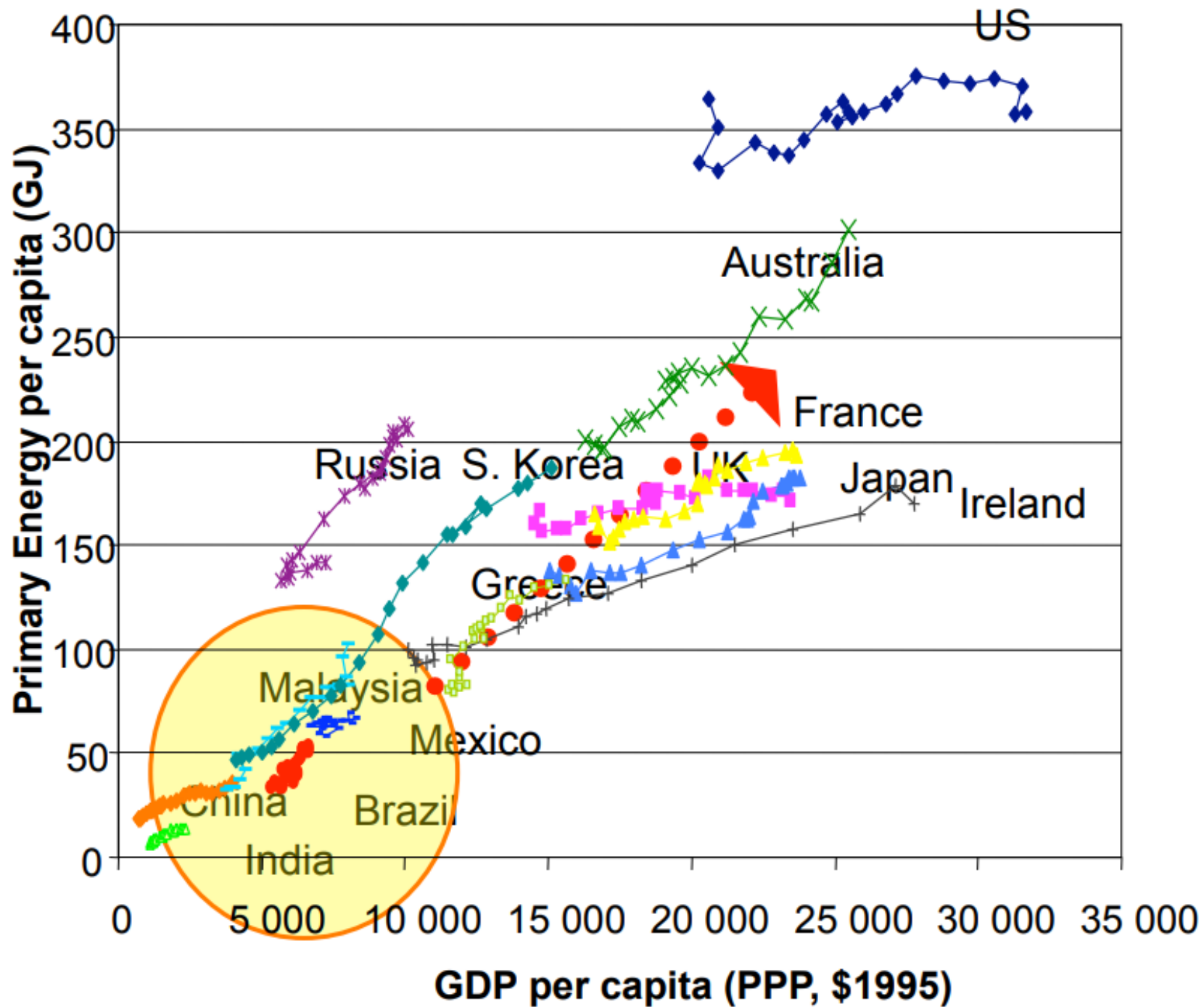


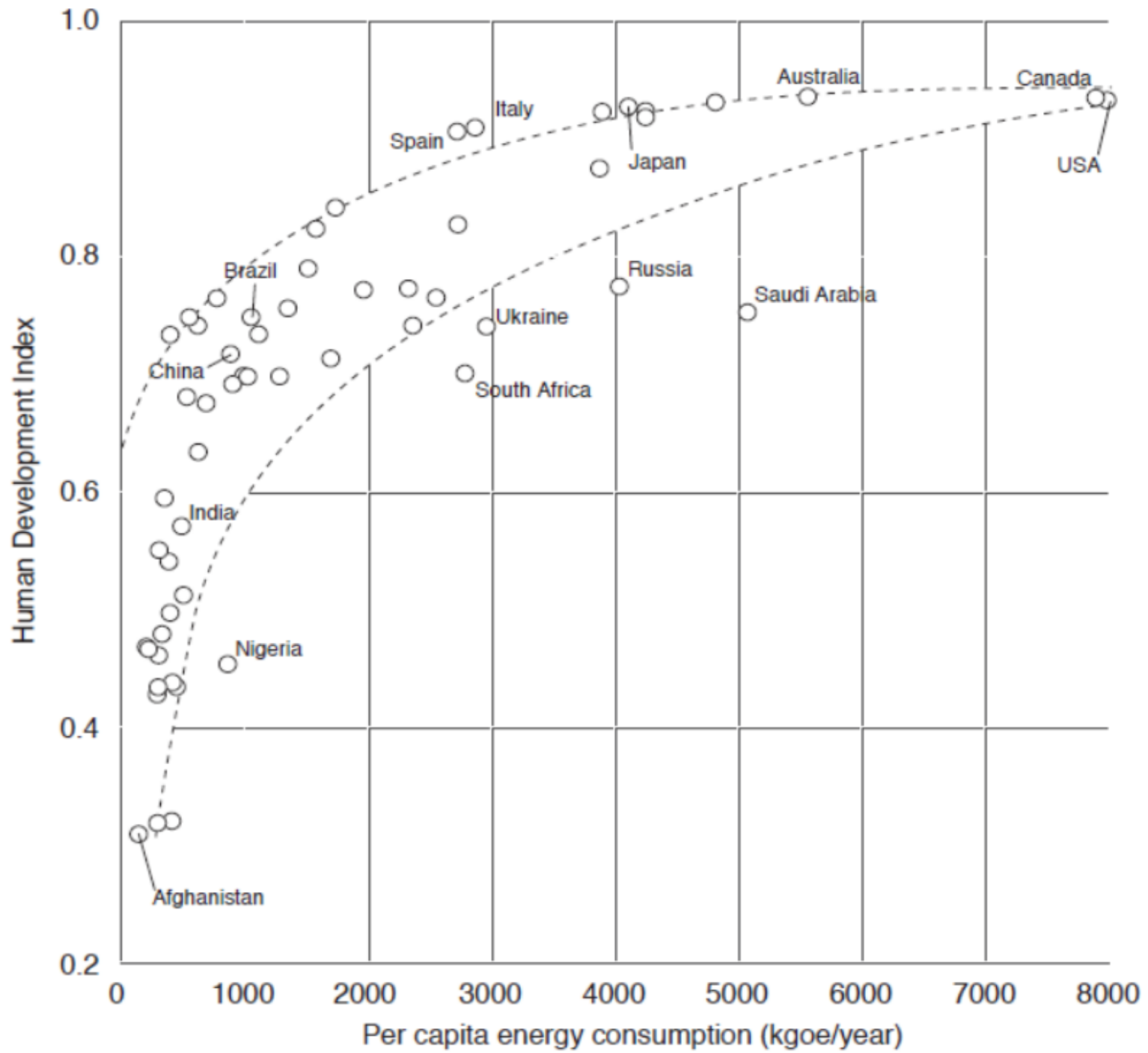
