

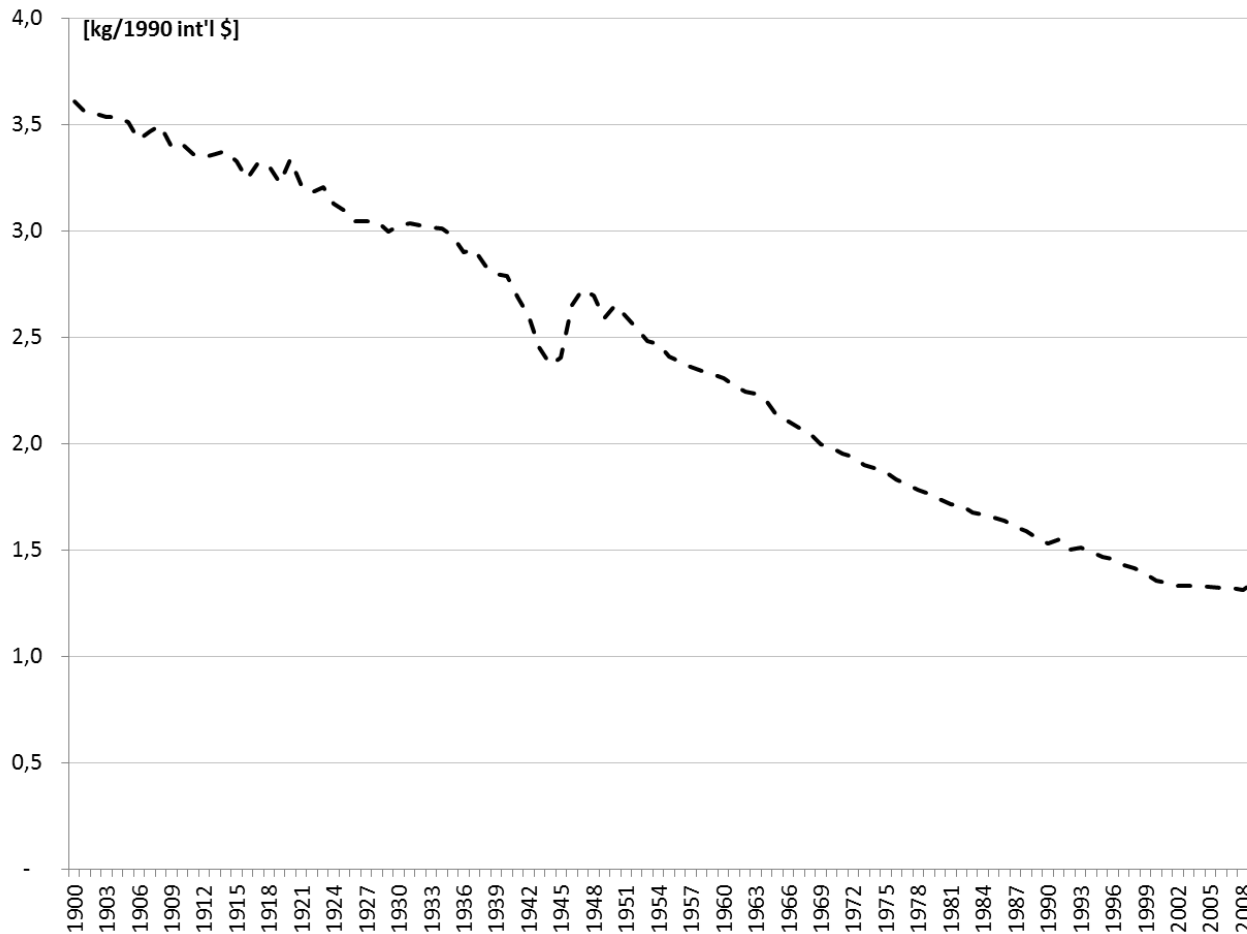
Tackling Resource (In)Efficiency

Drivers of Resource Use

