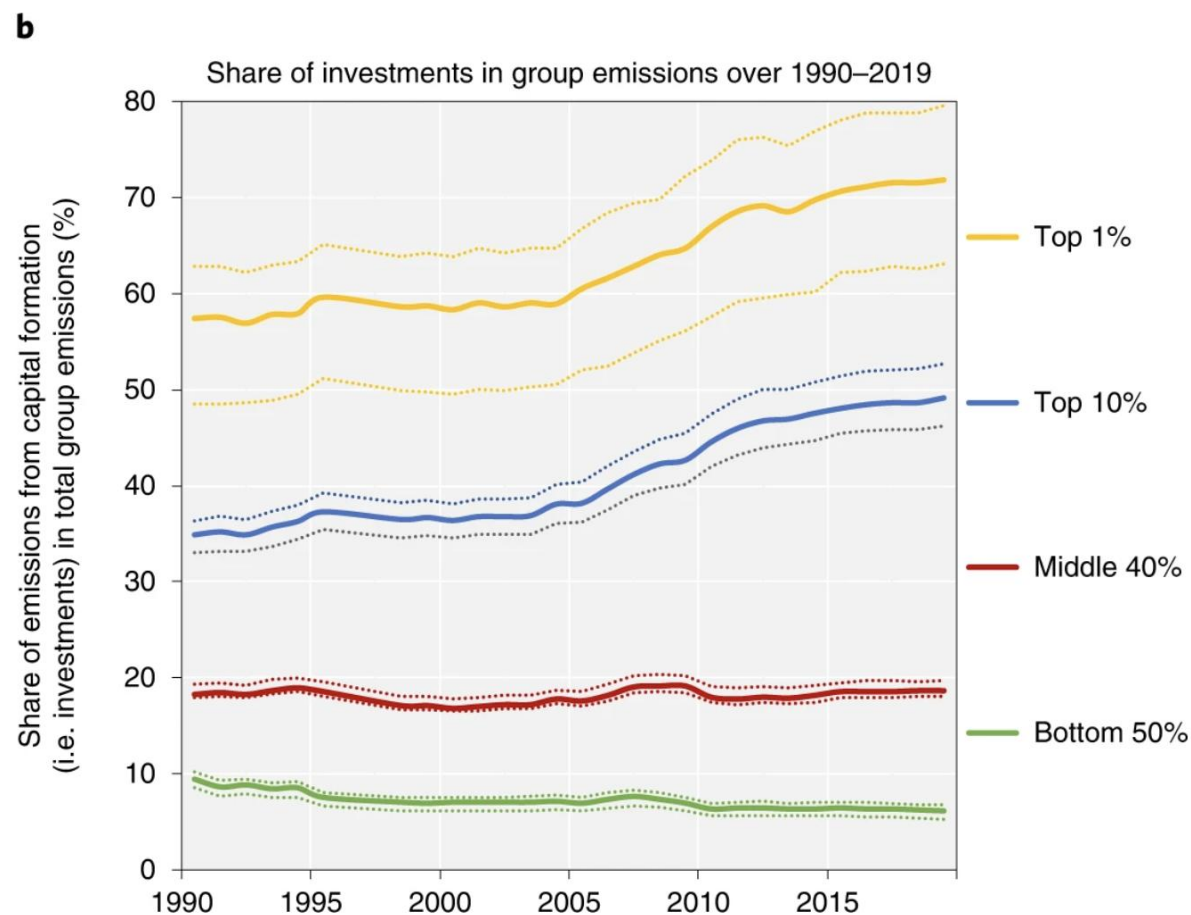
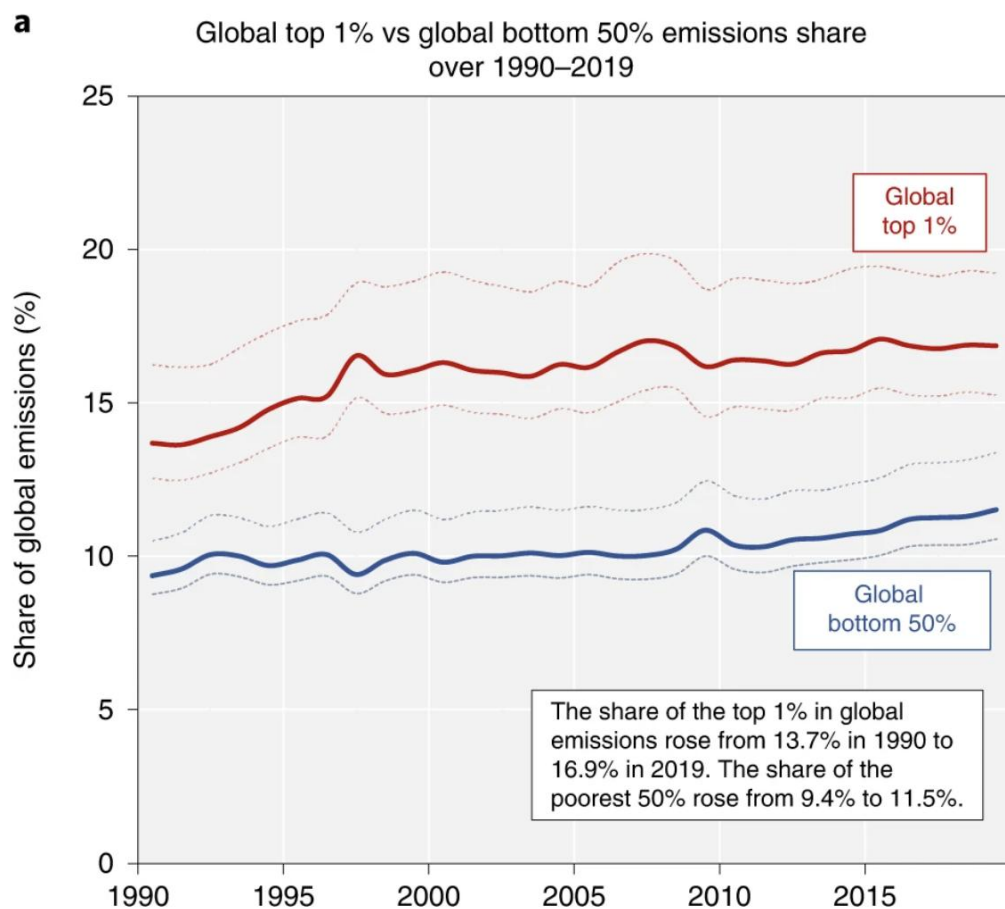
**The relationship between Level of Income and CO2 Emissions, 2018
(metric tons per capita)**