Energy poverty

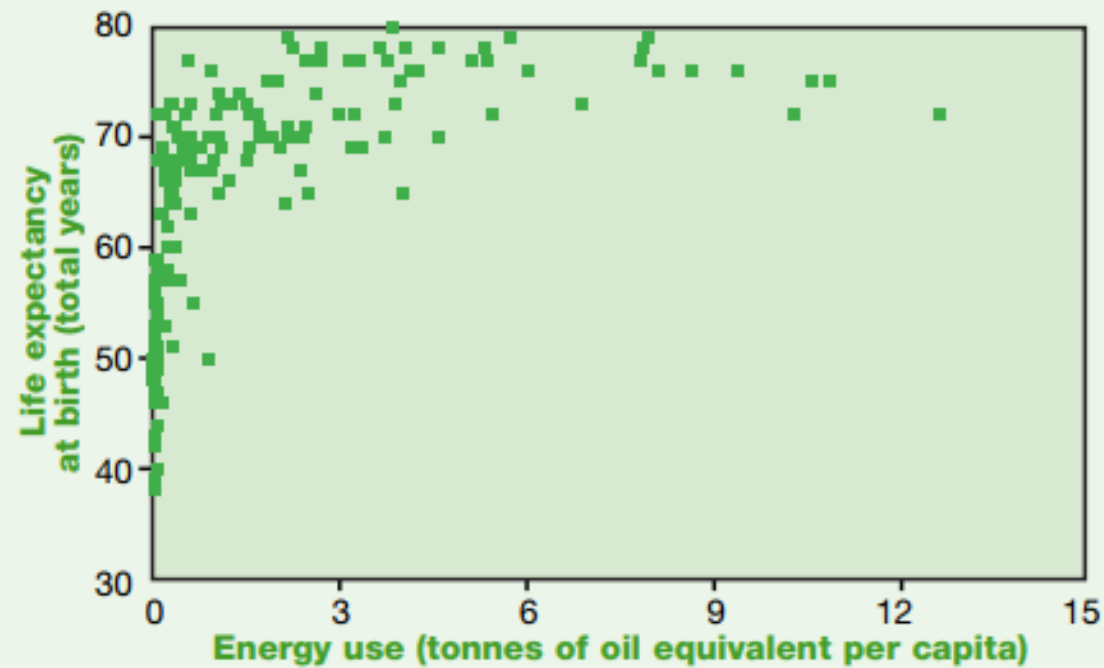