1st DYNAMIX Policy Platform

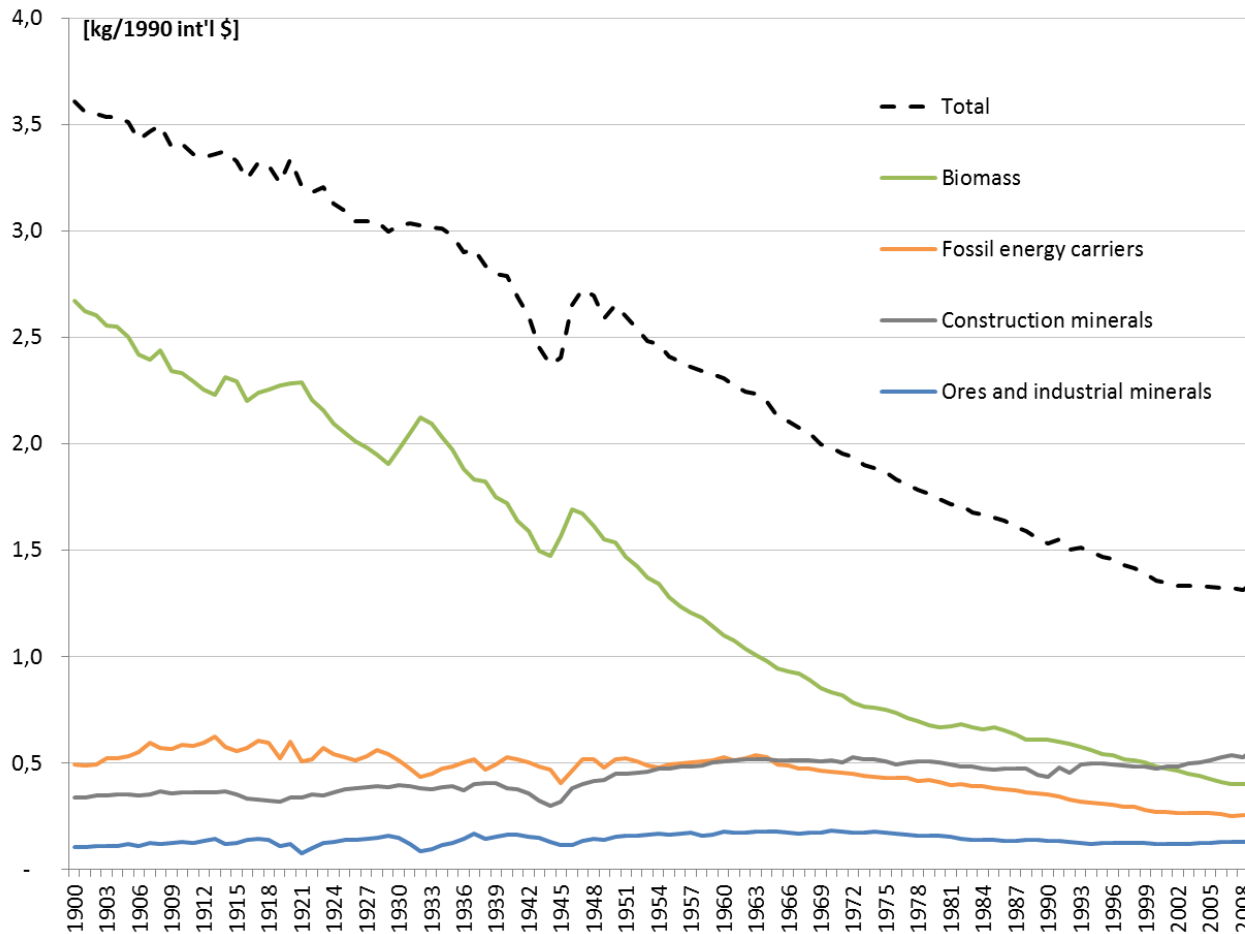
Anke Schaffartzik
Institute of Social Ecology (SEC)