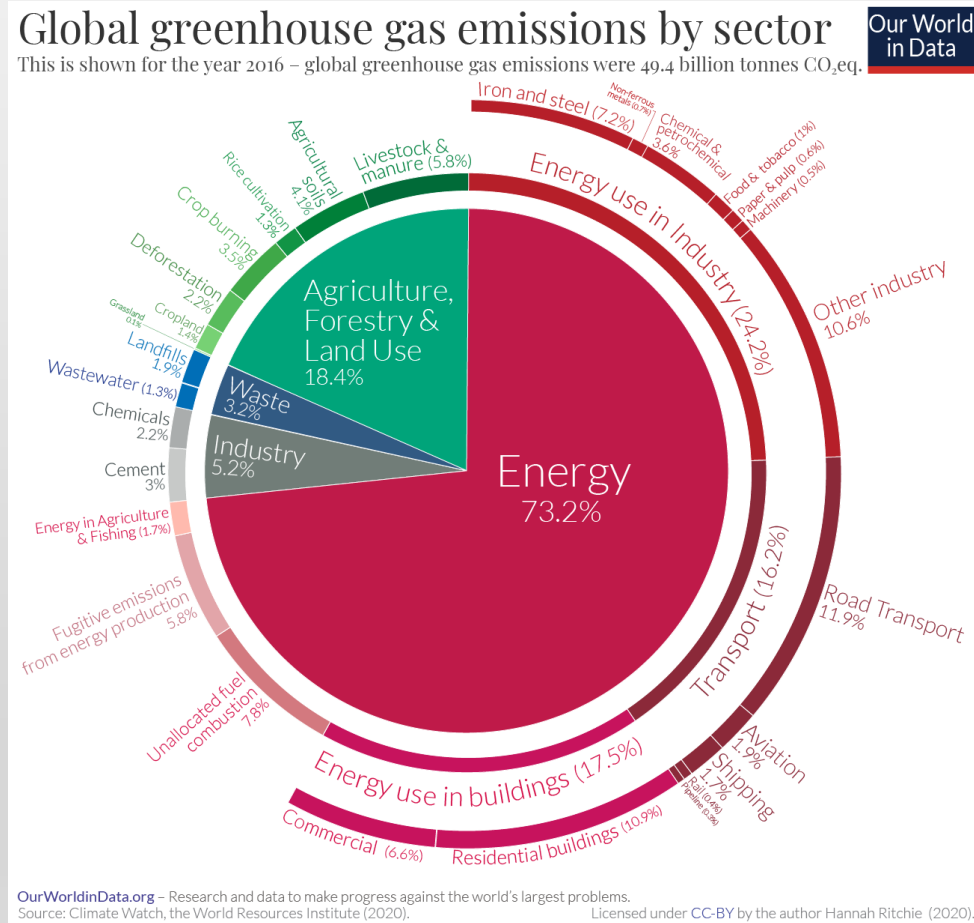
Azad and Chakraborty (2019)

Fig. 5: Top 1% vs bottom 50% shares and emissions from investments over 1990–2019.

From: [Global carbon inequality over 1990–2019](#)



THE SOURCES OF EMISSIONS



CLIMATE CHANGE IS A GLOBAL PROBLEM, BUT IT IS SOUGHT TO BE ADDRESSED AT NATIONAL LEVELS

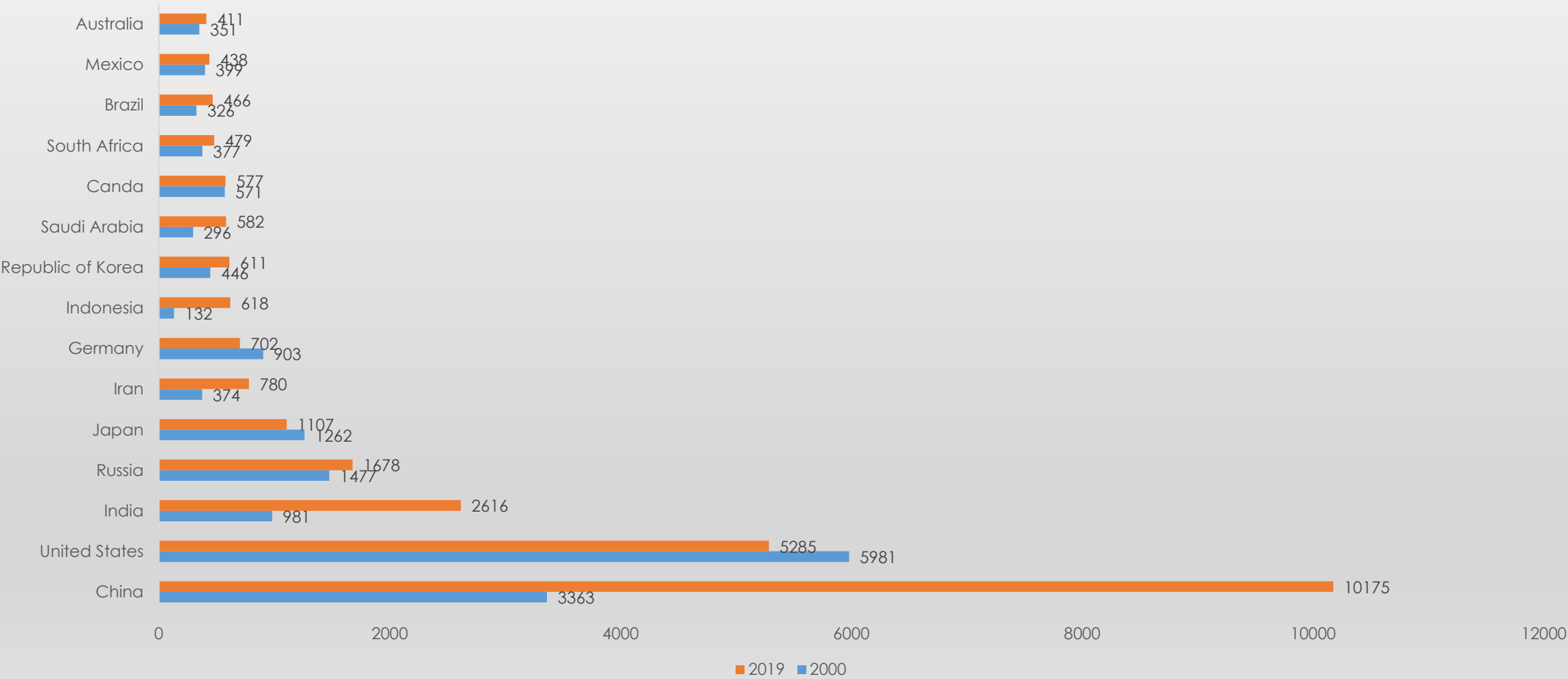
- Countries are assigned “climate responsibility” based on current national carbon emissions.
- These form the basis of climate negotiations and national commitments to control carbon emissions, mostly recently in COP26 at Glasgow.
- This ignores historic responsibility (carbon debt) and so understates responsibility of richer countries.
- Typically relies on PPP measures of GDP for comparing across countries, which overstate incomes of poorer countries.
- Measures of carbon emissions are production-based rather than consumptions-based, underplaying continued significance of consumption in the North.
- Recent increases in carbon emissions are used to blame certain countries, especially China and India.