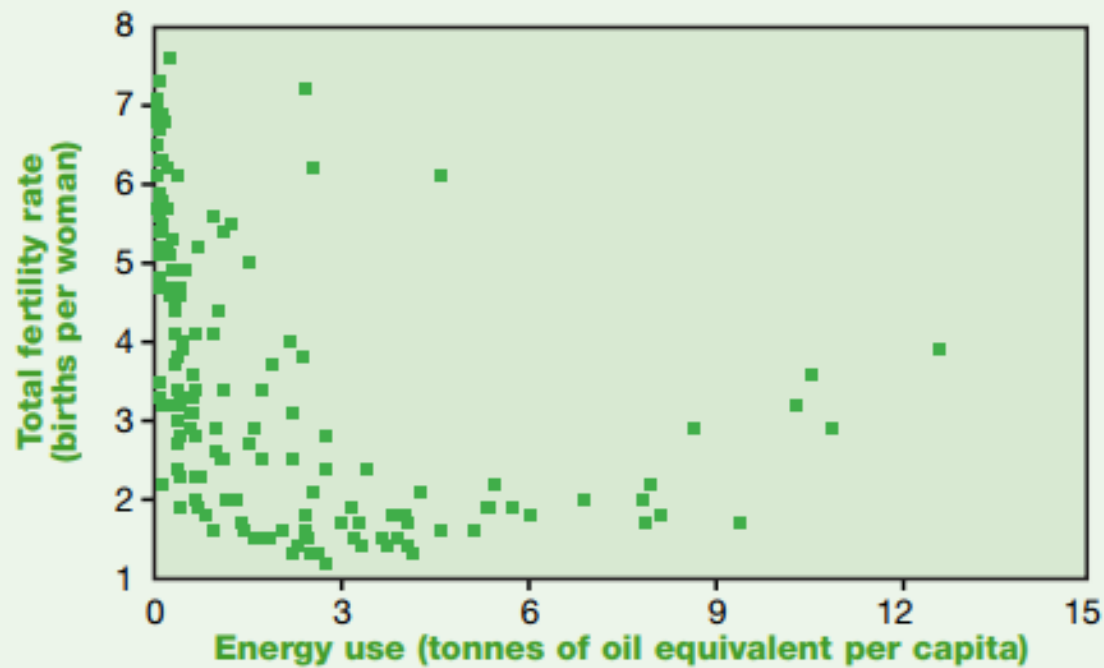
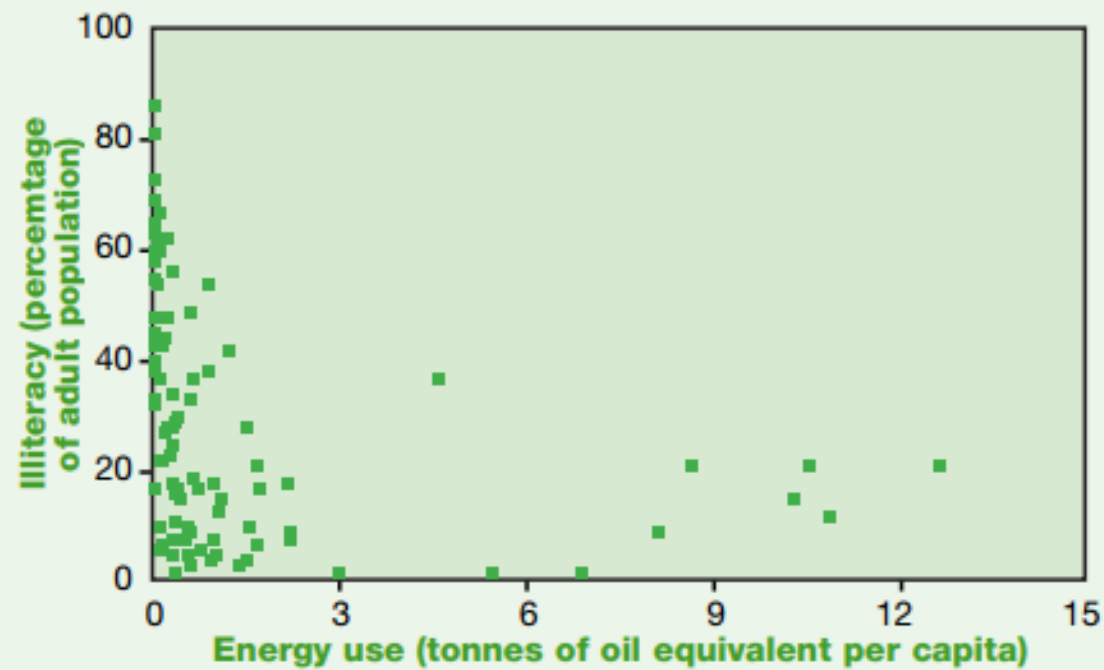
