



Global Perspectives on Energy

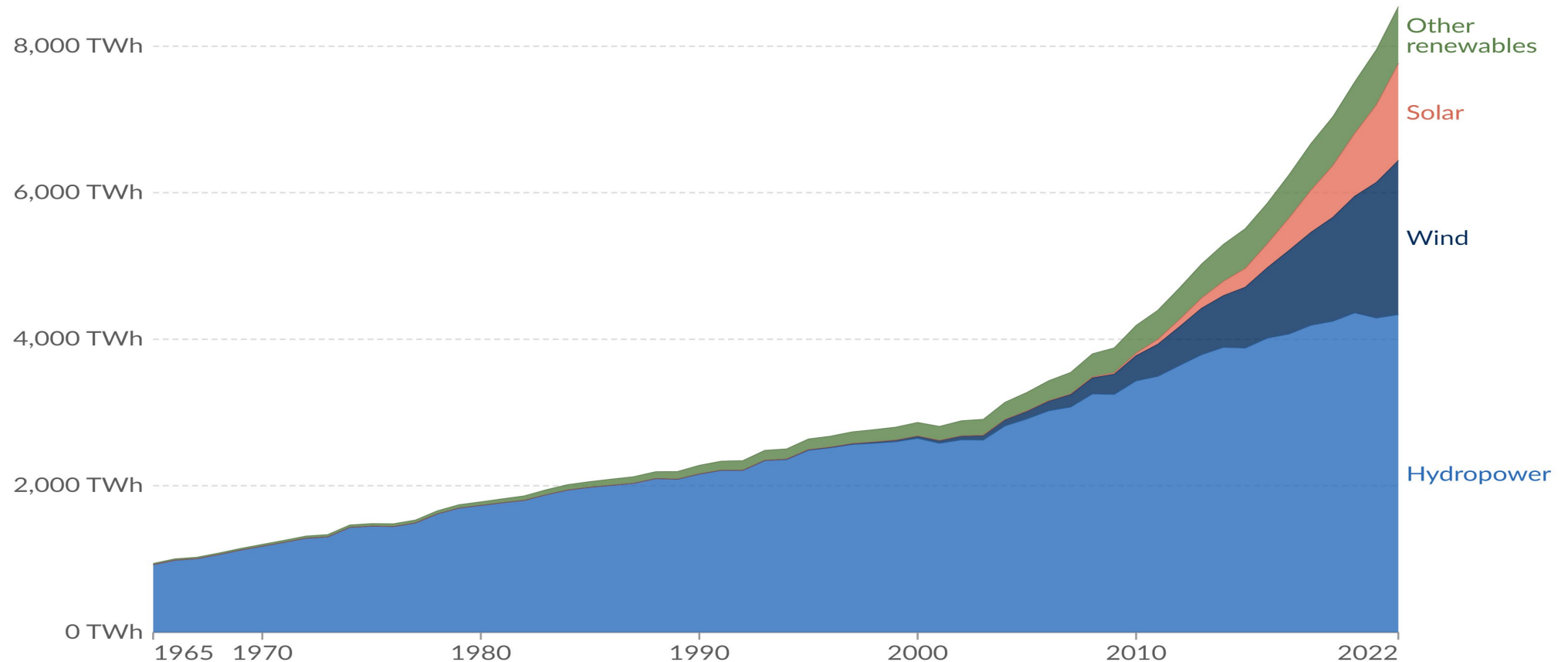
Envirothon Key Topic #4

February 17th 2024

World - Renewable Electricity Generation

Renewable electricity generation, World

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Data source: Energy Institute - Statistical Review of World Energy (2023)