METHODS OF DETERMINING CARBON EMISSIONS

- Production based: Responsibility for carbon emissions is fully placed on producers of goods and services within the specified location (area, nation or region). It covers all production, at whatever point in the value chain of any product or service. (UNFCCC)
- This does not consider the impact of cross-border trade
- Extraction-based: Consider the full life cycle of extracted natural resources—typically fossil fuels—with responsibility allocated to those who extract the resource, by considering downstream emissions enabled by the sale of that resource/fuel.
- Value-added emissions: allocated according to the share of value added over the life cycle of the product, in each step of the value chain.
- Consumption-based emissions: those resulting from satisfying domestic demand (both consumption and investment), with responsibility for life cycle emissions allocated to the final consumers of goods and services.

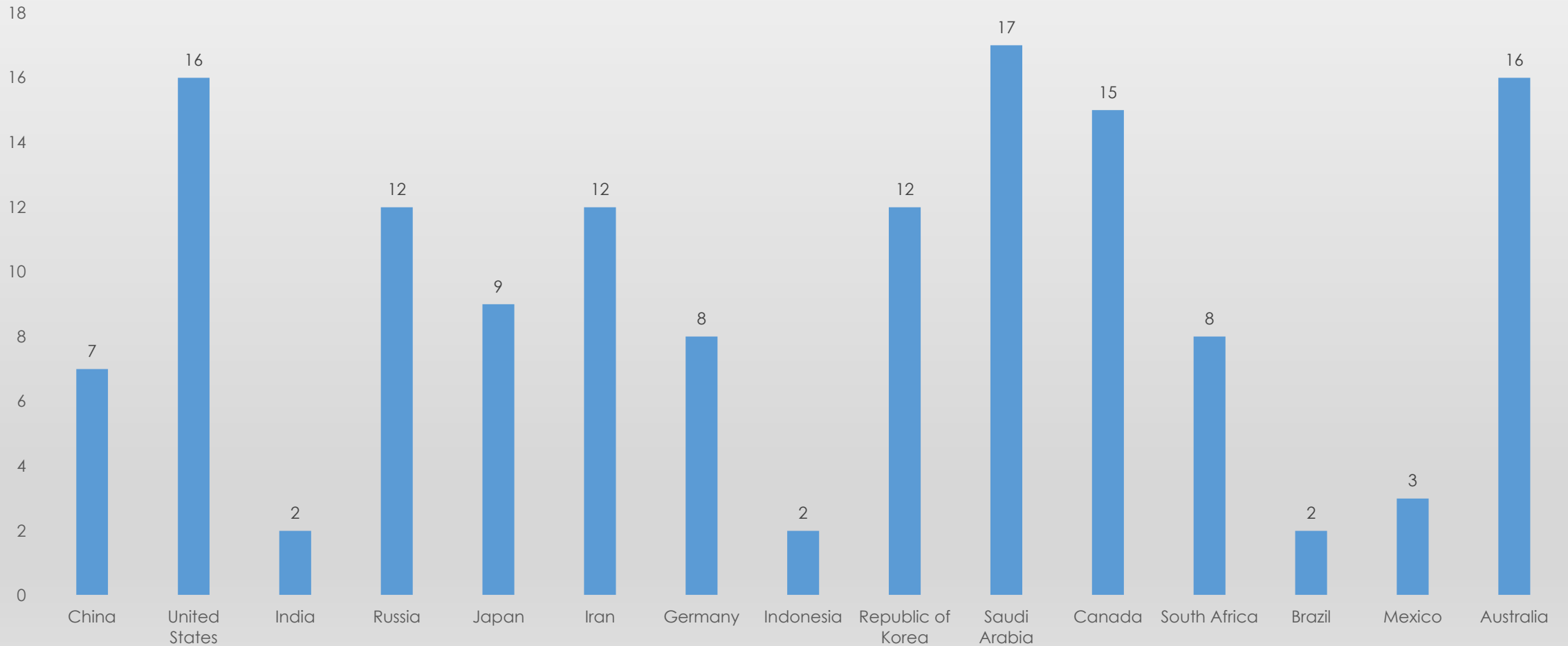
PRODUCTION-BASED EMISSIONS AMONG LARGEST EMITTERS

Total CO2 emissions
(million metric tonnes)



