

Dilemmas related to transforming the ways we use energy

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and

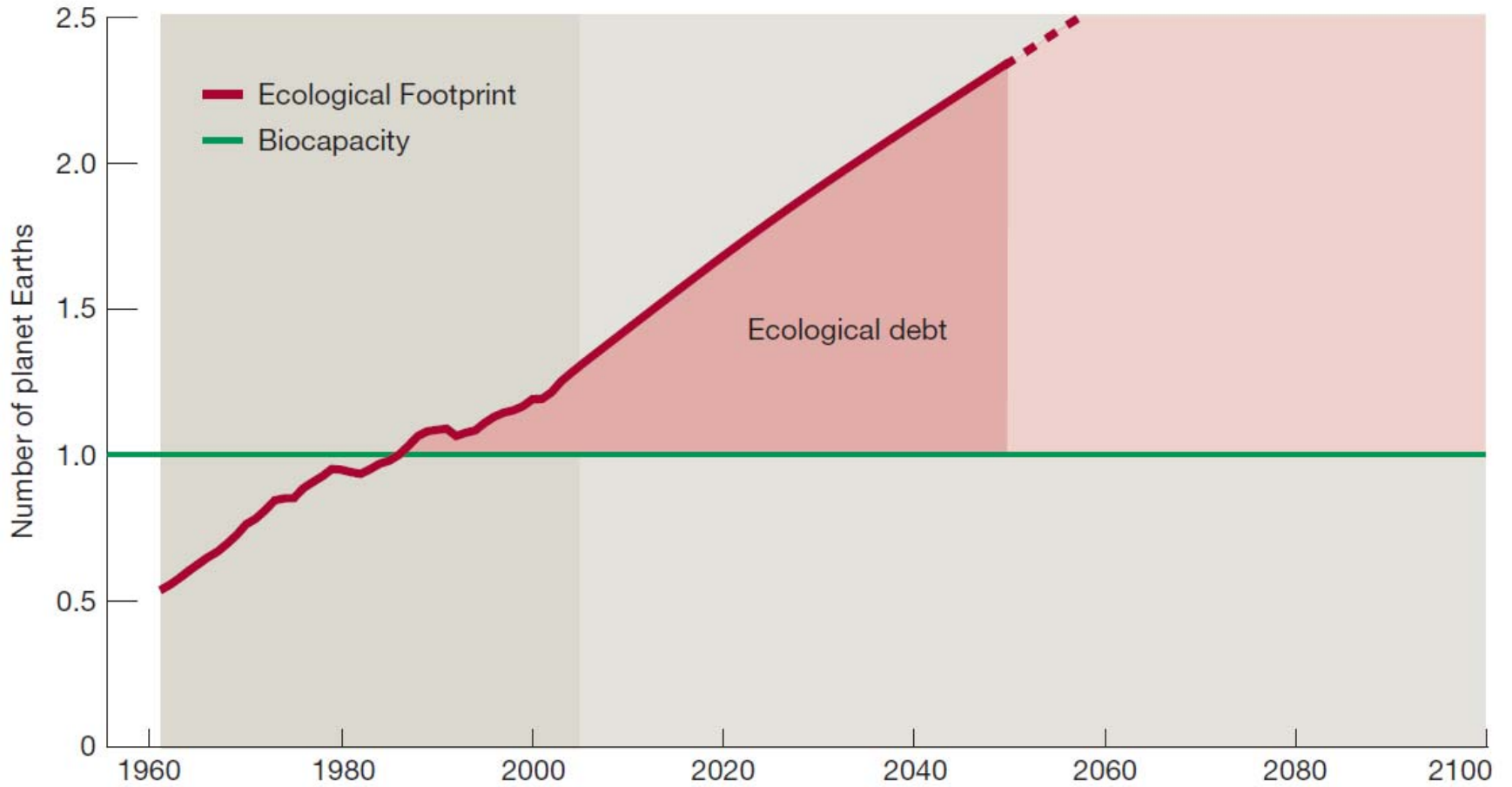
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Unica Green Academic Footprint