100 Years of Decreasing Global Material Intensity



Source:
Krausmann et al.
2009

100 Years of Decreasing Global Material Intensity

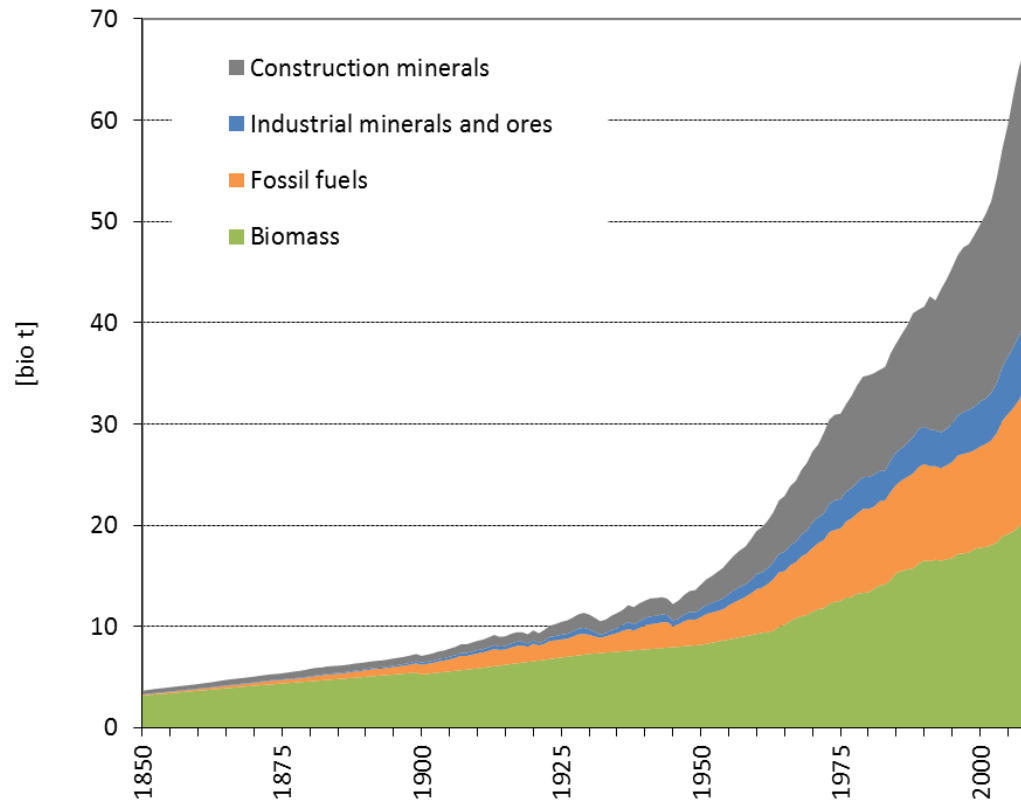


Source:
Krausmann et al.
2009

More Than a Number

- **Growth in population** leads to growth in resource use. But who uses how much and to what end?
- **Economic growth** in the past was always accompanied by growth in resource use. But is the economy a means or an end?
- The **industrial transition** has led to very specific resource requirements in most economies. But how strong is our path dependency?
- **Global division of labor** enables certain regions to exist at the (material) 'expense' of others. But does this also make them more efficient?

150 Years of Explosive Growth in Resource Use

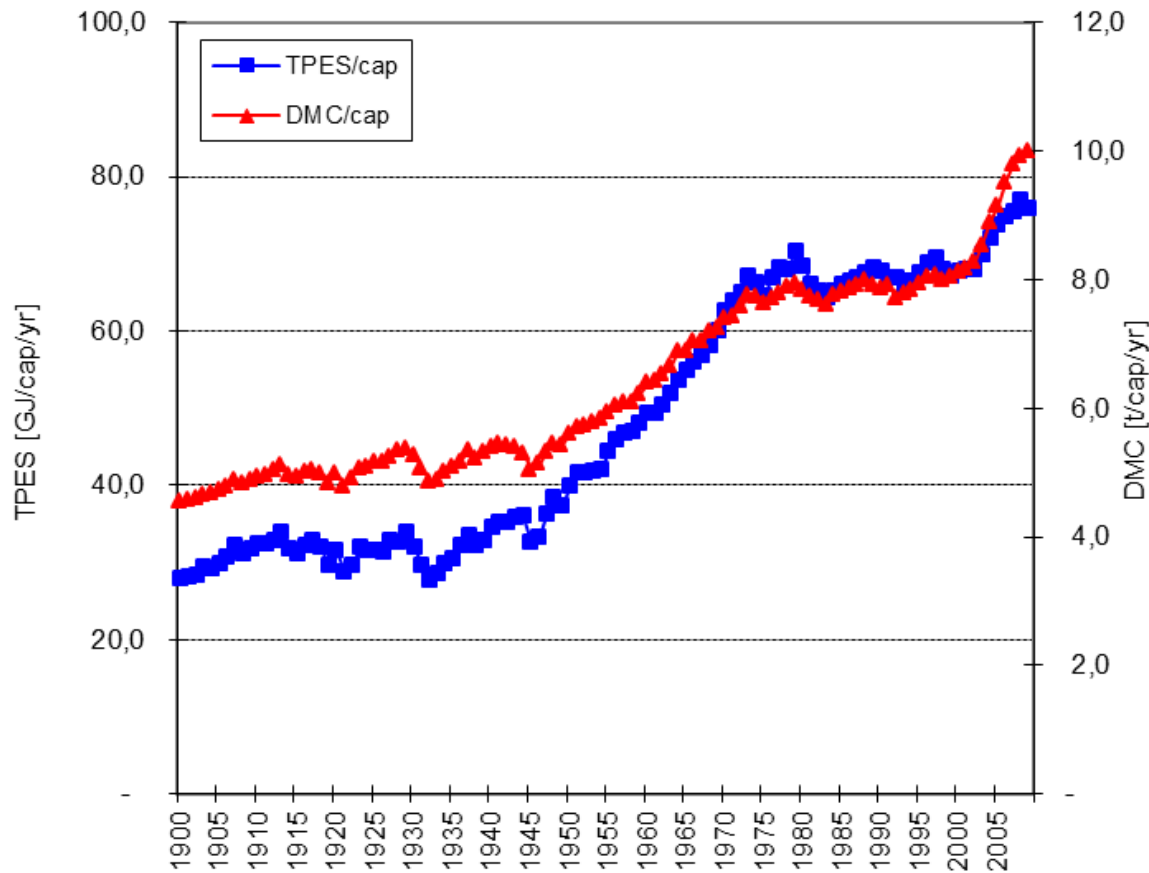


In the course of the last century,

- material use increased by an order of magnitude from 7.1 bio t (75% biomass) to 68.1 bio t (30% biomass)
- energy use (commercial TPES) grew from 44 to 517 EJ and transitioned from biomass and coal to oil and natural gas
- the expansion of cropland doubled from approximately 25 mio km² to 50 mio km²