OurWorldInData.org/renewable-energy | CC BY

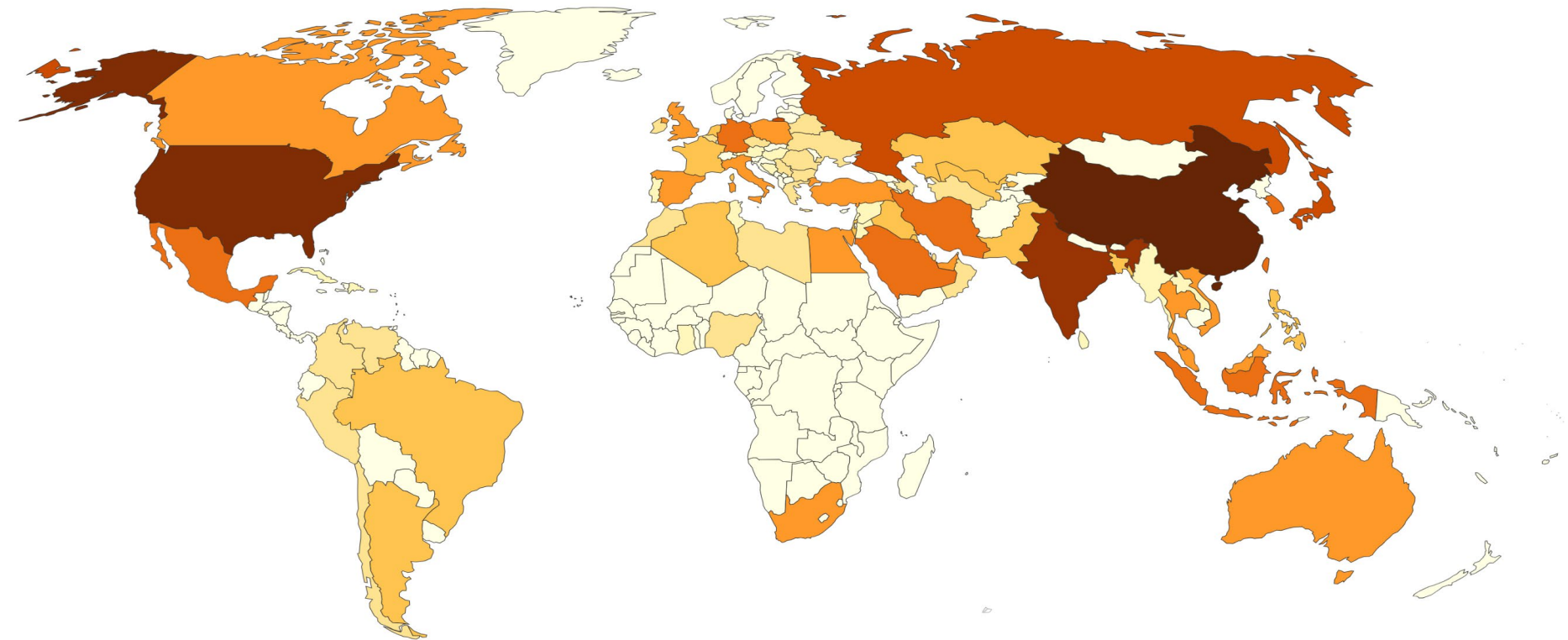
Note: 'Other renewables' refers to renewable sources including geothermal, biomass, waste, wave and tidal. Traditional biomass is not included.

World – Fossil Fuel Electricity Generation

Electricity generation from fossil fuels, 2022

Electricity generation from coal, oil and gas sources combined, measured in terawatt-hours¹.

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The World's Energy Problem – GHG Emissions