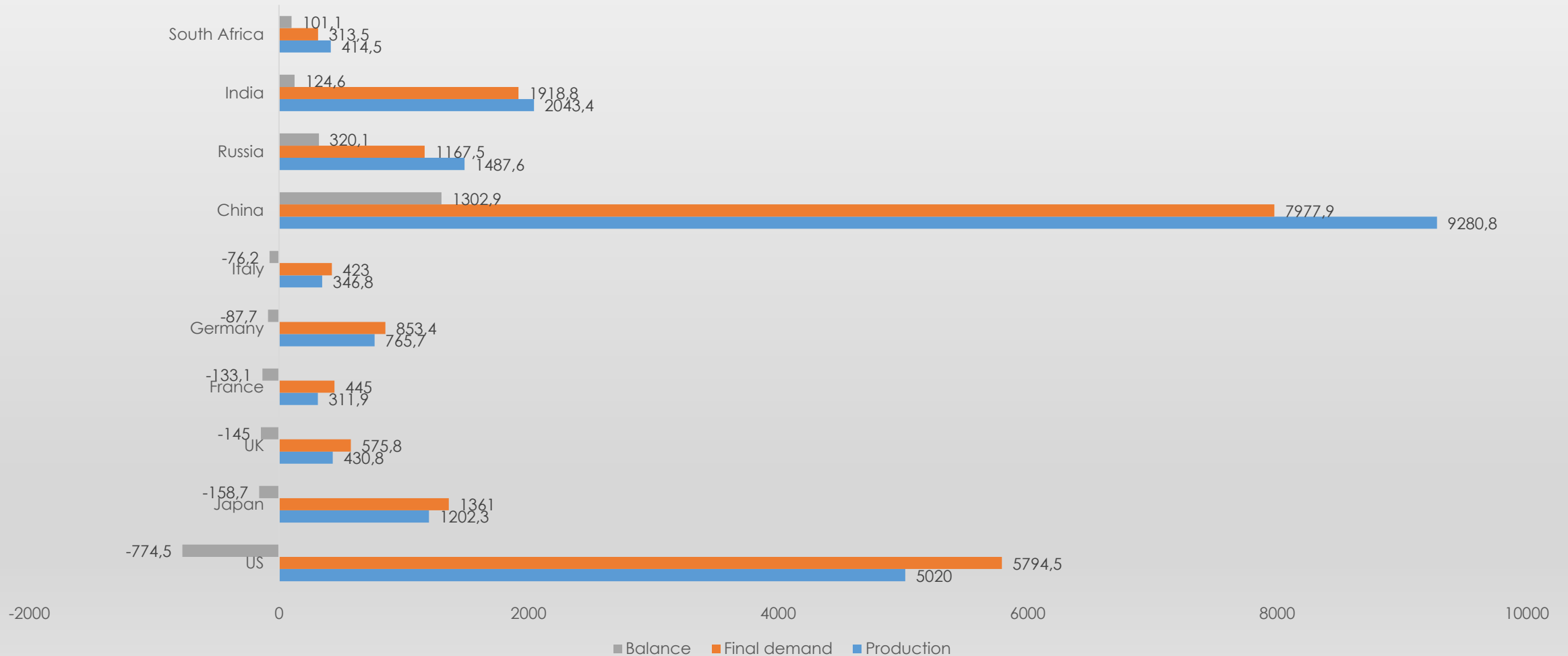
PER CAPITA EMISSIONS TELL A DIFFERENT STORY

Per capita CO2 emissions in 2019
(metric tonnes per capita)



INTERNATIONAL TRADE CONTINUES TO PLAY A BIG ROLE IN DRIVING EMISSIONS

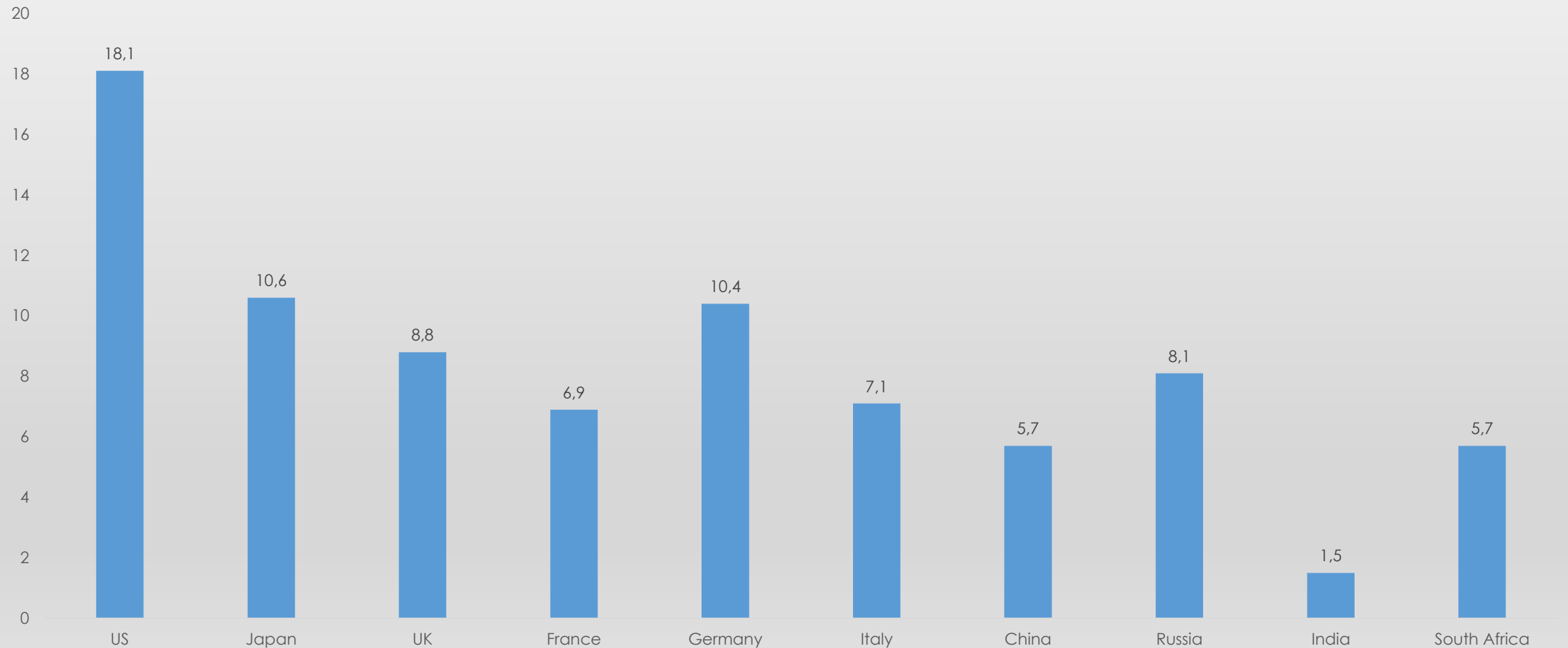
Carbon balance by production and final demand, mmt 2015