Source: Krausmann et al. 2009

Population Growth

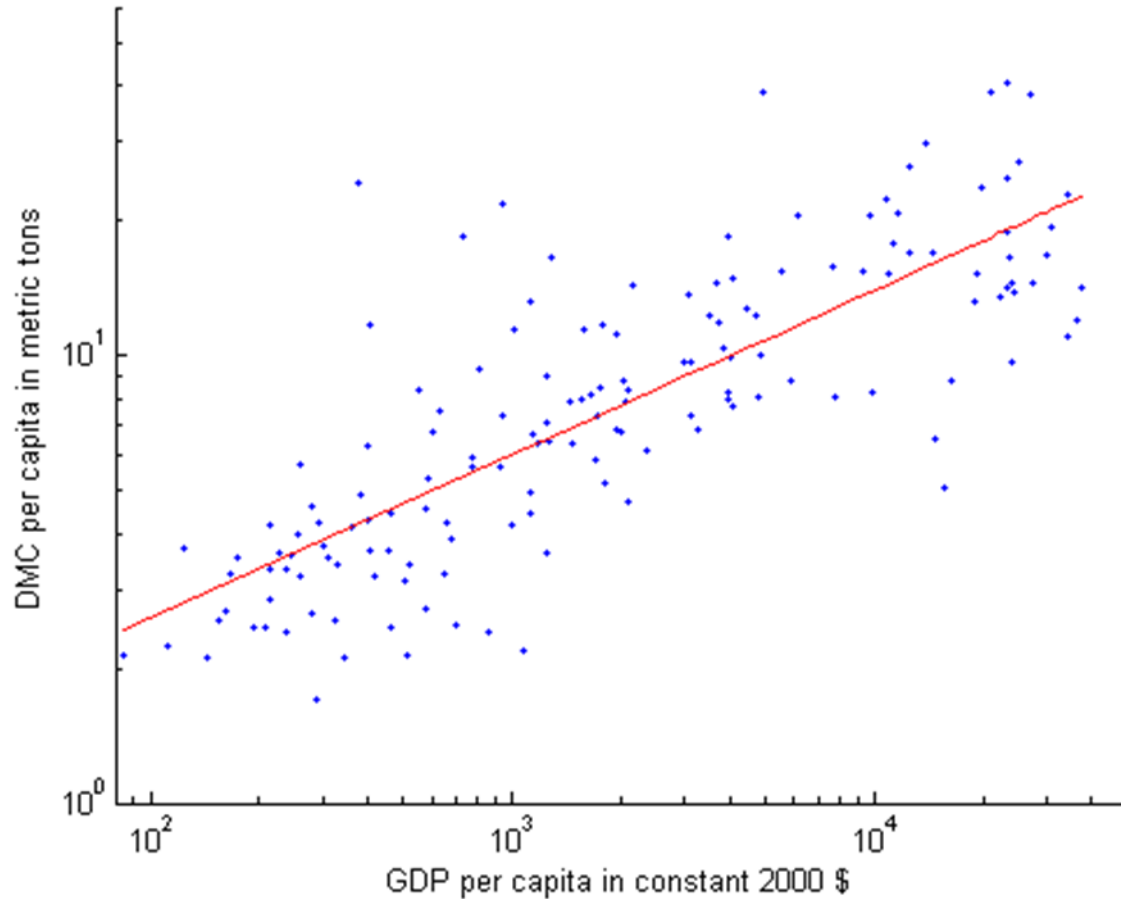


Source: Krausmann et al. 2009

In the course of the last century,

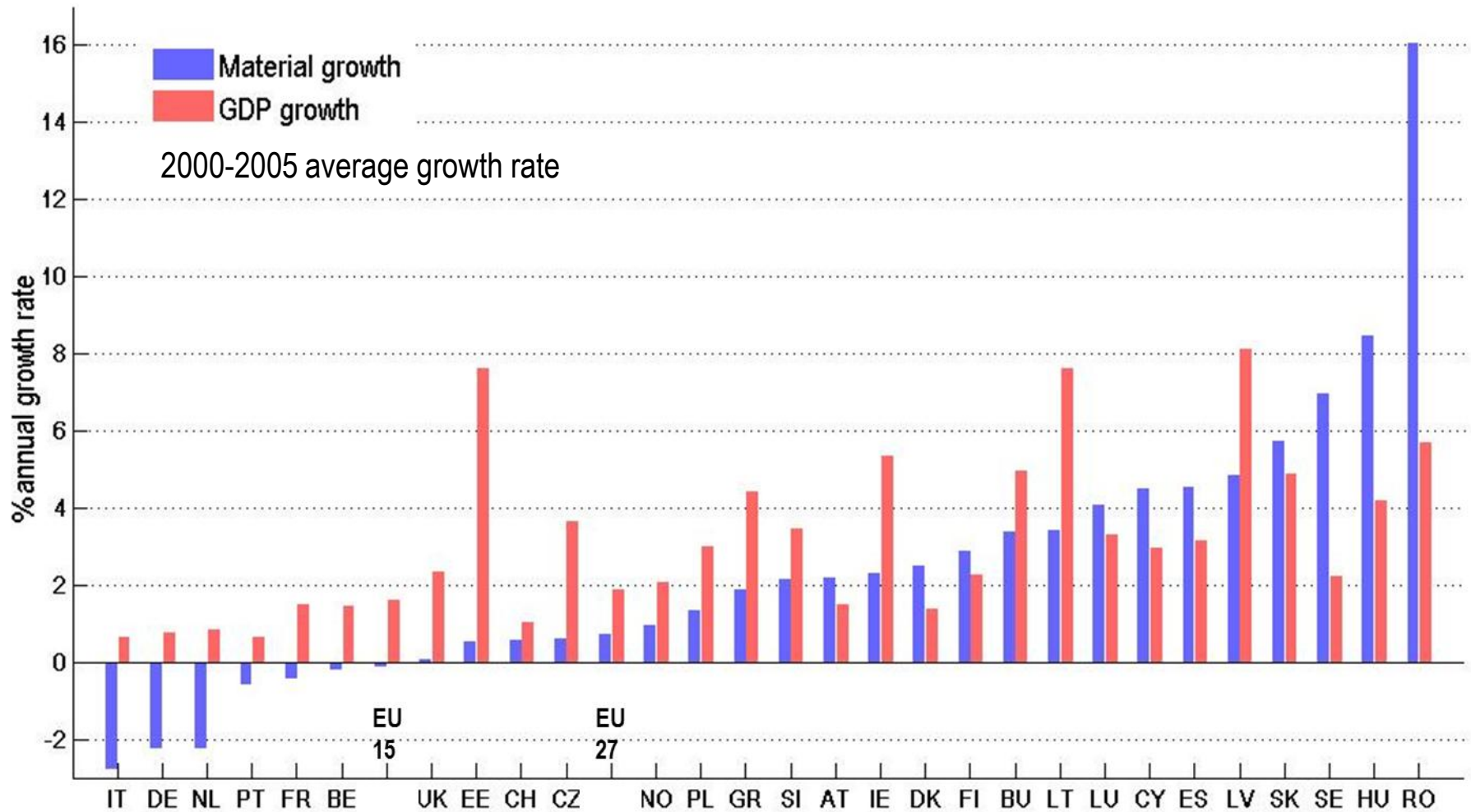
- population grew from 1.6 to 6.9 bio people,
- average per capita material consumption doubled from 4.6 to 10.0 t/cap
- average per capita energy use more than doubled from 28 to 76 GJ/cap