3-4 May, Un. of Oslo

Source: WWF

Fig. 31: **BUSINESS-AS-USUAL SCENARIO AND ECOLOGICAL DEBT**

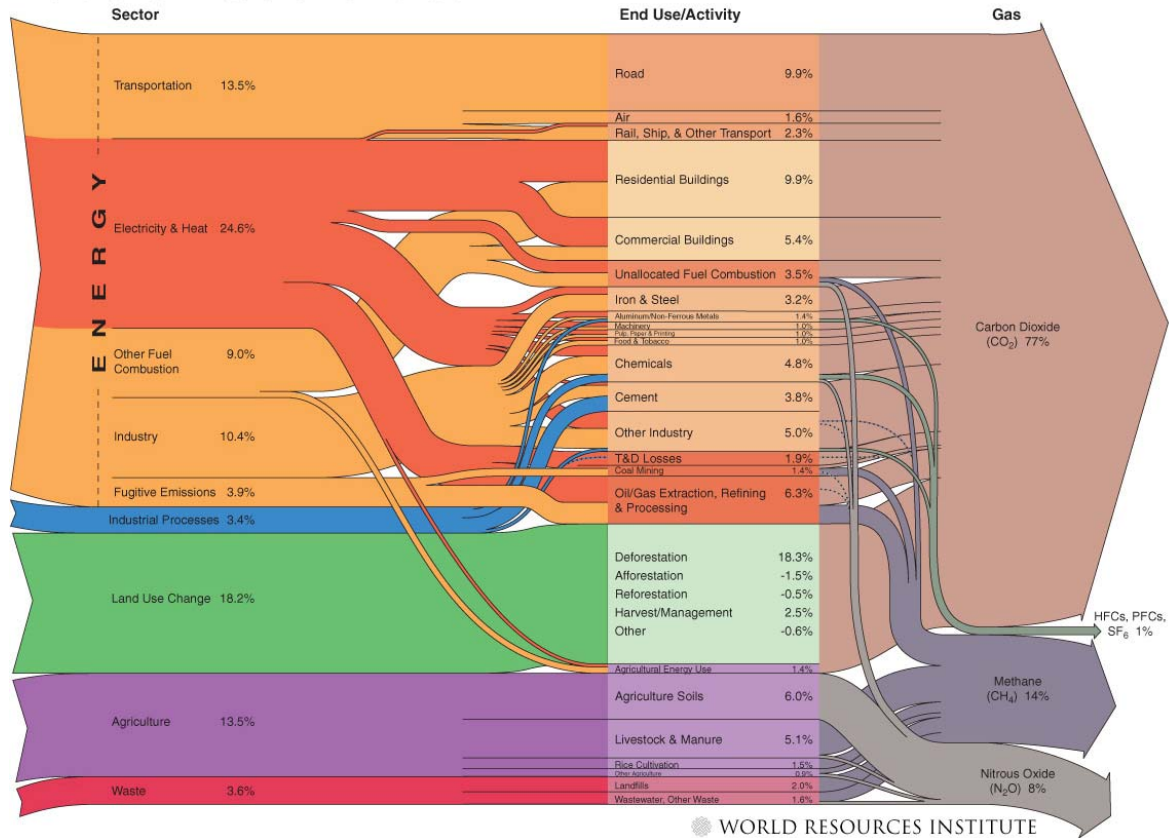




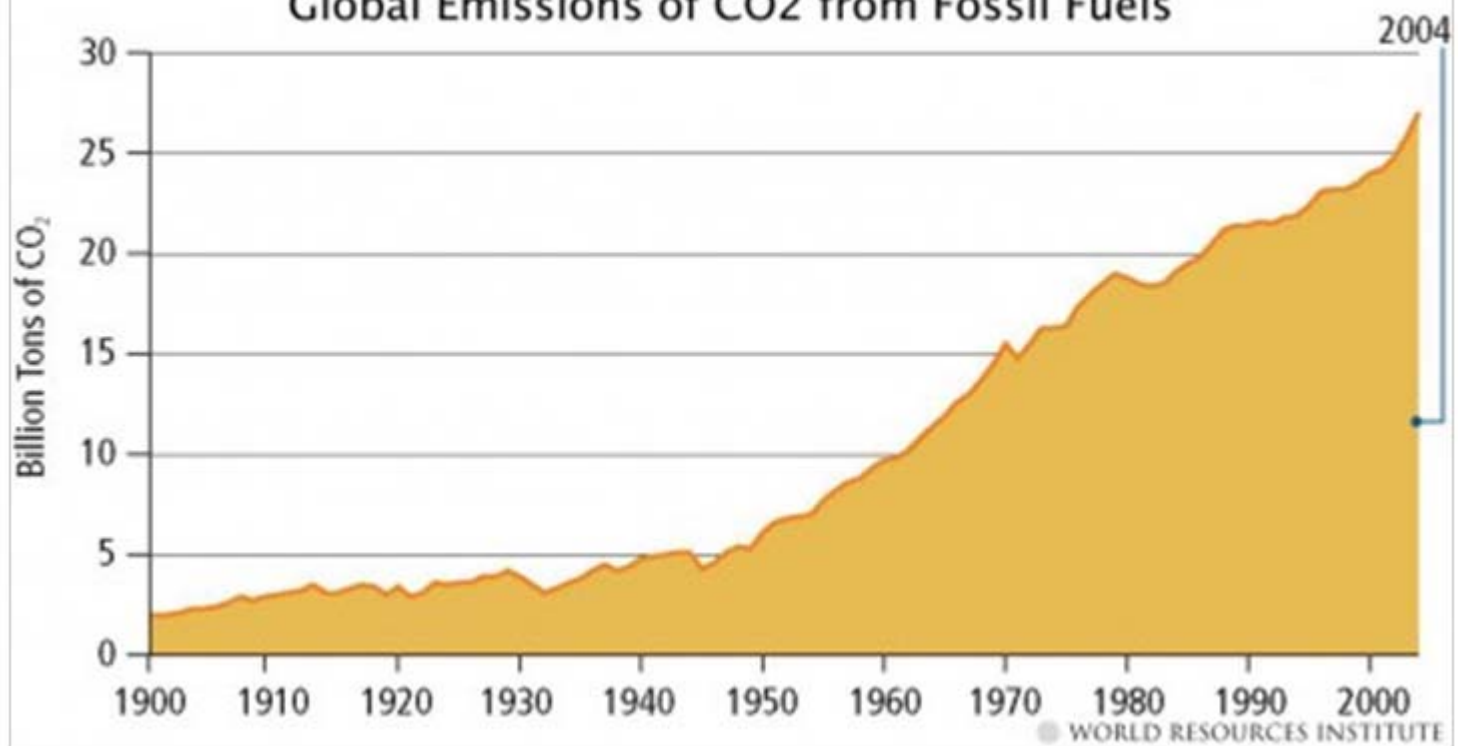
