

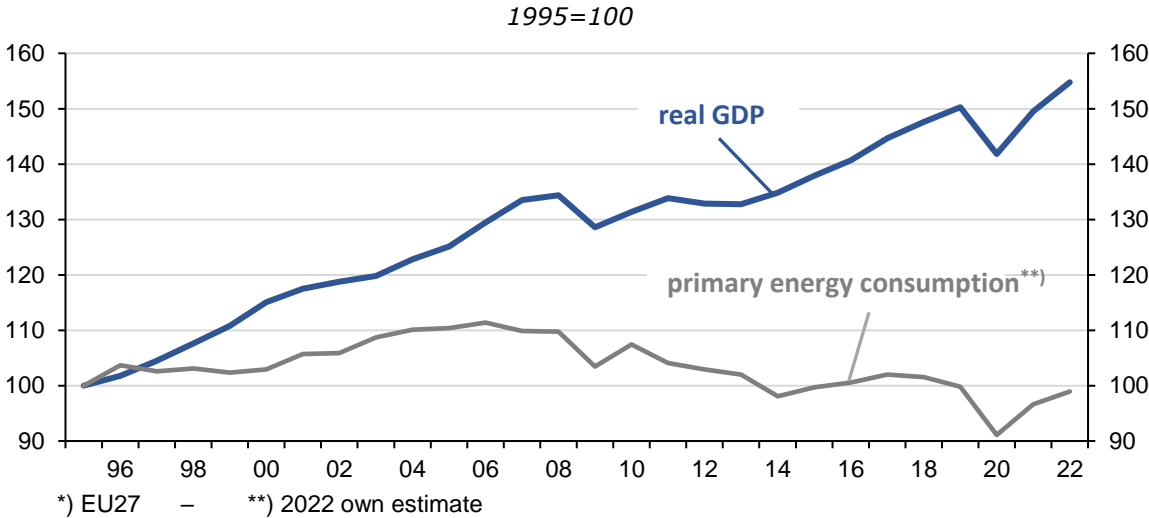
# European Union: long-term trend of energy consumption has been flat while real GDP keeps rising

Mainz, June 7, 2023 | Dieter Wermuth

Last week I had shown that there has been, contrary to people’s perceptions, a reduction of Germany’s primary energy consumption since 1991, the year after reunification (on average -0.7% per year); at the same time real GDP rose by 1.3% annually. At this stage of the country’s development economic growth seems possible without rising energy inputs. This is good news for the environment and the world’s underground reserves of coal, oil and gas. To be sure, those reserves keep shrinking but as far as Germany is concerned no longer at an accelerating pace.

I wondered whether Germany, because of its industry-heavy structure of production, was a special case – how did it compare to the EU as a whole, with its population of 450 million? Comparable EU numbers are only available since 1995: on balance, EU energy consumption has stagnated over the 27 years through 2022 while annual real GDP growth has averaged 1.6 percent. In other words, Germany is not a special, ie, non-representative case. It is close to the EU mean.

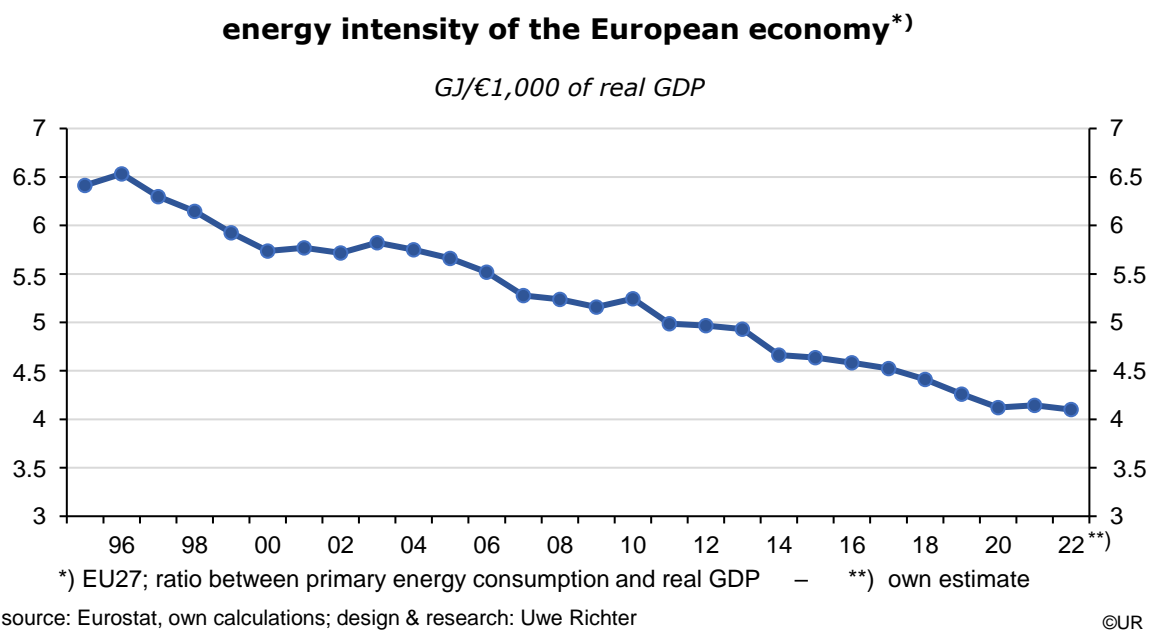
**economic growth and energy consumption in the EU<sup>\*)</sup>**



source: Eurostat, own calculations; design & research: Uwe Richter ©UR

At the global level, economic growth and energy consumption remain positively correlated, though. In the ten years to 2021, the world’s real GDP had increased at an average annual rate of 3 percent, the consumption of primary energy at a rate of 1.3 percent. Even so, the world’s so-called energy intensity, the relationship between real GDP and energy consumption, is, reassuringly, on a clear downward trend and is thus following the European model.

Between 1995 and 2022 the EU's energy intensity has declined, along a rather stable trend line, from 6.4 to 4.1.



The growth of global energy consumption is mostly driven by developing and emerging economies – which account for 85 percent of the world's population. These countries are still poor but are approaching rapidly the West's standard of living. One feature of the catching-up process is the focus on basic needs, such as housing, heating, cooling, better food, driving and a modern infrastructure, products which require a lot of energy inputs.

But it is a safe bet that in ten or fifteen years a point will be reached when the world's energy demand will decline, and not only in relative but also in absolute terms, as in Western Europe and North America – accompanied by a steady increase of per capita GDP.

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