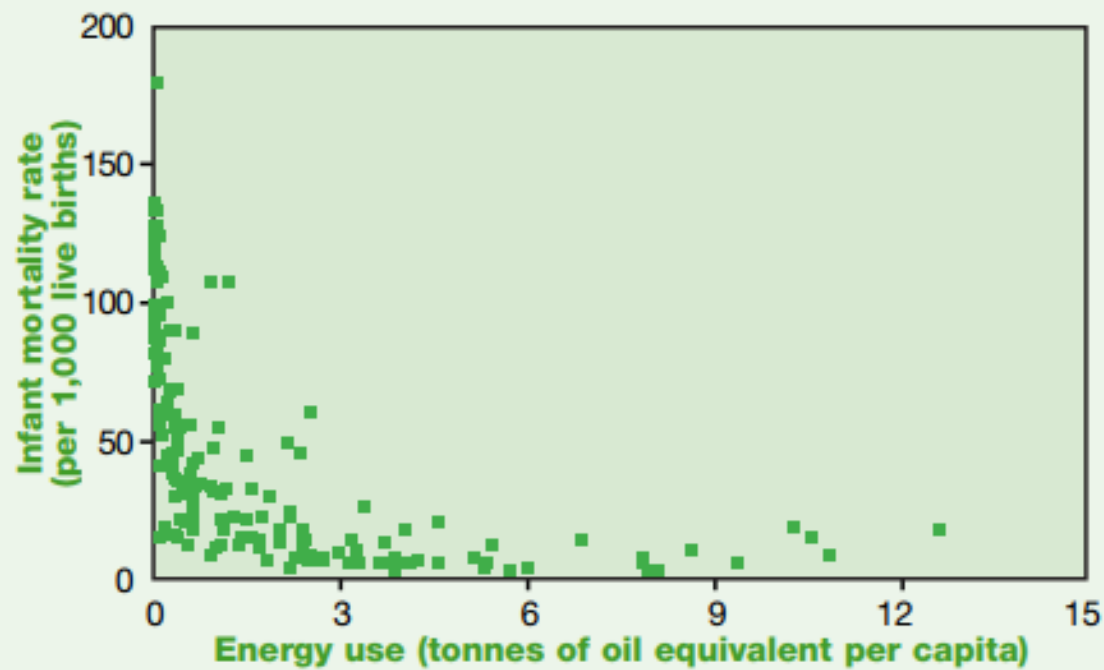
Jan Osička