The energy dilemma

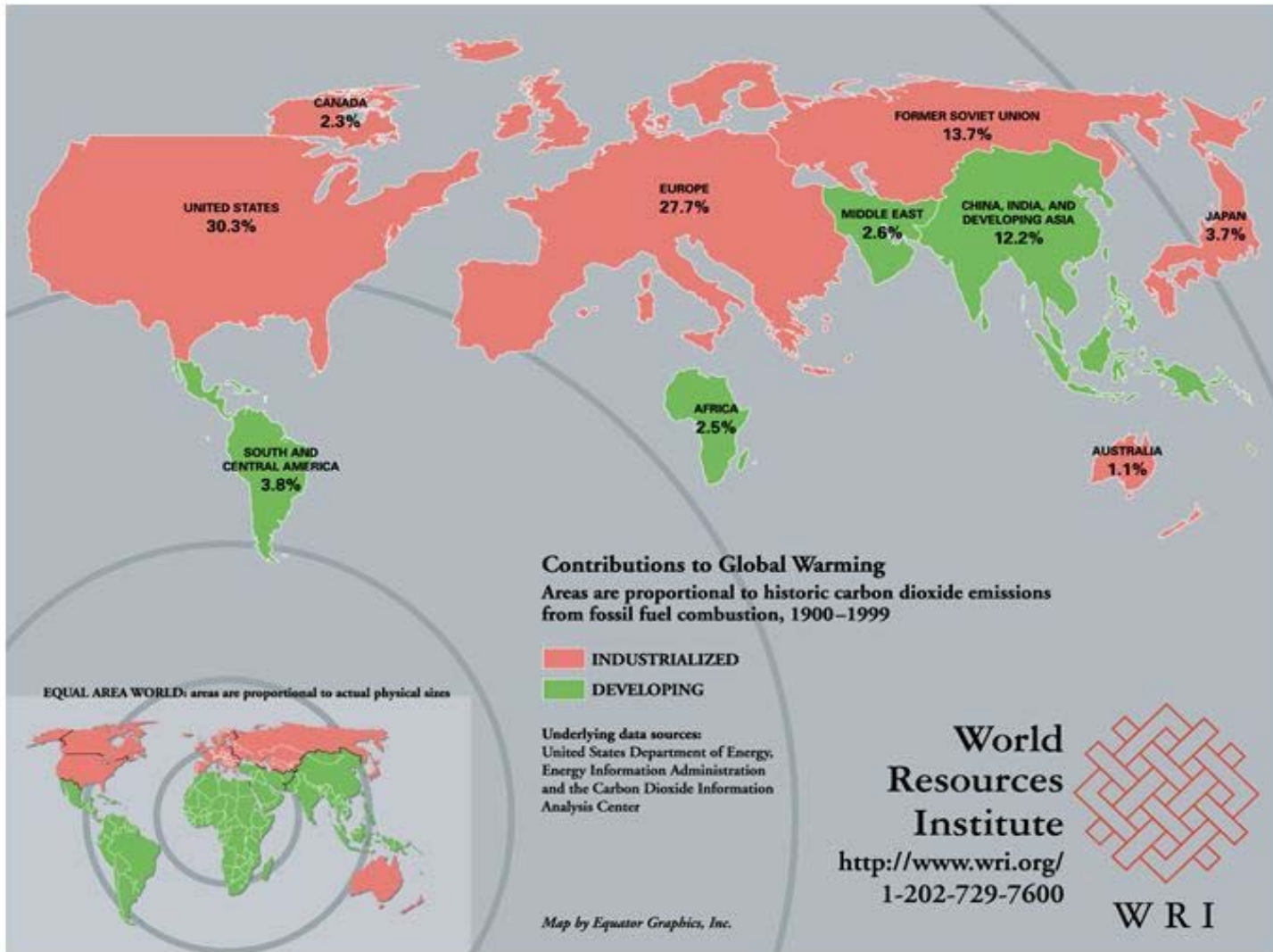
- Essential to development
- Finite resources
- Every form for energy use has environmental consequences