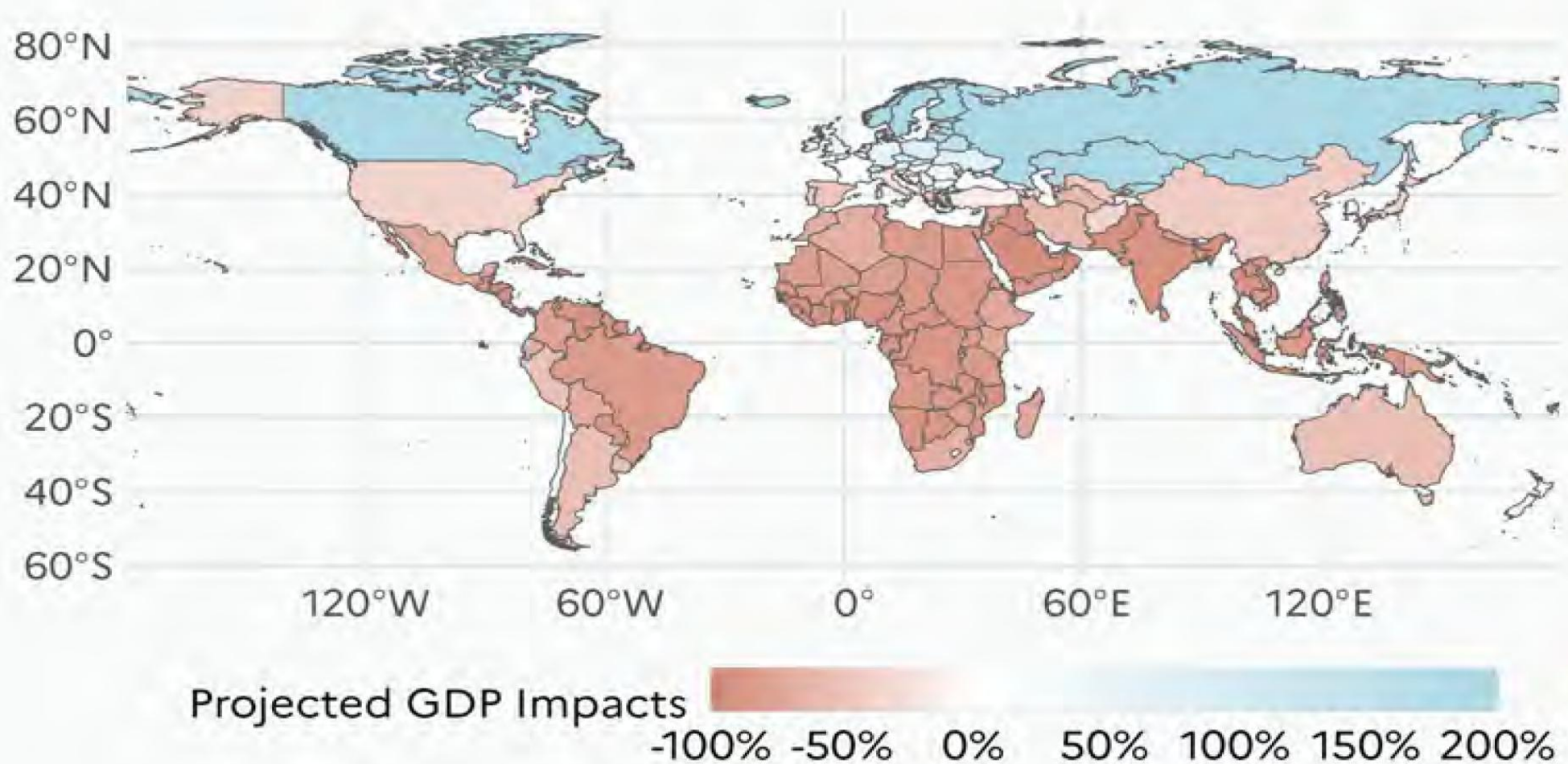
PER CAPITA EMISSIONS BY FINAL DEMAND

SHOW THE REAL DIFFERENCE

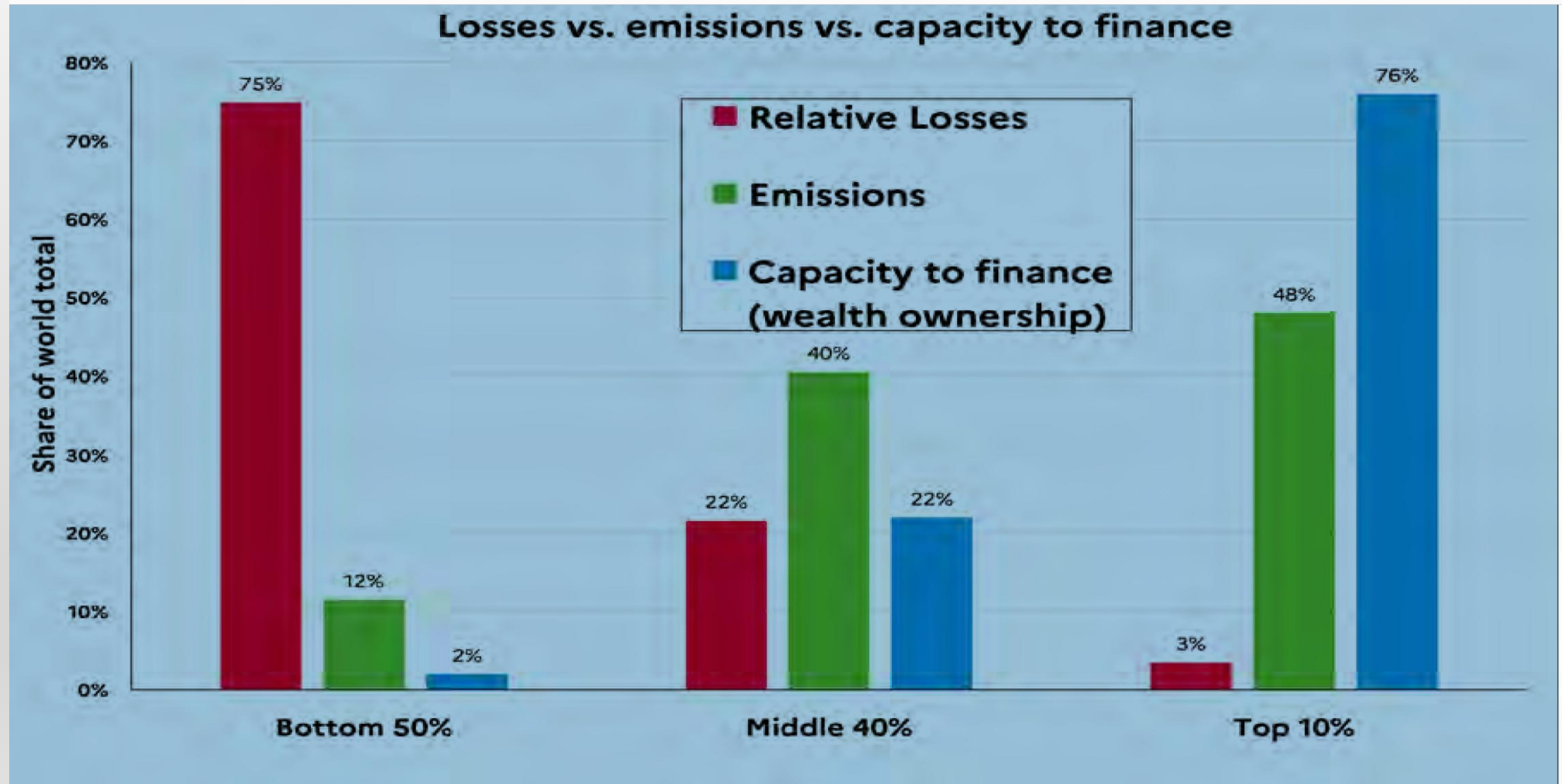
Per capita emissions by final demand in 2015
(metric tonnes)



