Economic growth and material use in the European Union and the world economy

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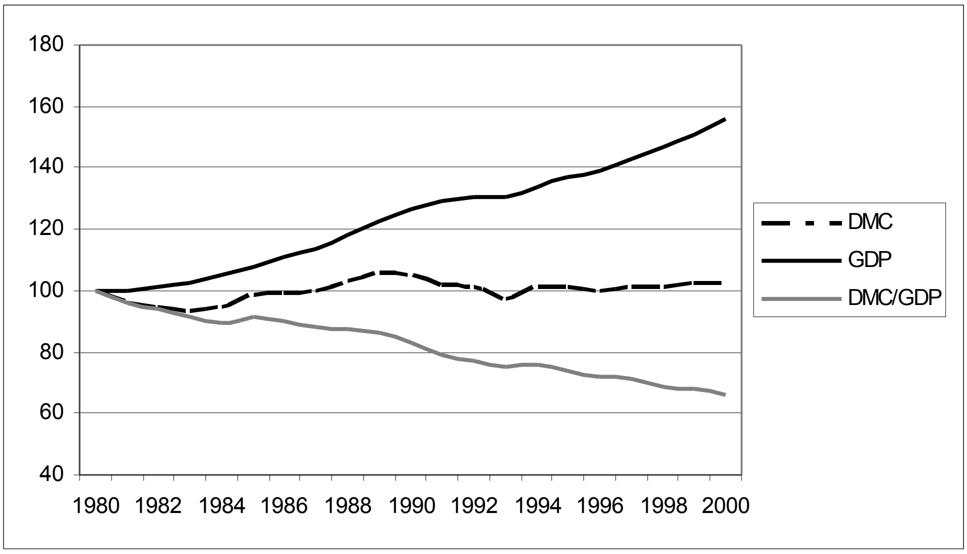
Both in the European Union and the world economy, a relative de-linking of material extraction and material use from economic growth could be observed in the past 25 years.

European Union (EU-15)

In the EU-15 countries, GDP grew by 56% between 1980 and 2000, while material use (illustrated by the indicator of "Domestic Material Consumption (DMC)"[1]) remained more or less constant at a level of around 15 tons per capita. This resulted in a declining material intensity of EU's economy, with material intensity diminishing from 1,19 kg/€ to 0,78 kg/€ (Figures 1 and 2).

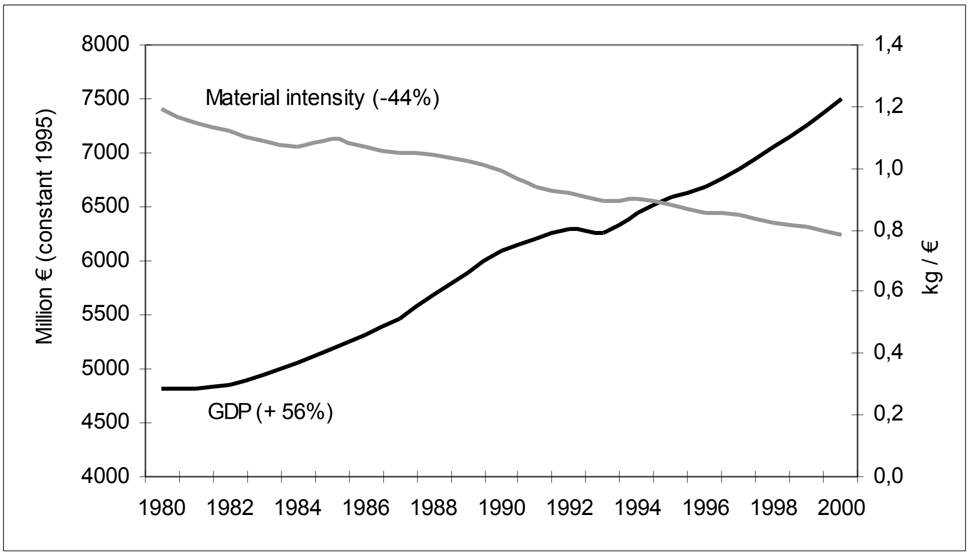
Figure 1: GDP, DMC and DMC/GDP, 1980 = 100



Source: calculation based on EUROSTAT, 2002

[1] DMC equals domestic material extraction plus physical imports minus physical exports.

