

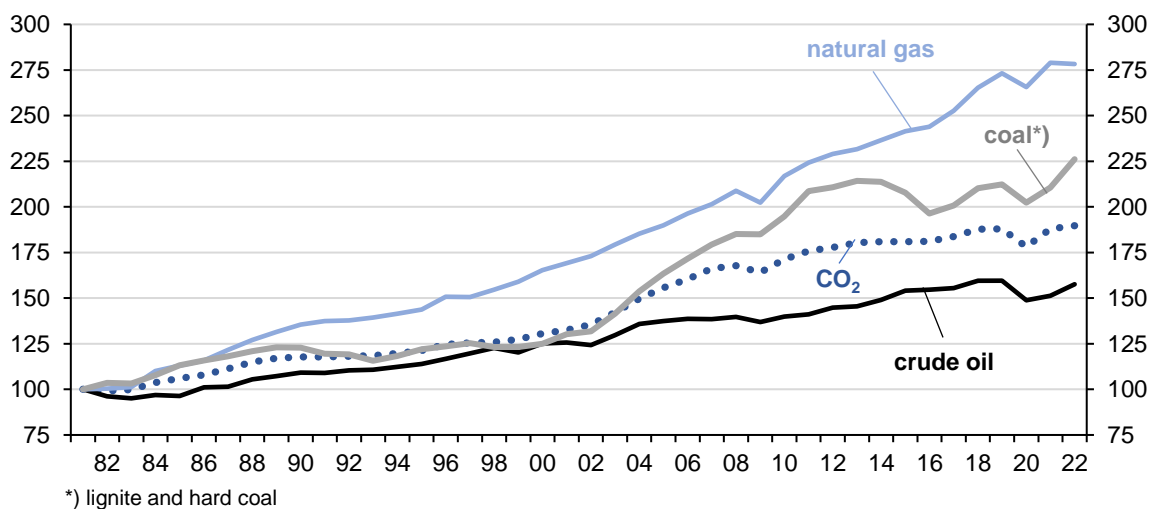
Globally, CO₂ emissions continue to increase

Mainz, September 27, 2023 | Dieter Wermuth

Despite all the efforts and success stories in rich OECD countries, the emission of CO₂ keeps growing year after year in the rest of the world, mostly as a result of the catching-up process in the poorer countries. When people are better off, they start to buy cars, heating systems and air conditioners, to rent and buy larger apartments and houses, and to fly to places around the globe. In this way they increase the consumption of fossil fuels and contribute to the further heating-up of the world's atmosphere. To prevent this, the prices for oil, gas and coal must rise significantly. The alternative, to reduce demand via slower or negative GDP growth, would be an effective strategy, but so far it is near-impossible to get everybody on board for such an extreme austerity policy.

world production of fossil fuels and CO₂ emissions

1981=100



*) lignite and hard coal
source: Energy Institute Statistical Review of World Energy; own calculations, design & research: Uwe Richter

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As long as the catching-up process is in full swing, ever larger amounts of fossil fuels will be extracted and burnt. While the annual GDP growth rates in the poorer part of the world are on average about twice as high as in the OECD area (2012 - 2022: 4.1% vs. 1.9%), the standard of living is still very low. On the basis of nominal GDP per capita, it is just 30% of the OECD average. It will take a long time to close the gap and to reach a point where the global demand for crude, natural gas and coal will begin to shrink. This is bad news for the climate.

Even so, there are at least two pleasant developments: number one, from a certain standard of living onwards, the demand for fossil fuels begins to shrink; this has happened in all OECD countries; number two: the growth rates of global CO₂ emissions have declined significantly in recent years; this looks like a stable trend as the awareness of climate risks continues to

increase. I would guess that, if nothing unforeseen happens, in about 20 years a tipping point will be reached, after which global CO₂ emissions will decline for good. Many analysts would add: too late!

fossil fuels and CO₂ emissions

average annual rate of change

	2000-2022	2012-2022
world production of fossil fuels		
crude oil	1.1	0.9
natural gas	2.4	2.0
coal*)	2.7	0.7
CO₂ emissions		
world	1.7	0.6
US	-0.8	-0.5
Japan	-0.6	-1.9
Germany	-1.3	-1.9
Switzerland	-1.2	-2.3

*) lignite and hard coal

sources: Energy Institute (Statistical Review of World Energy), own calculations

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In Germany, a heated climate debate is under way, triggered by a provocative FAZ (Frankfurter Allgemeine Zeitung) opinion piece by Hans-Werner Sinn, the former head of the Munich-based Ifo-Institut. He has his doubts that green policies will do any good for the climate – they could actually be counterproductive. His main point is that „ global CO₂ emissions will rise in response to the coming European ban of cars with internal combustion engines people who drive an ICE car make a positive contribution to the fight against climate change, because they take away fossil fuel from people on other continents, while those who drive an electric vehicle contribute to the acceleration of climate change” – because the (intermittent) production of electricity from wind and sun and its prohibitively expensive storage require back-up power plants which use lignite coal, an extremely bad pollutant.

Somehow Sinn assumes that OPEC and other oil producing countries will try to maintain output levels. Means: if Europeans, with their obsession about green energy, reduce their demand for oil, its price will fall, and the rest of the world will use more. Therefore: nothing gained for the climate. Only if the world’s large economies joined forces in what Sinn calls a climate club could they achieve a meaningful reduction of oil demand and CO₂ emissions, for instance by agreeing on a common emissions trading system based on a steady reduction of available permits. In this way they could push down oil prices so much that oil production would have to be curtailed or stopped. The club would have so much market power that it could effectively fight free riders who might buy – and burn – cheap oil for their own advantage. Unfortunately, for the time being, a climate club is not a realistic strategy.

Important countries such as the US, Russia and Canada are major players on both the demand and supply side of the equation and would have almost no incentive to apply for membership.

So is it fair to call Germany's policies a flop? Going by the robust labor market and the huge – and rising – surplus in the balance of trade, they have no visibly negative effects on the economy so far. Moreover, those high energy prices (perhaps the world's highest) are accelerating structural change in a direction where all others will have to go eventually. This creates a competitive advantage. From an allocation of resources point of view it is true that bans on ICE cars and gas boilers are not efficient strategies, but they were probably the only ones that could be sold to the public. And they will help to accomplish the policy target – to further reduce CO₂ emissions.

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