CHANGE IN GDP PER CAPITA BY 2100 THAT CAN BE ATTRIBUTED TO CLIMATE CHANGE



IMPACT OF CLIMATE CHANGE AND ASSOCIATED LOSSES IS INVERSELY RELATED TO CARBON EMISSIONS AND CAPACITY TO FINANCE



EMISSIONS INEQUALITY **WITHIN** COUNTRIES IS SIGNIFICANT AND HAS GOT WORSE

	Bottom 50%	Middle 40%	Top 10%
East Asia	3.1	7.9	38.9
Europe	5.1	10.6	29.2
North America	9.7	21.7	73.0
South & Southeast Asia	1.2	2.5	10.6
Russia & Central Asia	4.6	10.2	35.1
Middle East & North Africa	2.3	7.3	33.6
Latin America	2.0	4.7	19.2
Sub Saharan Africa	0.5	1.7	7.3

POVERTY ERADICATION IS COMPATIBLE WITH CLIMATE CHANGE MITIGATION – IF INEQUALITY IS REDUCED

- 64% of carbon emissions are due to within-country inequality—and this is similar across most regions.
- Lifting one-third of world's population above \$3.2 per day PPP poverty line would increase global carbon emissions by only 5%. (Carbon Inequality Report)
- Carbon emissions of top 1% of world's population are around 15%.
- 1.5% wealth tax on centimillionaires (assets > \$100 mn) would provide \$290 bn per year.
- Adaptation funding needs of LMICs currently estimated at \$202 bn per year.

POSING THE PROBLEM AS DEVELOPMENT AND POVERTY REDUCTION VS CLIMATE MITIGATION IS A FALSE DILEMMA

- Countries can choose a development pattern that
 - improves the level of energy efficiency of the economy;
 - changes patterns of investment and consumption towards activities requiring less energy;
 - within energy sources, reduces the share of the most carbon-emitting sources, from coal and petroleum-based to natural gas and to clean renewables like solar, wind and possibly hydro sources.
- Urbanisation patterns need to change.
- This is **better** for concerned economies and societies than continuing with current patterns.
- This requires much more investment, but can be done with 1.5-2.5% of GDP of large economies annually (Chomsky and Pollin 2020).
- In addition to finance, access to technology is critical.

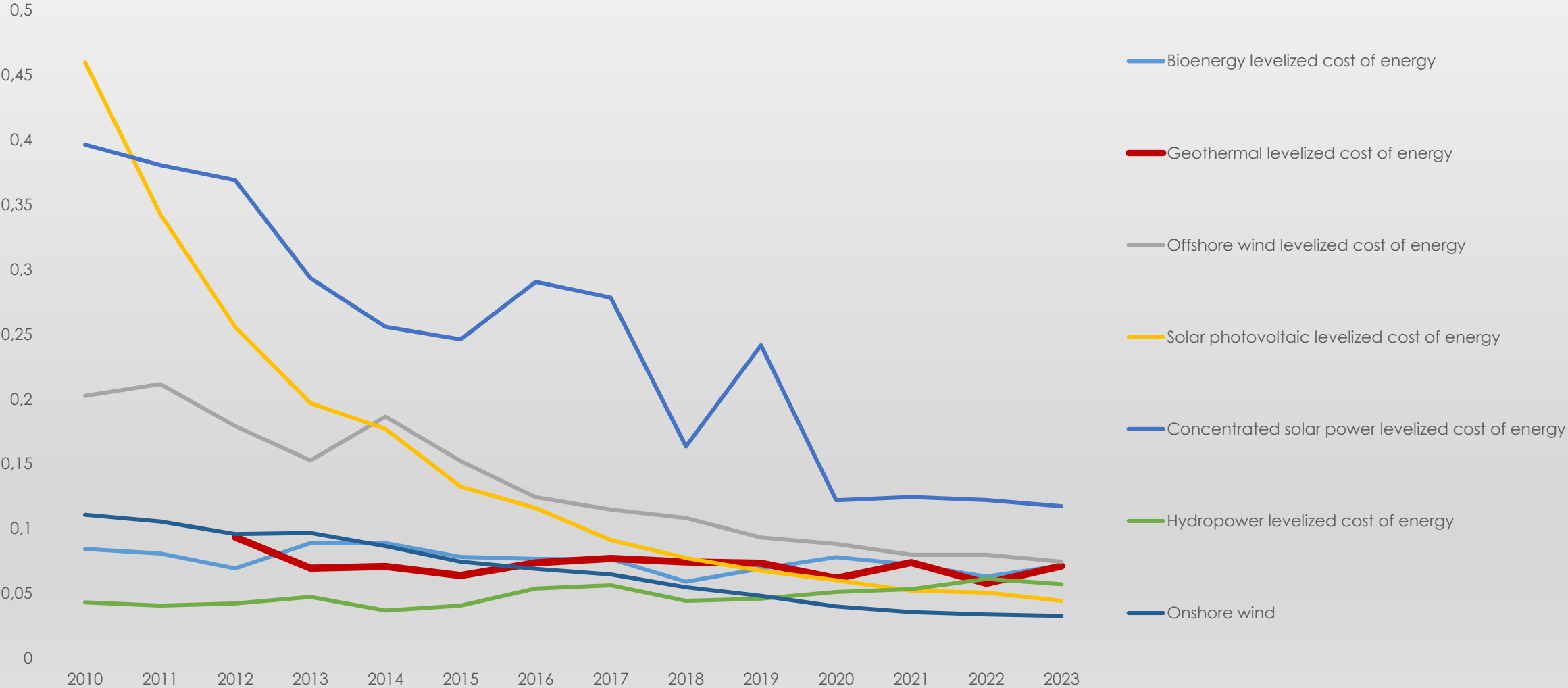
SO WHAT ABOUT RENEWABLE ENERGY?