Figure 2: GDP and material intensity, 1980-2000

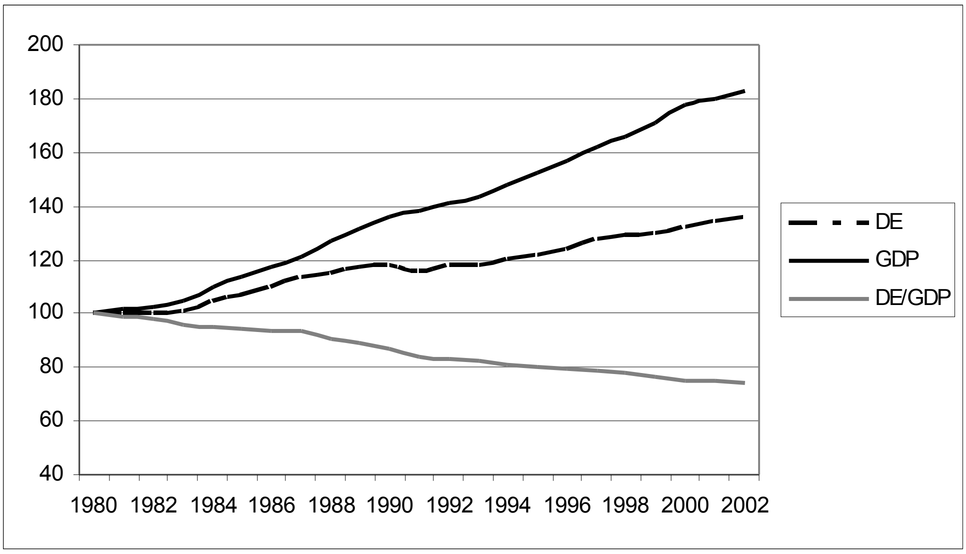


Source: calculation based on EUROSTAT, 2002

Global economy

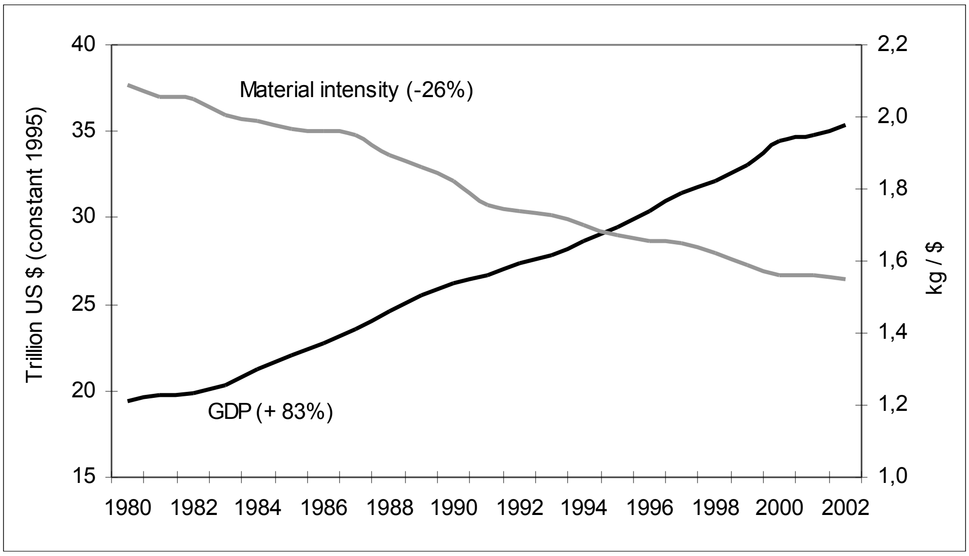
Relative de-linking of economic growth and material extraction could also be observed on the global level. World GDP grew from around 19 trillion US $ (all GDP numbers constant 1995 dollars) in 1980 to more than 35 trillion US $ in 2002, an overall increase of 83%. At the same time, global annual resource extraction increased from 40 billion tons in 1980 to around 55 billion tons in 2002, a total growth of 36%. Thus, material intensity of the global economy declined by around one fourth in this period, from 2,09 kg per US $ in 1980 to 1,55 kg per US $ in 2002.

Figure 3: Domestic resource extraction (DE), GDP and DE/GDP, 1980 = 100



Source: Giljum et al., 2004

Figure 4: GDP and material intensity of the world economy, 1980-2002



Source: Giljum et al., 2004

References

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