

Peak oil is back.

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Oil is non-renewable over the human timescale. Its extraction rate is initially zero, then it increases (the phase that we have known for the past 150 years), reaches a maximum called "peak oil", then declines due to natural and human constraints. That is why oil will potentially be extracted for another 150 years, but less each year, and at increasing costs: first there was conventional oil, then oil sands and shale oil, and in the future, maybe oil from shale rocks.

Conventional oil reached its peak first, in about 2008. At that time, it represented 90% of world production. Due to a lack of anticipation, the oil price soared to almost \$150/barrel, bursting the American housing bubble and triggering the financial crisis. Once the economy got back on track, the price rose above \$100/barrel straining the economy five more years. In the meantime, the awareness of the Belgian political authorities progressed step by step: the three regions voted a "peak oil" resolution, the Walloon Parliament created a "peak oil committee", and in 2013 carried out a public inquiry about peak oil and the implications for Wallonia. Meanwhile, the monetary policies that followed the financial crisis were pouring a massive flow of capital into the American shale oil industry. The production was skyrocketing, and by 2014, the oil price plummeted, suggesting a lasting return to cheap oil. As a result, the political resolutions on peak oil were forgotten, and the Committee of the Walloon Parliament was disbanded. However, the flow from the shale oil wells drops so quickly – without new drilling, the production in the USA would be cut in half in one year – that heavy investments are recurrent, constantly postponing the promised profitability, and forcing to reinject new capital each year. Therefore, the low oil price is an anomaly, which will have lasted long enough to forget peak oil.

On the eve of the pandemic, the oil supply outlook by 2025 was worrying: conventional oil being on a plateau, to balance the oil market, the US shale oil production would strongly increase - potentially double. Then, it would level off, and then later decline. But the price decline caused by the coronavirus further weakens the shale oil industry, and reduces the investments that are necessary to slow down the decline of conventional oil. Faced with the decline of both conventional and US shale oil, the ability to deploy oil alternatives on time, in the required volumes, and at reasonable cost is uncertain; the risk of peak oil returns.

The solutions to face peak oil are the same as those for climate change: those of substitution, efficiency, and sobriety. But unlike climate actions that are delayed at the

whim of compromises, peak oil risks a forced march towards weaning ourselves off oil, with volatile oil prices and increasing geopolitical tensions. That is why we propose four recommendations:

- 1) Improve knowledge of peak oil, for both the State and citizens, so that everyone can assess the effects on their lives, and makes their own arrangements.
- 2) Include peak oil in energy policies. In Europe, coal must be abandoned for climate reasons, gas fields are in decline, and some countries exit nuclear energy while the world oil decline is looming. Can we manage these combined declines ?
- 3) Anticipate the possibility of zero or negative economic growth over long periods. In 2004-2008, a stagnation of oil production for 4 years was enough for oil prices to soar to \$150/barrel and for European economic growth to come to a halt. Given the strong GDP/oil consumption coupling and the efforts to reduce oil consumption that will have to be made each year for decades to come, we could expect a recurring brake on growth.
- 4) Act today, when we still have room for maneuver, rather than tomorrow under constraint.

Massive plans implemented today to save businesses and jobs impacted by the coronavirus will likely be necessary tomorrow to address peak oil. Will states be able to do this again? Hence, we should avoid wasting public money in petro-dependent sectors, requiring to them commitments to reduce oil dependency, such as relocation. We should perpetuate the positives dynamics precipitated by the health crisis, such as teleworking, and the purchase of locally produced food. We should also massively invest to reduce our oil consumption, such as insulating buildings and decarbonizing transportation. Given the weight of oil in the European energy mix - a third – selecting the measures must be dictated by the magnitude of the energy quantities at play; the impact must be massive, to correspond to the goal of successfully managing the oil decline.

We should not waste the educational opportunity offered by the current health crisis, and also avoid restarting the economy on the same petro-dependent basis. Otherwise we risk an oil crisis following soon after the health crisis.

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