The most common renewable power technologies:

- Solar (photovoltaic, solar thermal)
- Wind
- Biogas (e.g., landfill gas/wastewater treatment digester gas)
- Geothermal
- Biomass
- Low-impact hydroelectricity
- Emerging technologies - wave and tidal power

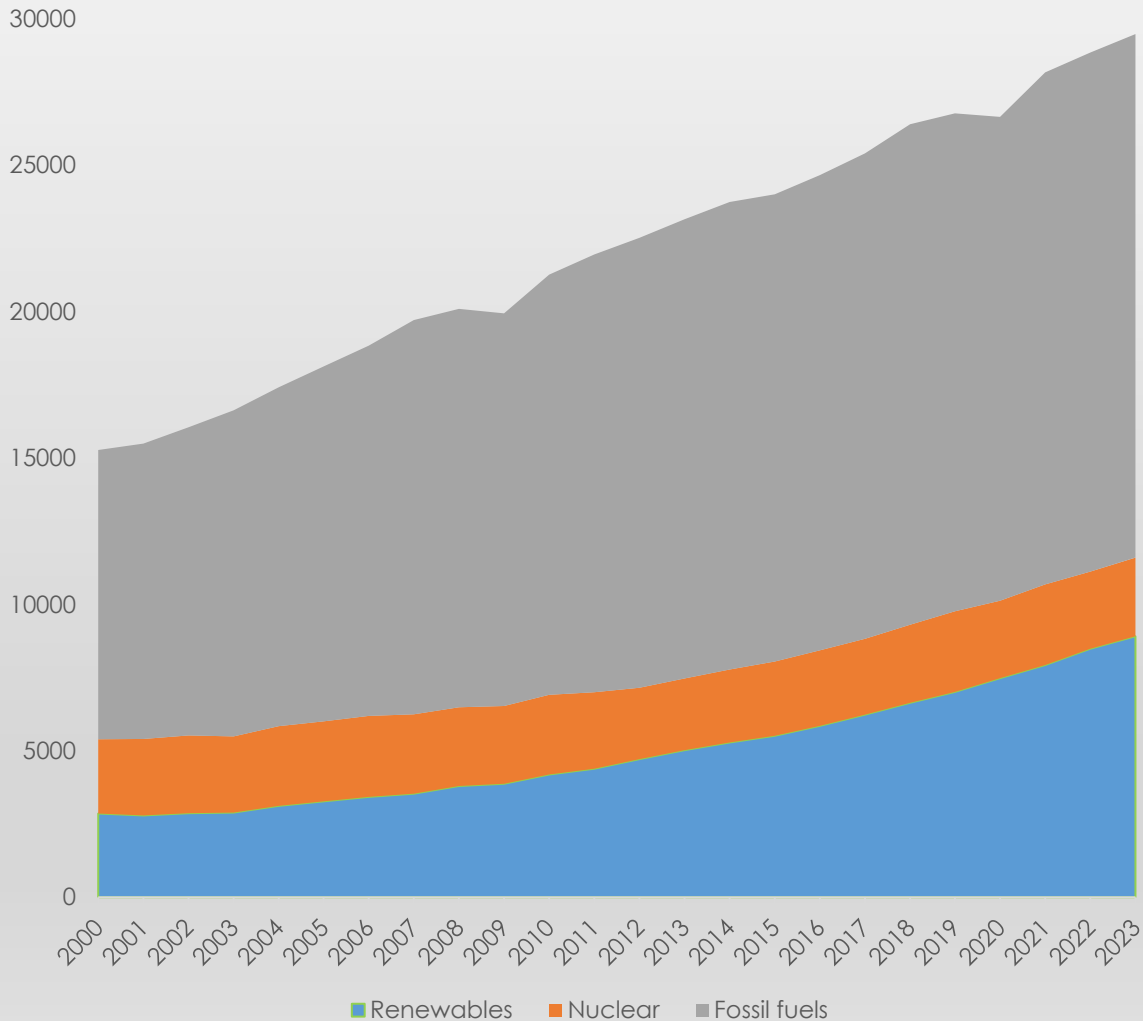
COSTS OF RENEWABLE ENERGY SOURCES HAVE DECREASED DRAMATICALLY (MOSTLY THANKS TO CHINA)