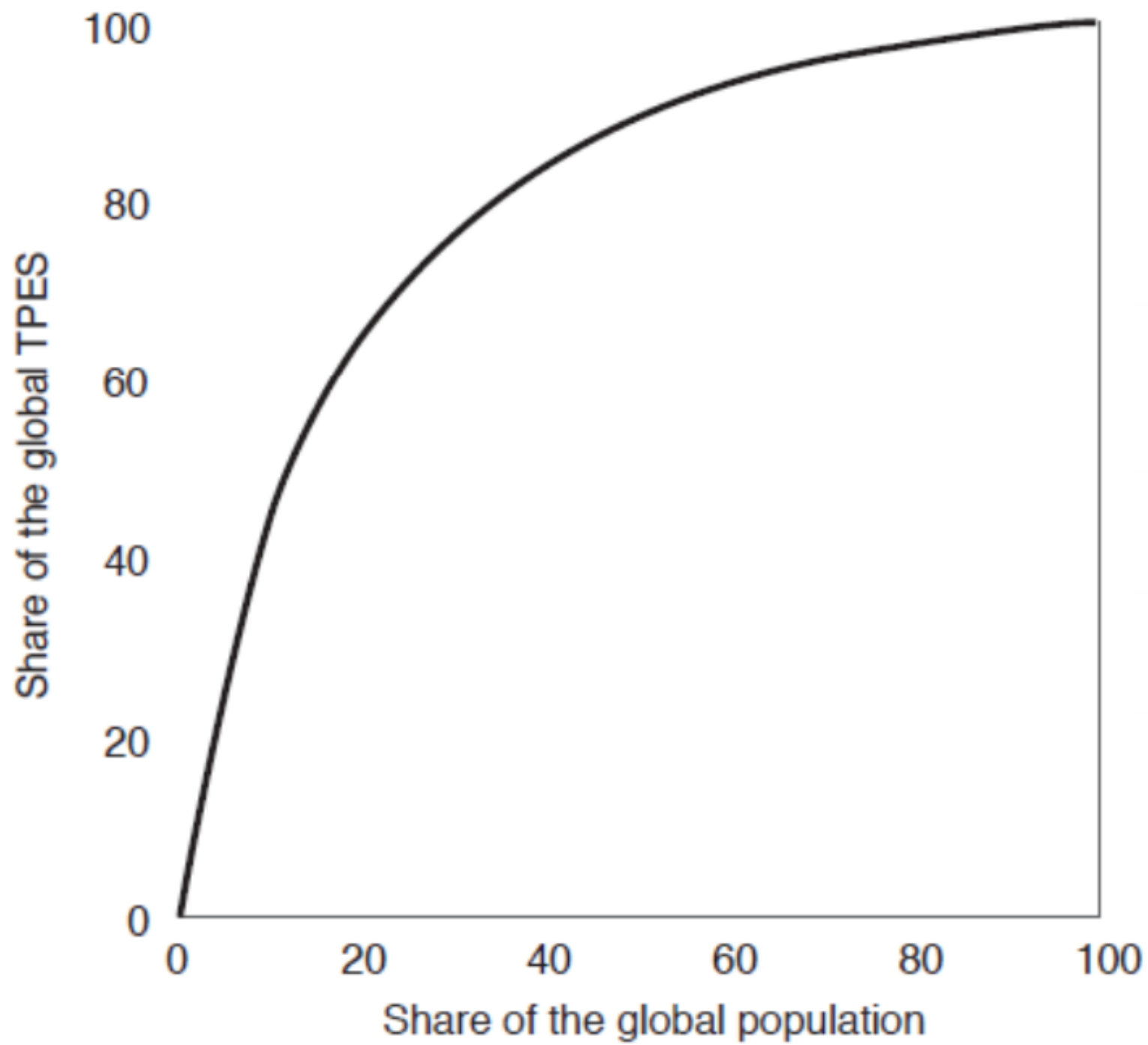
Lecture outline

- Energy, development, inequality
- Energy poverty in energy-unintensive countries
- Energy poverty in energy-intensive countries