GDP Growth



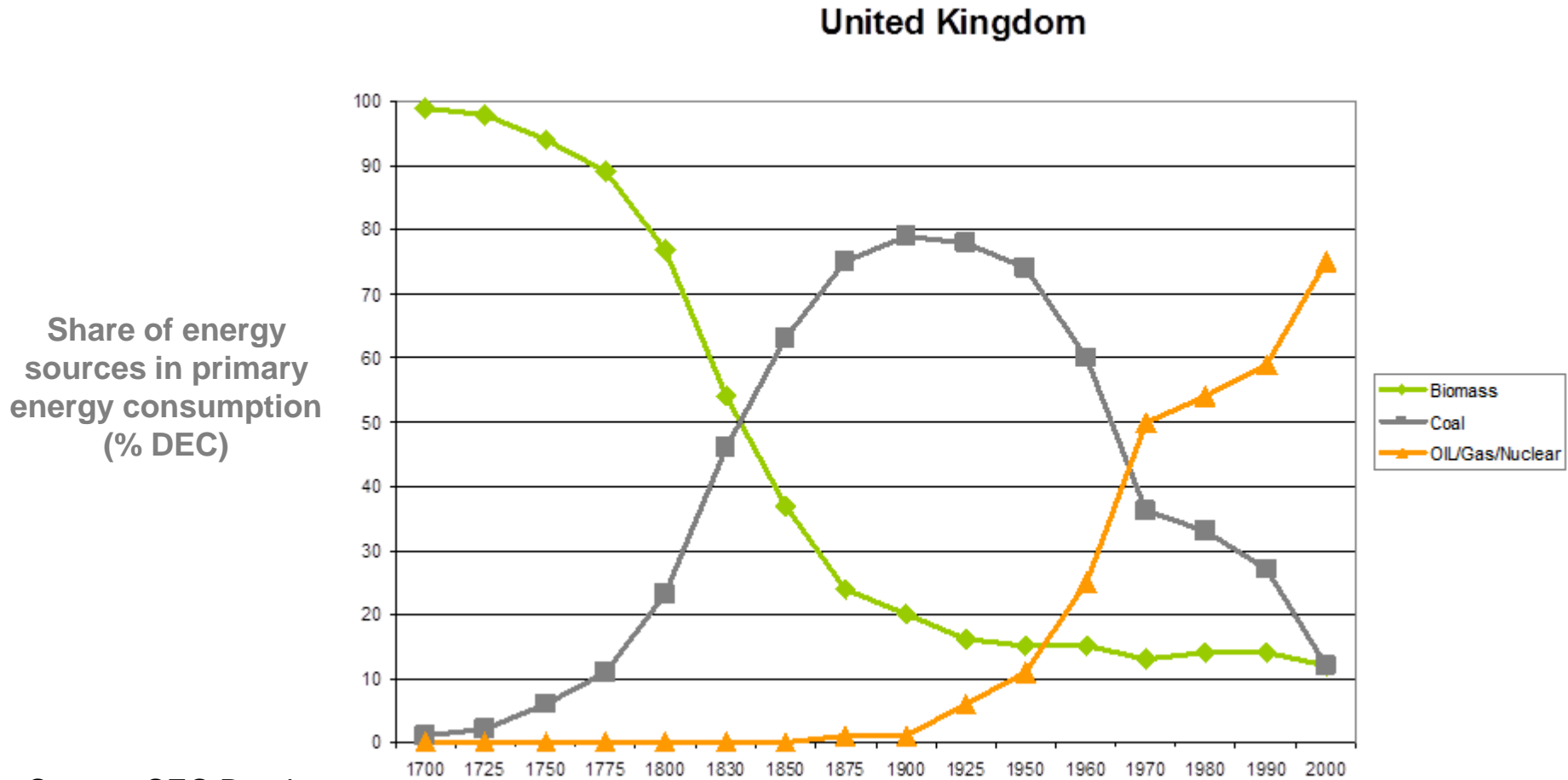
Source: UNEP Decoupling Report 2010

GDP Growth in the EU



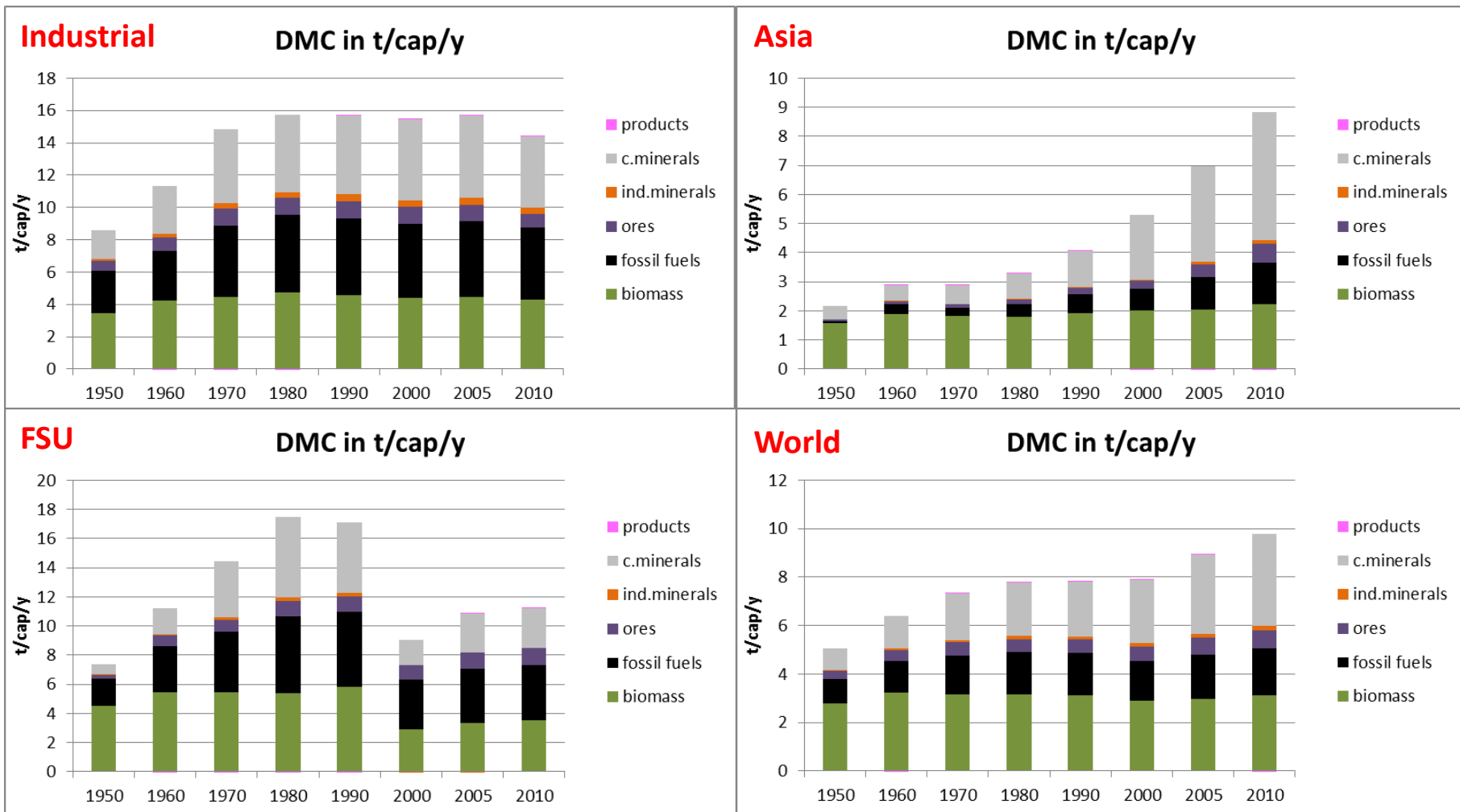