- Contribution to climate change

World GHG Emissions Flow Chart



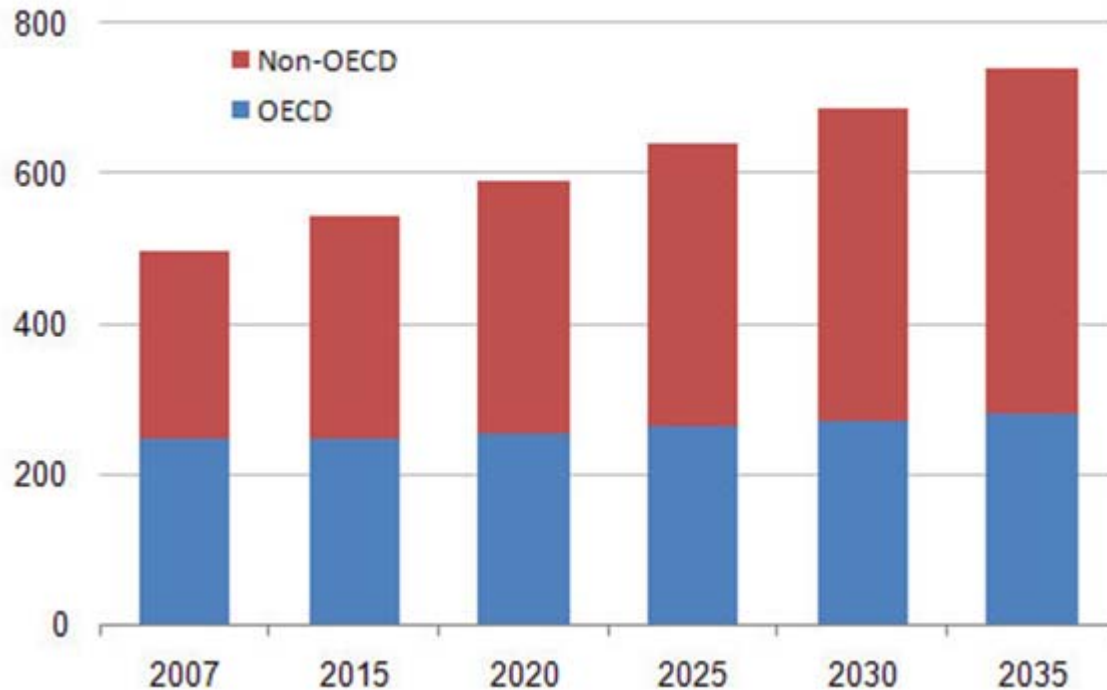
Global Emissions of CO₂ from Fossil Fuels