Energy poverty in energy-unintensive countries/regions



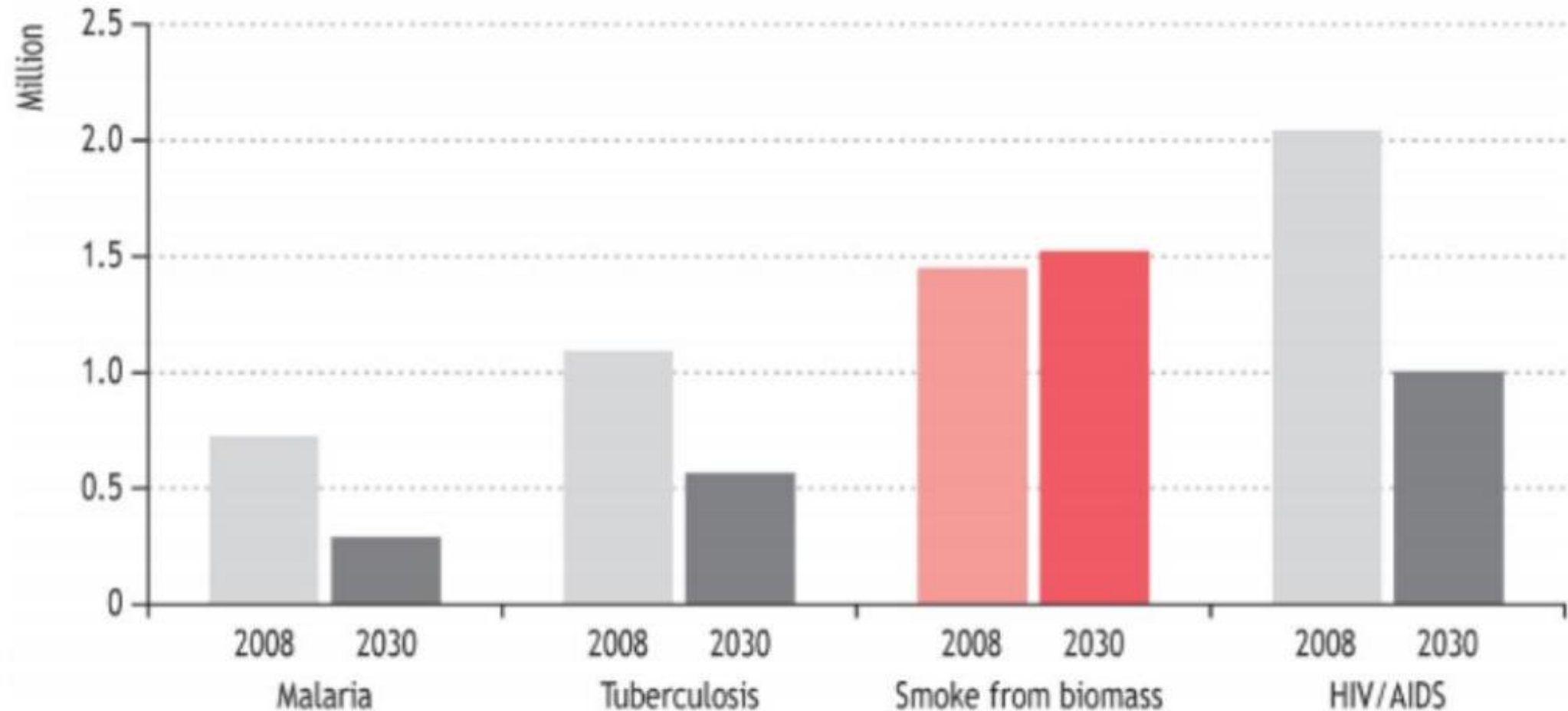
Energy poverty in energy-unintensive countries/regions

Reliance on biomass

- Indoor air pollution
- Time and effort in collecting biomass
- Unsustainable harvesting practices