Source: SEC Database

Transition to Industrial “Way of Life”



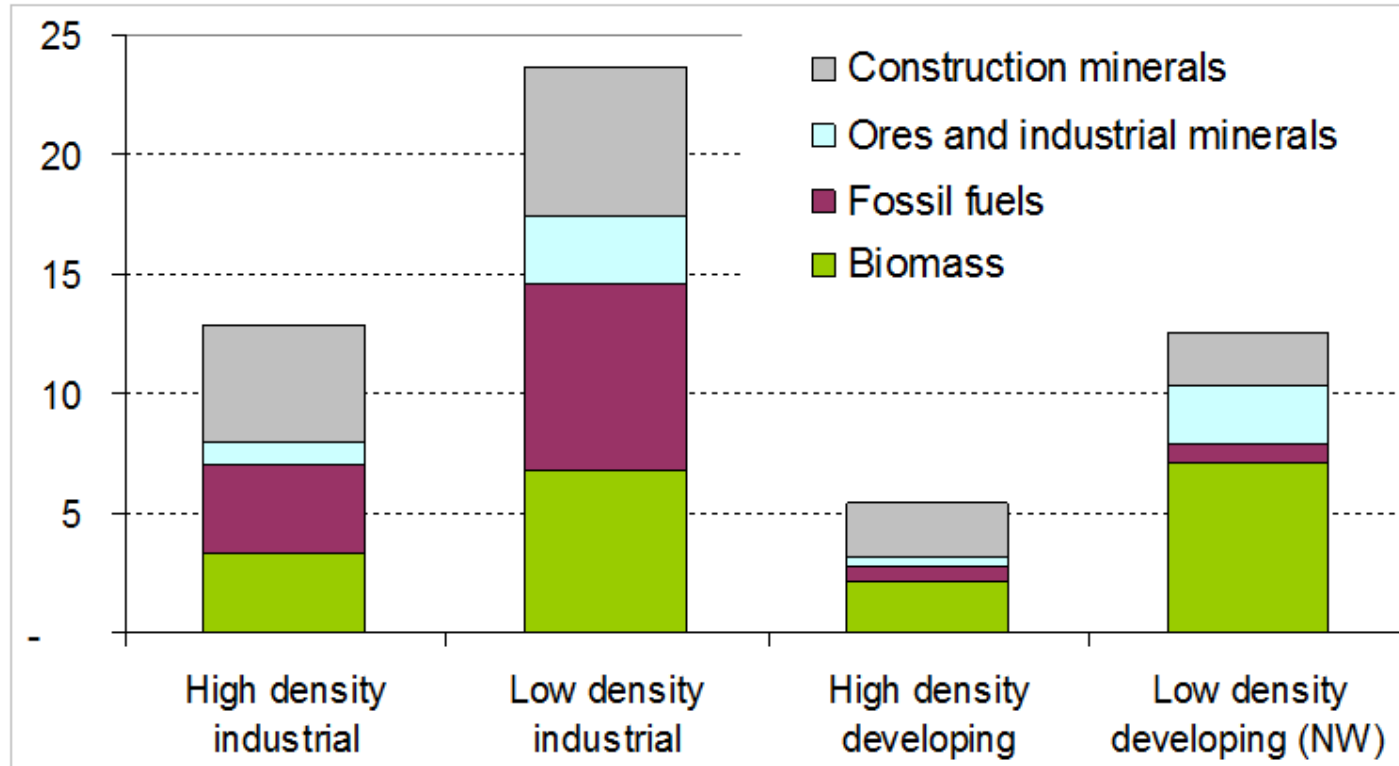
Source: SEC Database

Industrial “Way of Life”