Levelised cost of energy for new generation

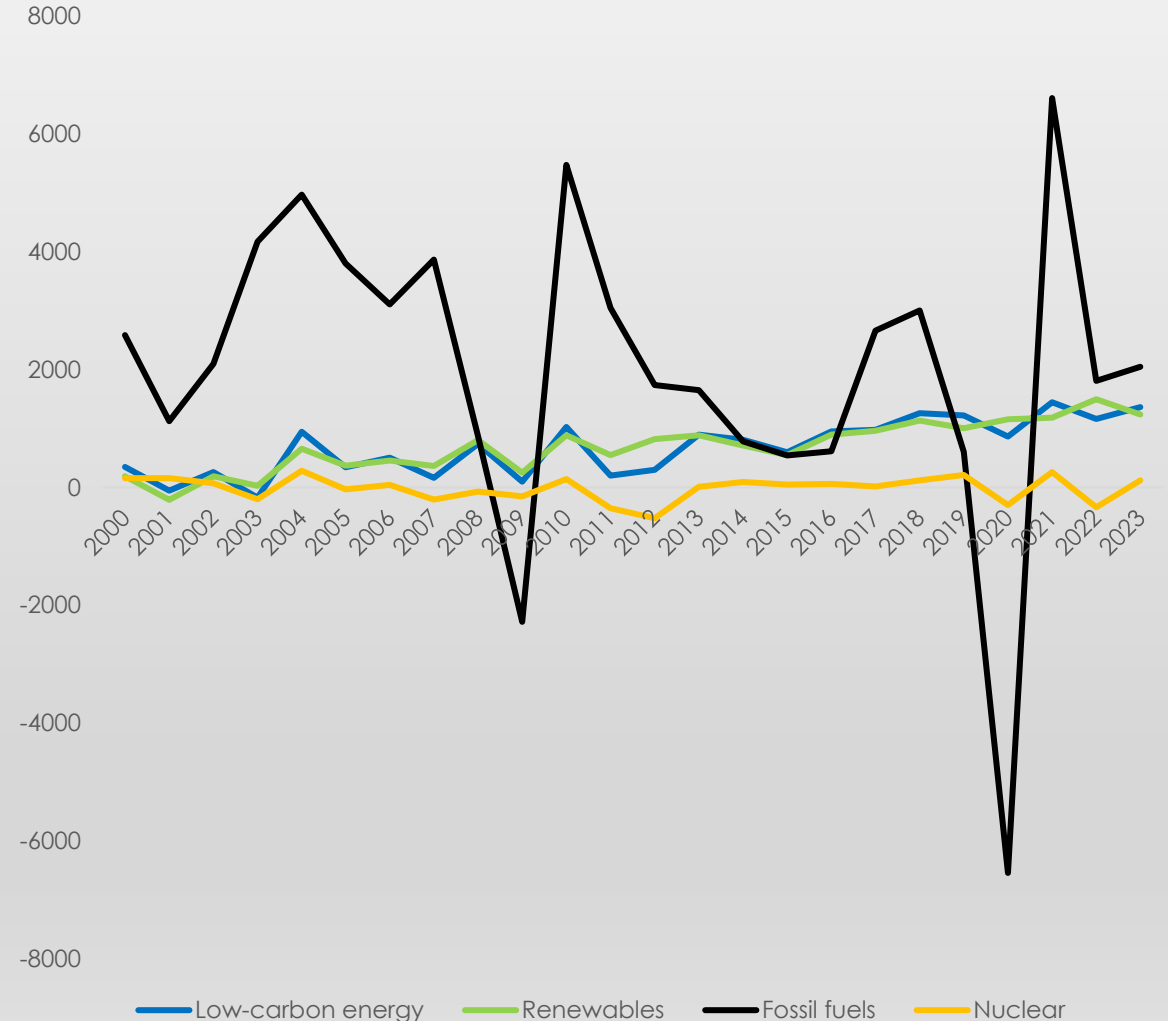


BUT FOSSIL FUEL-BASED ENERGY IS STILL DOMINANT AND INCREASING

Electricity by source,
TWh hours



Change in TWh growth



IT'S NOT ABOUT RELATIVE PRICES, BUT RELATIVE PROFITS (BRETT CHRISTOPHERS)

- Driving force for capitalist investment and production is not output *prices*, but relative *profitability*.
- Electricity is a “fictitious commodity” a la Polanyi – like land, labour and money. It is not inherently amenable to market forces, which creates both economic and social distortions that generate sub-optimal and dysfunctional outcomes.
- So, despite pretense of competitive markets, ALL electricity markets function only because of state interventions of different kinds.
- Renewable energy—even as it becomes cheaper in relation to fossil fuels—involves profits that are both low and volatile, an activity that cannibalizes itself.
- Derisking as strategy has been inadequate (e.g. failure of Mark Carney’s GFANZ).
- Solution is to bring all electricity generation and distribution back under direct public control through investment and strong regulation.
- But this is only ONE part of the solution.

CHANGES REQUIRED IN INTERNATIONAL ECONOMIC ARCHITECTURE

- Use Market Exchange Rates, not Purchasing Power Parity exchange rates, to determine GDP and therefore climate obligations. Bring in role of historical carbon debt and consider shares of future carbon budget accordingly as well as on per capita basis
- Massively increased climate finance based on Global Public Investment principles, NOT as foreign aid. SDRs expansion is one possible route.
- Enable proper taxation of MNC profits and extreme wealth of individuals.
- Regulation and control of private finance that continues to fund brown projects.
- Border carbon taxes are NOT a solution. They are a device for trade protectionism, if principles of compensation and sharing of revenues are not clear and just. A global tax-and-dividend policy requires trust and international cooperation, neither of which currently exists.
- Share new green technologies and making them accessible to all is essential, so IPR regime has to change and TRIPS has to be renegotiated

DEVELOPING COUNTRY CONCERNS WITH MITIGATION STRATEGIES

- Neocolonialism still pervades the global climate strategy and geopolitical tensions pose new constraints.
- Cap-and-trade is not effective in reducing emissions, just transfers location.
- US IRA and EU CBAM have strongly protectionist elements.
- The need for new minerals: resource grab, resource curse and environmental problems of mining (e.g. lithium required for batteries)
- Recycling waste: Most waste from rich countries is exported to the developing world to be recycled, in often hazardous conditions, with adverse environmental implications in receiving countries.
- Private financial markets still incentivised to fund “brown” investments, with no regulation or other disincentives.
- ESG (Environmental, Social, Governance) indicators for private investors just enable greenwashing.
- Need to control carbon emissions of the very rich, through regulations and taxation (moon trips, private jets, etc.)

RECENT REVERSALS IN GREEN ENERGY POLICIES

- Ukraine War impact on European Union consumption and investment choices.
- US (Trump) administration reversal of Biden-era green industrial strategy and associated subsidies, and active promotion and subsidies to fossil fuel investment and production.
- Massive increase in electricity requirements because of servers required for AI and cryptocurrency mining, with adverse ecological implications.
- Insertion of fossil fuel concessions into US trade deals.
- More aggressive stance of “middle power” oil exporters as well.
- Resulting failure of COP30 in Brazil and collapse of plastics treaty and International Maritime Organization plan to tax shipping.
- Greater focus on large-scale capital-intensive projects like carbon capture and green hydrogen (Germany-Namibia investment)

SOME (LIMITED) GOOD NEWS

- Can a progressive multilateralism be revived, while abandoning unjust and counterproductive features of existing processes and legal architecture?
- Advantage of green energy use as technology of the future.
- Potential of regional responses: e.g. African Union push for UN Tax Convention, and now successful vote at the UN for negotiations to start.
- Need for more co-operation across debt-stressed countries, and among LMICs, with issue-based co-ordination of strategies.
- Unilateral actions possible but combined actions more effective, even in limited groups.
- Need to bear in mind domestic inequality, the power of national elites, the rise of authoritarianism and its intertwining with new technologies
- Necessity is the mother of coalitions! (Nancy Folbre)