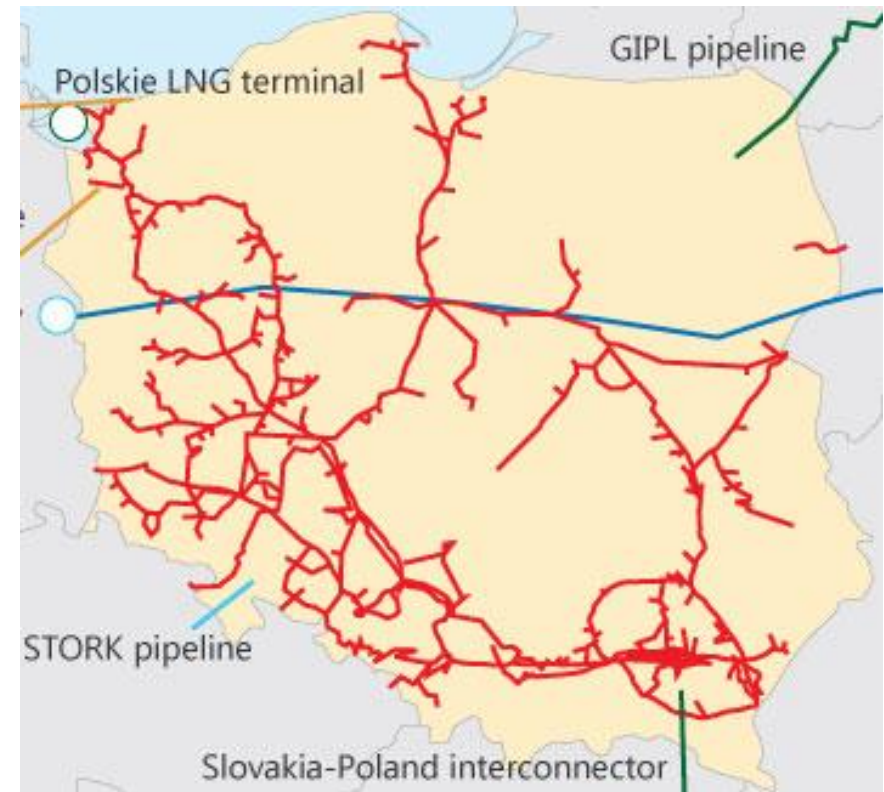
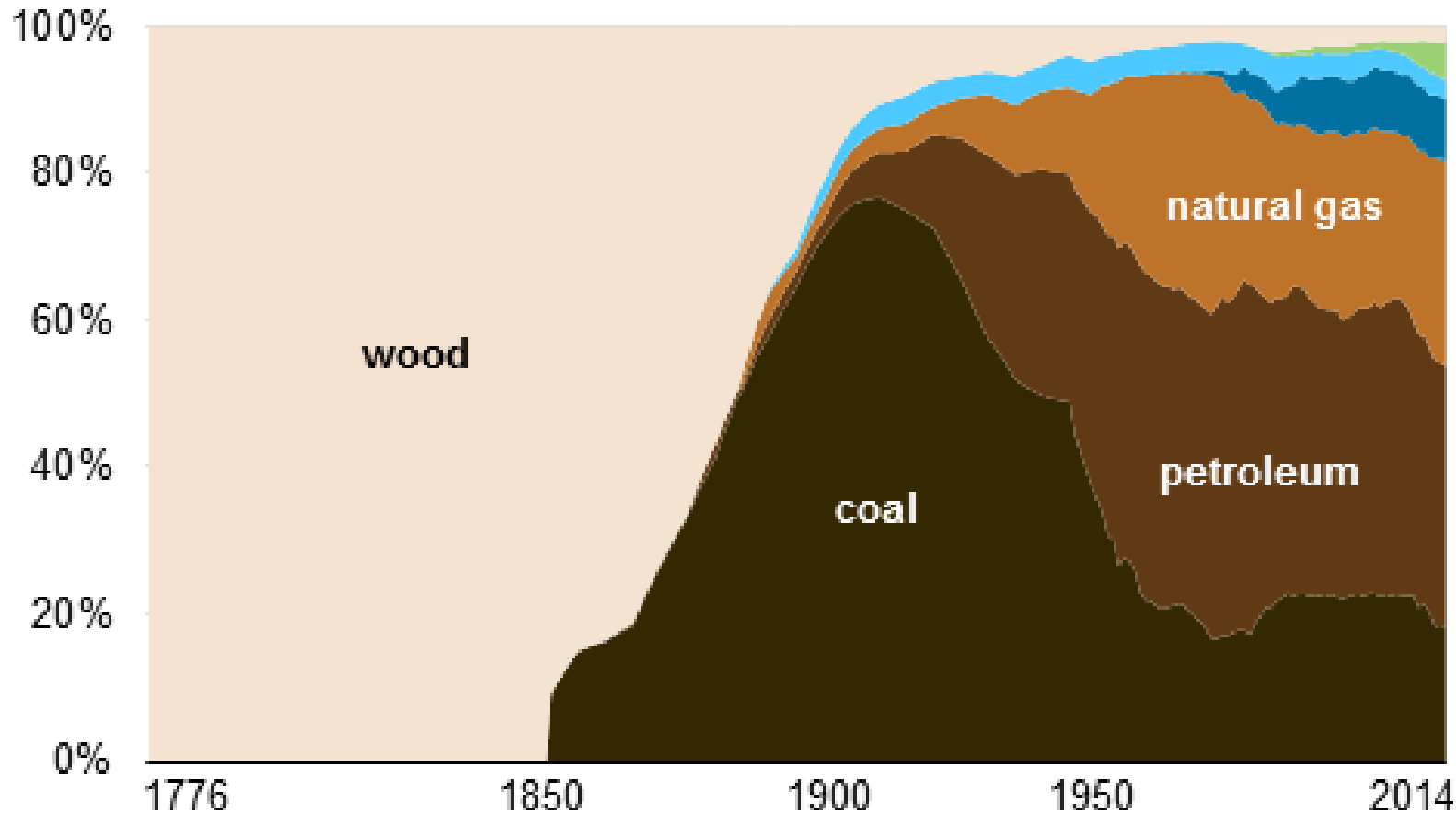
Premature annual deaths from household air pollution and other diseases

