

World Regions

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OECD vs. Non-OECD

- ▶ OECD: Rich
- ▶ Not OECD: Not Rich (Mid-Income or Poor)

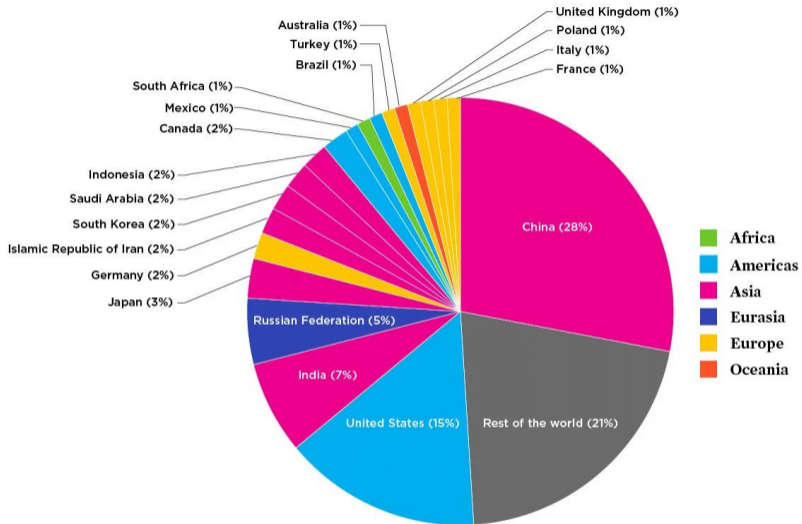
OECD vs. Non-OECD Emissions

- ▶ Emissions no longer primarily OECD / US problem.
- ▶ Most important emitter now China +.
- ▶ Principal emissions *growth* now India and developing world.

If non-OECD countries don't clean up their acts, too, the world will emit a lot more GHGs sooner than later.

Reducing Emissions, 2050e

| Area | Pop | pCpD | Total | Emi |
|-----------------|-----|------|-------|-----|
| OECD | 1.5 | 150 | 80 | 12 |
| USA | 0.4 | 220 | 32 | 5 |
| Non-OECD | 8.2 | 60 | 180 | 31 |
| China | 1.4 | 110 | 60 | 11 |
| India | 1.6 | 60 | 35 | 6 |
| World | 9.7 | 75 | 260 | 43 |



Irrelevant: “Responsibility”

- ▶ There will be no contrition transfers!
- ▶ ... but morbid fun.
- ▶ See next pages for cumulative “responsibility”

Current Emissions “Responsibility”

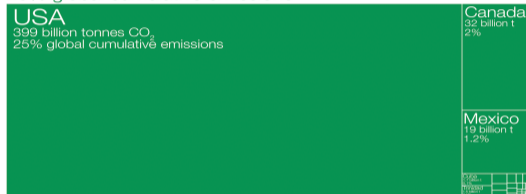
Who has contributed most to global CO₂ emissions?

Our World
in Data

Cumulative carbon dioxide (CO₂) emissions over the period from 1751 to 2017. Figures are based on production-based emissions which measure CO₂ produced domestically from fossil fuel combustion and cement, and do not correct for emissions embedded in trade (i.e. consumption-based). Emissions from international travel are not included.

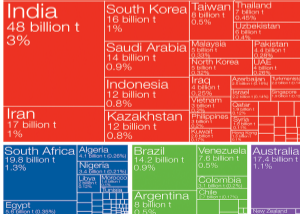
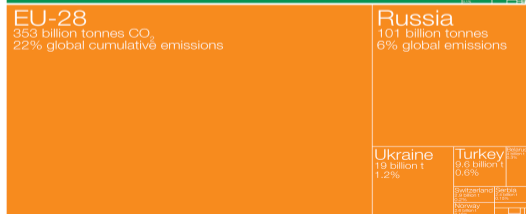
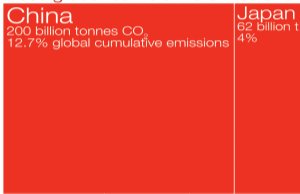
North America