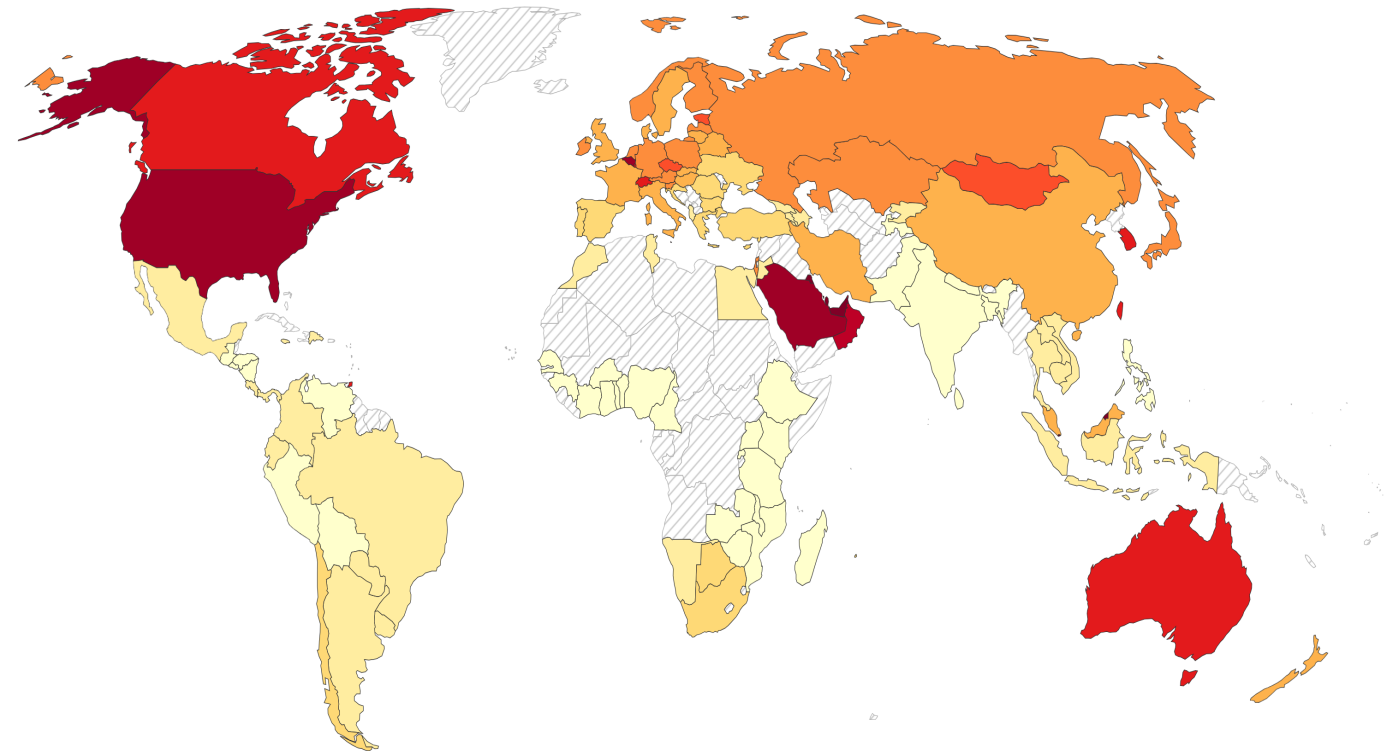
❖ Greenhouse Gas Emissions

- Gases in the earth's atmosphere that trap heat.
- Resulting in global warming and climate change.
 - Carbon Dioxide
 - Methane
 - Nitrous Oxide
 - Chlorofluorocarbons

Consumption-based CO₂ emissions per capita vs. GDP per capita, 2021

Consumption-based emissions¹ are measured in tonnes per person. They are territorial emissions minus emissions embedded in exports, plus emissions embedded in imports. GDP per capita is adjusted for price differences between countries (PPP) and over time (inflation).

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The World's Energy Problem – Energy Access