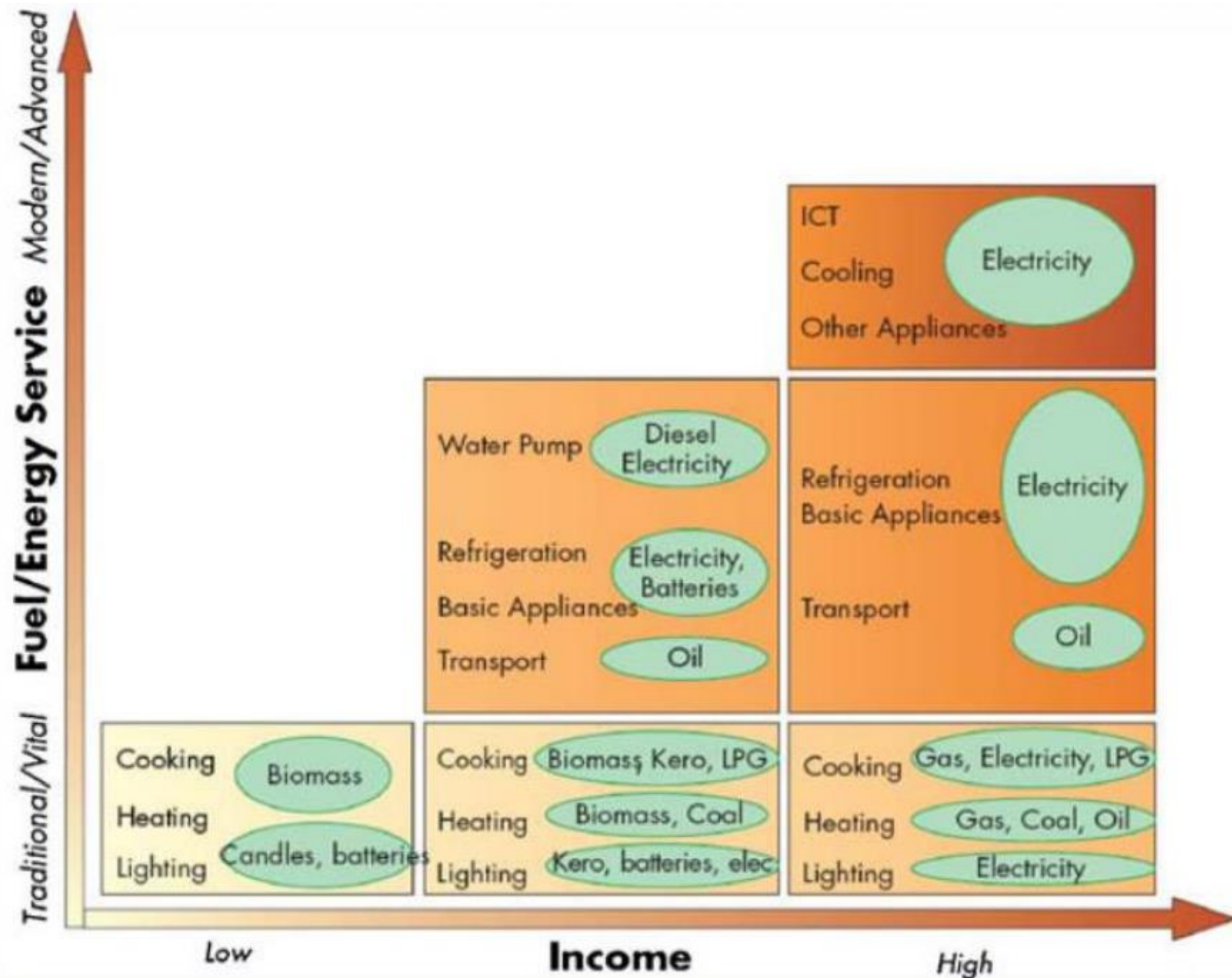


Sources: Mathers and Loncar (2006); WHO (2008); Smith *et al.*, (2004); WHO (2004) and IEA analysis.

Fuel reliance

Share of energy consumption in the United States (1776-2014)





Energy poverty in energy-unintensive countries/regions

Energy poverty alleviation pathway: breaking the missing return on investment problem

- Scattered and small demand for energy
- Low purchasing power

=> A need for micro-solutions?

Energy poverty in energy-intensive countries

- Recognized and reflected only recently

(see for example https://ec.europa.eu/energy/sites/ener/files/documents/INSIGHT_E_Energy%20Poverty%20-%20Main%20Report_FINAL.pdf)

- More pronounced after market liberalization
 - Liberalization brings the market price down
 - But limits the government's ability to help those who cannot afford it nonetheless

Equity and redistribution

- Should energy be subsidized?
- If yes, what and how?

Subsidized energy prices

- Alleviate (energy) poverty
- Foster purchasing power and consumer demand

- Burden state treasury (gas subsidies in Ukraine: as much as 5.6% of GDP)
- Encourage overconsumption (Gulf states)
- Challenge competitiveness of energy suppliers (Bulgaria)
- Leak to unintended groups (Poland)

The social sustainability – environmental sustainability nexus

Should the following measures/technologies be subsidized?

- Thermal efficiency of buildings
- Large scale renewable energy production sites
- Decentralized renewable energy sources
- Electric cars