457 billion tonnes CO₂
29% global cumulative emissions



Asia

457 billion tonnes CO₂
29% global cumulative emissions



Europe
514 billion tonnes CO₂
33% global cumulative emissions

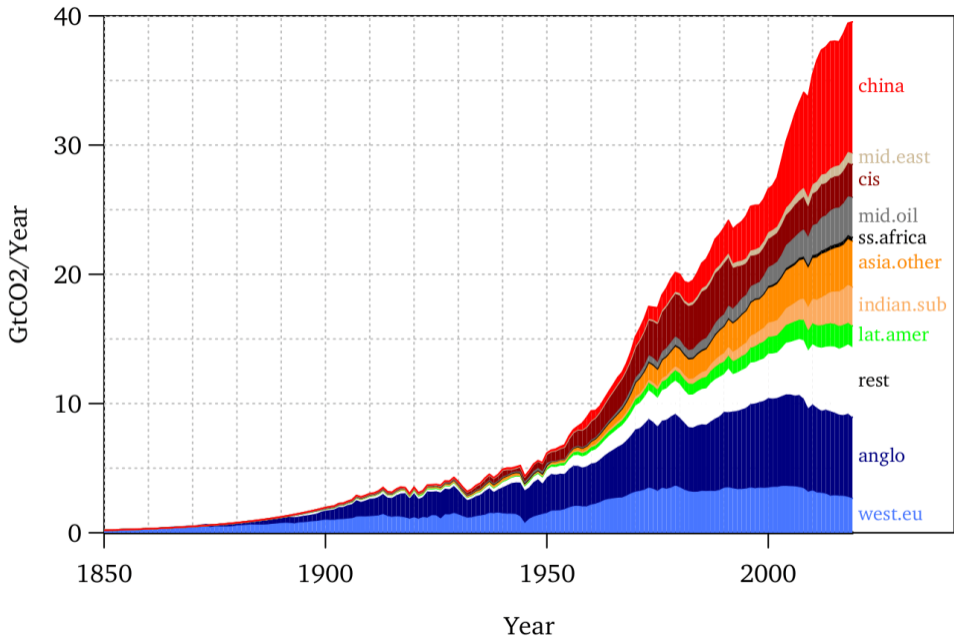
Africa
43 billion tonnes CO₂
3% global emissions

South America
40 billion tonnes CO₂
3% global emissions

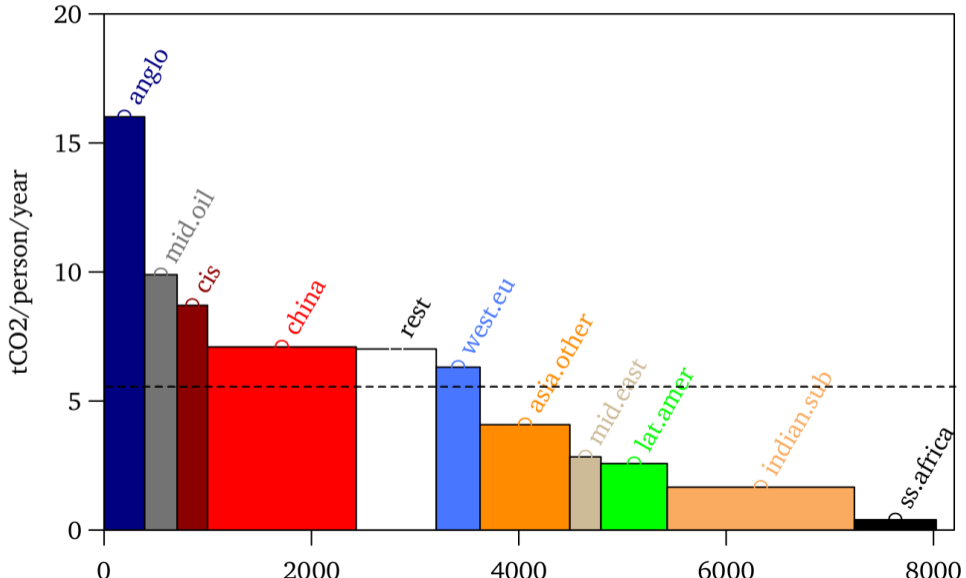
Oceania
20 billion tonnes CO₂
1.2% global emissions

(Linked Bar Chart Race)

Linked Bar Chart Race



Per Person Per Year, Areas



Poorer Countries' Aspirations

- ▶ Lower or higher emissions?
- ▶ Where will poor countries *want* to go?
- ▶ Where will poor countries go?

- ▶ Does it matter what you think?
- ▶ Does it matter whether Biden likes it?
- ▶ Does it matter whether the EU or UN likes it?



Perspective: California / SoCal / LA / UCLA

- ▶ California = largest US state (1/2 Germany)
 - ▶ 10t/psn x 40 m = 0.4 GtCO₂
 - ▶ 8 of 1000 pebbles
- ▶ SoCal (Los Angeles Metro Area, 12m)
 - ▶ 1/3 of California
 - ▶ 3 of 1000 pebbles
- ▶ Los Angeles City (4m)
 - ▶ 1/3 of SoCal
 - ▶ 1 of 1000 pebbles

- ▶ UCLA (50,000)
 - ▶ 1/100 of 1 pebble
- ▶ Anderson (3,000)
 - ▶ 1/1000 of 1 pebble.
 - ▶ Salt crystal anyone?
- ▶ You?