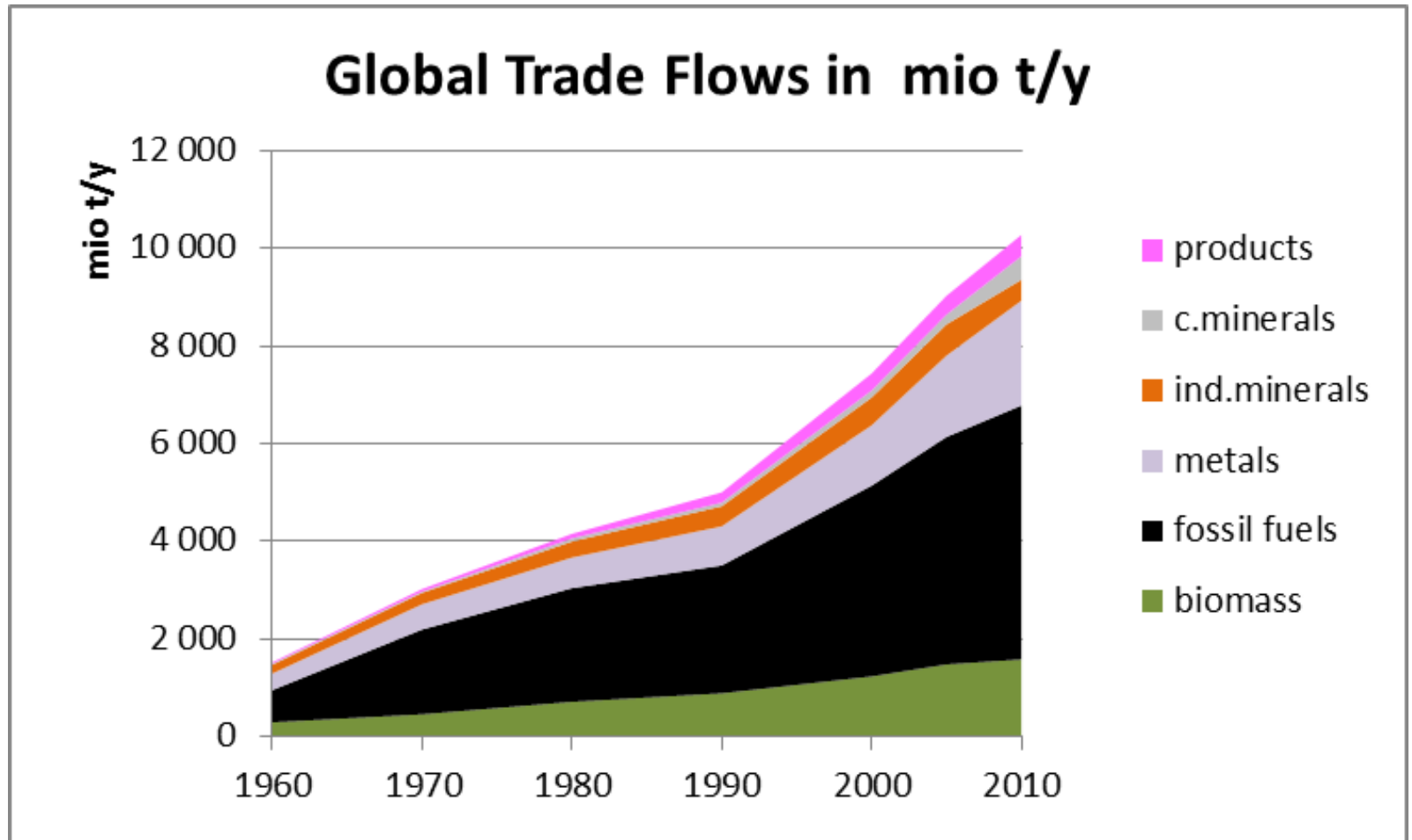


Source: Schaffartzik et al., forthcoming

Global Division of Labor



Global Division of Labor



What “We Don’t Want”

- Continuous growth in resource use
- Rebound effects and outsourcing
- (Continued) material and energy poverty
- Changes in the industrial ‘standard of living’
- Limitations to development opportunities
- To declare capitalism a failed system

What “We Do Want”

- Cut back resource use and environmental impacts
- Concerted efforts across sectors and regions
- Fairly distribute both benefits and burdens
- Achieve MDGs
- Maintain standard of living
- GDP Growth

Do we need to redefine the problem(s)?