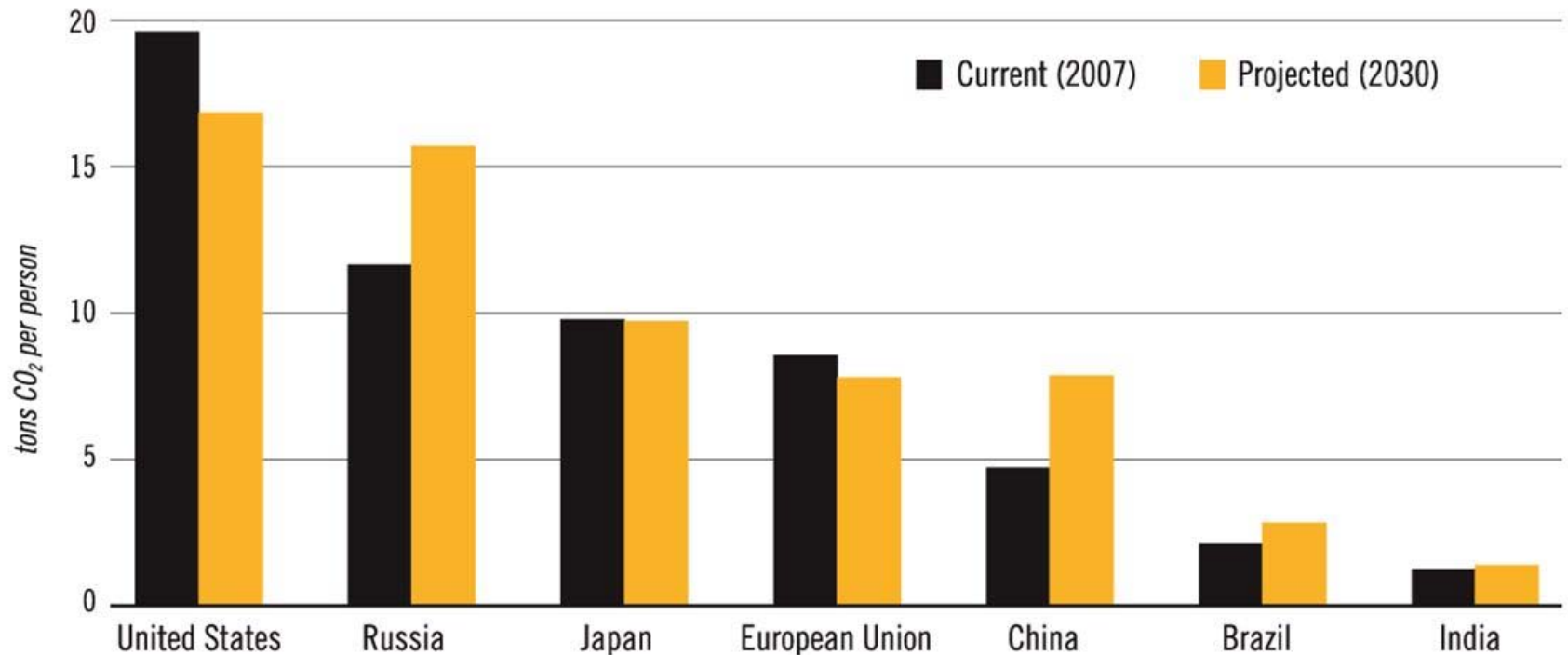


IEA 2010 energy outlook

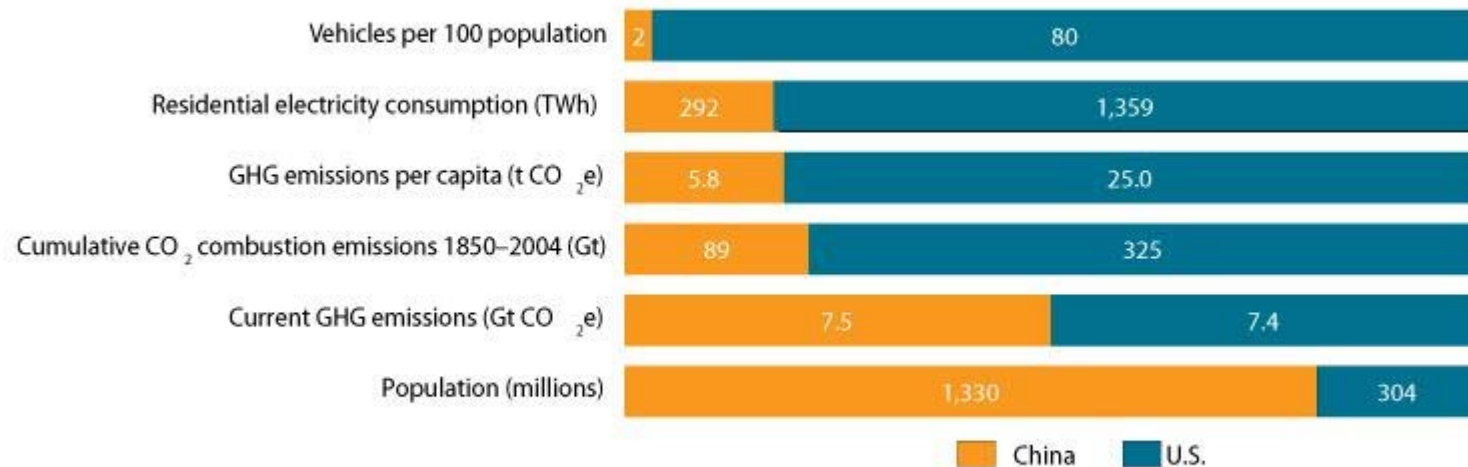
Figure 1. World marketed energy consumption



Per capita emissions, current and projected



Comparison of Chinese and U.S. Energy Statistics



Source: Data Sources: CIA Factbook, IEA CO₂ Emissions Report, WRI CAIT, IEA World Energy Statistics, http://www1.eere.energy.gov/vehiclesandfuels/facts/2007_fcvt_fotw474.html



Distribution of research and policy effort, production and consumption

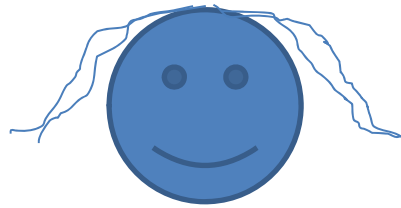
Production:

- Increase share of renewables
- Increase technical efficiency
- Clean or store end-of-pipe pollutants