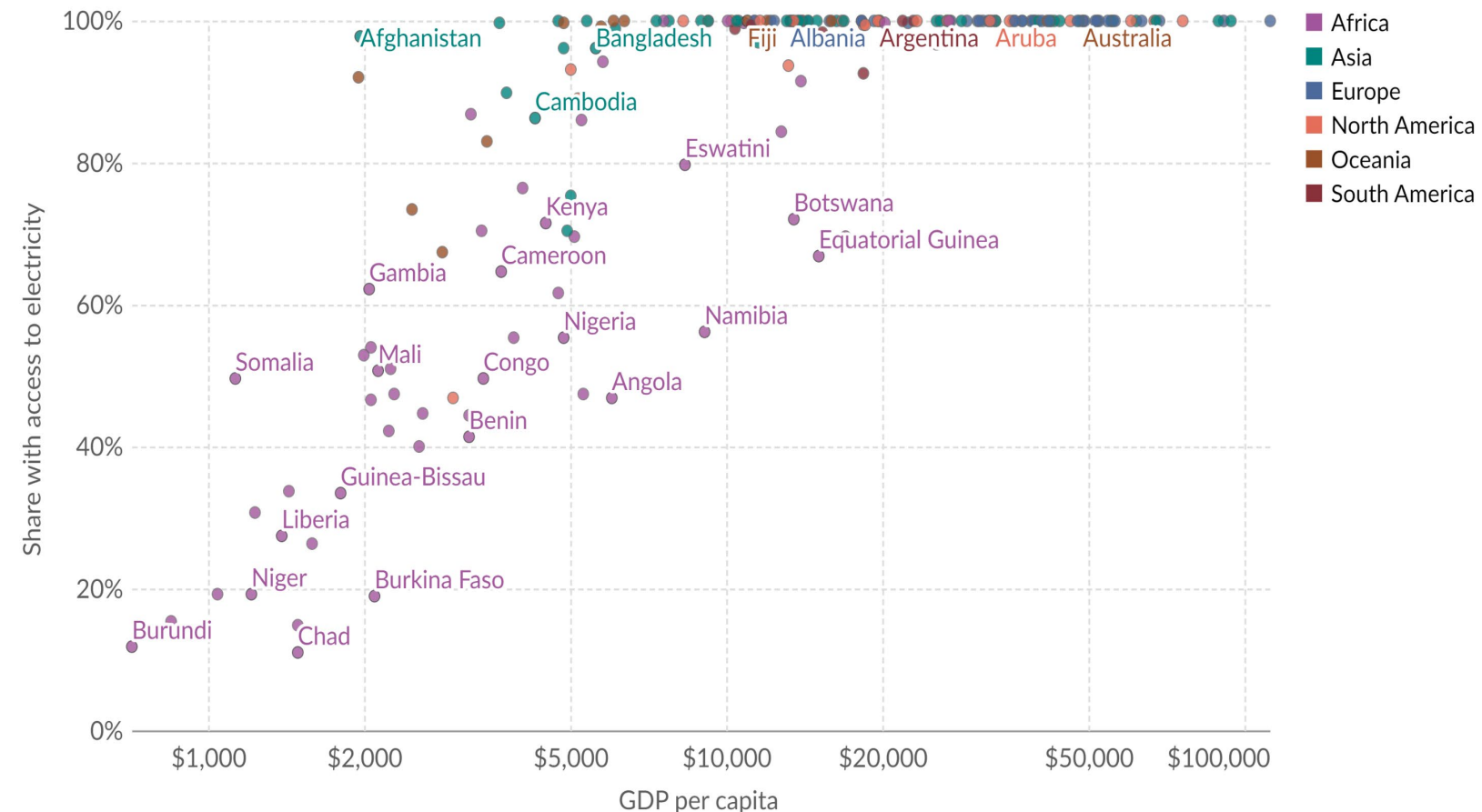
❖ Energy Access

- having an electricity source that can provide the very basics
 - Lighting
 - Charge a phone
 - Power a radio for 4 hours per day

Access to electricity vs. GDP per capita, 2020

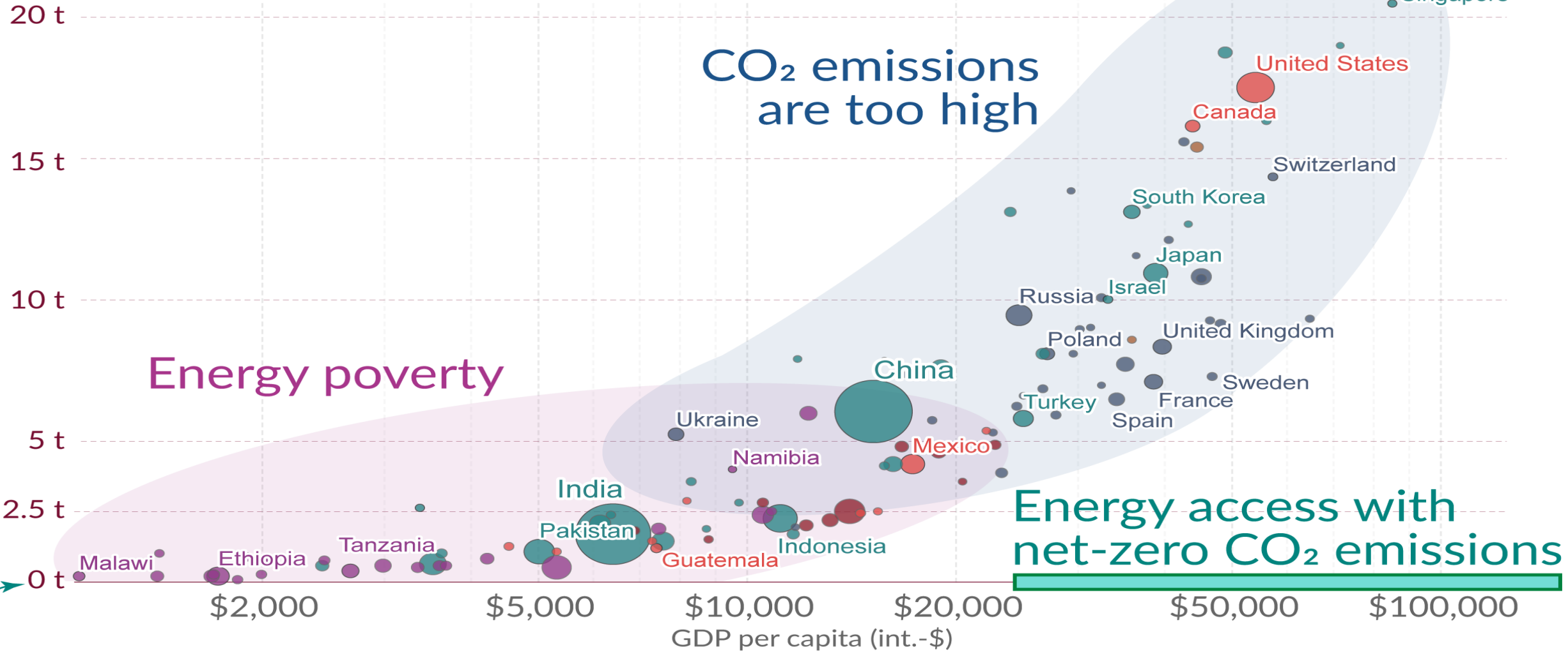
Having access to electricity is defined in international statistics as having an electricity source that can provide very basic lighting, and charge a phone or power a radio for 4 hours per day. GDP per capita is adjusted for inflation and differences in the cost of living between countries.

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CO₂ emissions per capita vs GDP per capita

Per capita consumption-based CO₂ emissions



To end climate change the long-run goal is that net-emissions decline to zero.
Bringing emissions down to 2.4 tonnes per person would mean we have halved emissions from their current level (4.8t), a big milestone.

Data: Global Carbon Project, UN Population, and World Bank.

Questions ?