Reduce
consumption



The consumer as conceptualized in energy savings research and policy



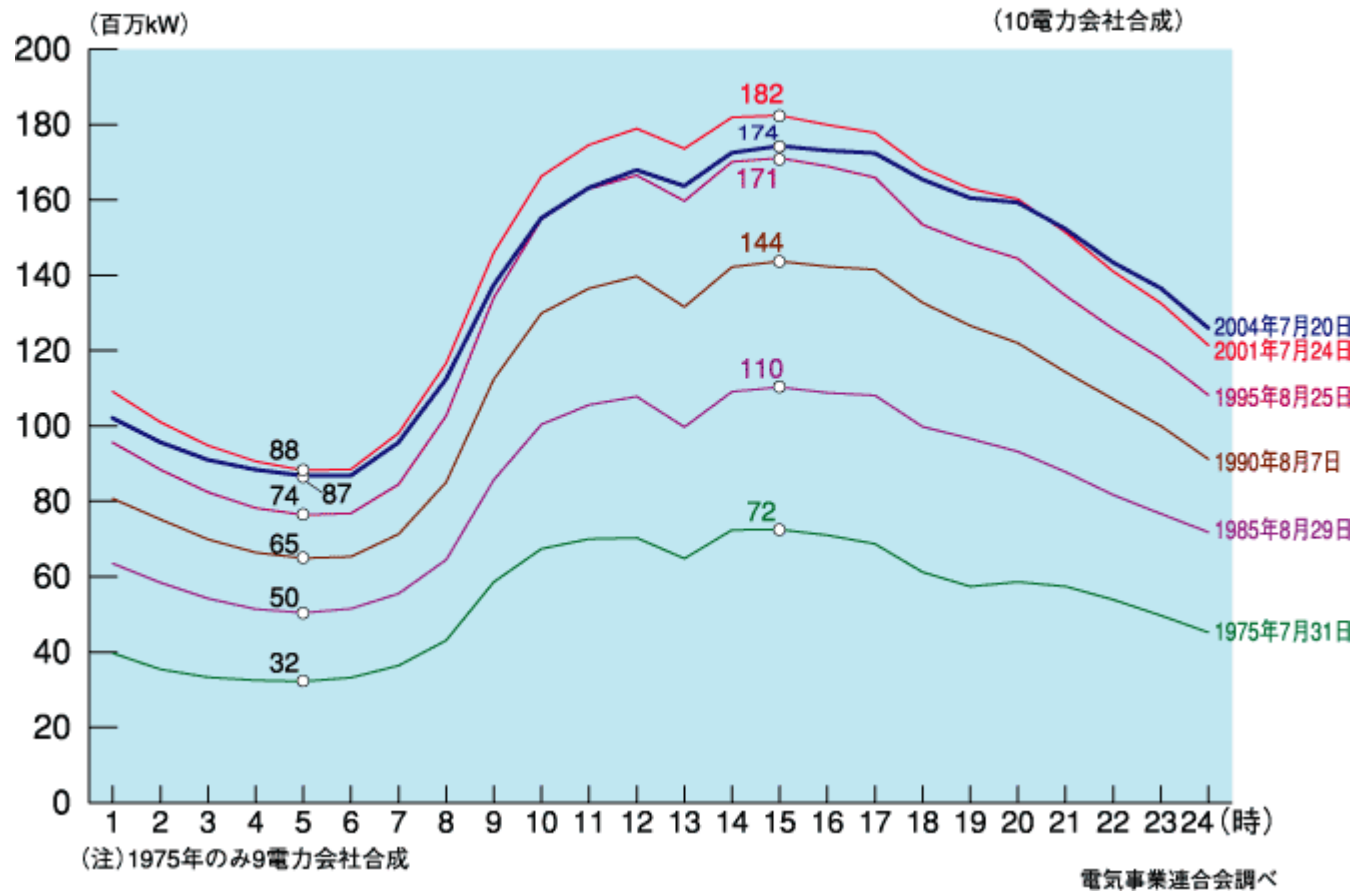
She is atomized, economically rational, fully reflexive, and fully agentive

The little that has been done on consumption:

- Equates consumption with individuals
- Neglects the social and material contributions to demand (norms, performance, built environment, construction of choice)
- Neglects the power of routines and habits

Tokyo peak load, 1975 - 2004

真夏の1日の電気の使われ方の推移



The energy/climate dilemma demands

- (1) A greater sense of urgency and a longer term perspective
- (2) A more robust theory on consumption and change.
- (3) The participation of business. Sustainable products need to be made more available, attractive and affordable.