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# Engie gives up Belgian Nuclear Power Plants!

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23/02/2021



*Nuclear power stations at Tihange. ©Belga*

**Engie, the French parent company of Electrabel, is in favor of closing the Belgian nuclear power stations by 2025. The company has decided to write off the value of the nuclear power stations in full. Until now, it has taken into account that the two youngest installations will remain open for a longer time. The latter is now also a thing of the past!**

## **What did Engie decide?**

The French energy group has decided to remove the value of its two youngest nuclear power plants, Doel 4 and Tihange 3, from its accounts. In practice, this amounts to an exceptional depreciation of €1.9 billion. This was reported by the French business channel *BFM Business*. Engie will use the announcement of the 2021 annual results to announce the full depreciation of the nuclear power plants. It is not the first depreciation of the Belgian nuclear power plant 'park' by Engie. A few years ago, it also set the value - of the five other and older Belgian nuclear power plants - to zero. That happened also with a once-in-a-time mega depreciation of



€1.6 billion. The magnitude of this depreciation raises questions. In recent years it was generally assumed that Electrabel had almost completely stopped investing in Belgian nuclear power stations! It seems in contrast to its Belgian daughter that the French parent company, Engie, assumed that a lifespan extension was going to come into reality. This would then be accompanied by long-term investments in the two youngest Belgian nuclear power plants, which would then remain open longer (an additional 10 years).

### **So why is Engie giving up the youngest Belgian nuclear power plants now?**

In the autumn of 2019, an Electrabel summit announced that it was asking to keep two or even three of the seven Belgian nuclear reactors open for ten years longer, instead of shutting them down in 2025. This shutdown was enshrined in the law on the decommissioning of nuclear energy plants of 2003. The common thread was that the nuclear power plants had to close after 40 years of operation, the usual safe lifespan of a nuclear power plant. In 2014 and 2015, an 'exception' was made for the three *oldest* power stations. The then governments gave green light to Electrabel to be able to operate Tihange 1 and Doel 1 and 2 for a longer time and take profit with them.

Electrabel insisted on a consultation with the De Croo government in the course of 2020, but without result. The De Croo government insists that old power stations cannot be operated extended in time. The top of Electrabel drew its conclusions from this in the autumn of last year. Then it became known that the CEO of the Electrabel nuclear division had informed the staff that the investments for extending the life of the nuclear power plants had been scrapped. Electrabel's top management repeatedly pointed out in the past that there had to be clarity about a possible extension by the end of 2020 at the latest. Because it assumed that after that it would no longer be possible to prepare for a life extension in an orderly and cost-effective way. The French parent company Engie apparently needed a little more time to cut through the knot of the extension of the Belgian nuclear power plants. Engie also found it increasingly difficult to explain this financially to its auditors in the Board of Directors. Auditors review the accounts and debt situation of the energy group annually.

### **Can this decision be reversed?**

The De Croo government checked in November of this year, whether there will be sufficient production capacity to guarantee Belgium's power supply after 2025. By then it should be clear whether Belgium can build new gas-fired power stations (with subsidies to Engie or other energy companies). The question is whether this still leaves the door slightly open to keep the youngest nuclear power stations running for a longer time (of 10 years). For all parties involved – from the De Croo government to the supervisor company (FANC) of nuclear safety in Belgium to Electrabel – it will in any case be a challenge to get an extension of the operation of these two plants by 2025.



## **What does the nuclear phase-out mean for Belgian power supply?**

The Belgian high-voltage operator Elia made several studies on the above-mentioned topic. The conclusion is that from 2025, with a combination of more renewable energy, mainly from wind and solar, and new gas-fired power stations, more demand management and the import of electricity from abroad, the light in Belgium can continue to stay on.

It's going to be very exciting. The Belgian nuclear power stations covered more than half of the electricity consumption in Belgium for many years. Between 2022 and 2025, this may fall to zero in a very short time. The power supply of our country has already been seriously tested a few times during the past decade after the loss of a significant part of nuclear energy production due to long-term of checks and outages. There was never a shortage of electricity, but electricity had to be imported from neighbor countries, including from French nuclear power stations.

It is expected that even after the nuclear phase-out in 2025, a lot of electricity will have to be imported from neighbor countries. This can be renewable (wind) energy from Germany and Denmark, but also electricity from coal-fired power stations in Germany and from nuclear power stations in France.

The latter disappeared from the import budget during 2022 due to the aging of the French nuclear power plant 'park' and due to a changing hydrology of several major rivers as a result of climate change! What's more, France itself has to import electrical energy from its neighboring countries as we speak!



# French nuclear power plants will produce a lot less than originally planned for the 2022-2023 winter

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The French electricity group EDF (Electricité de France) has again adjusted the expected power production of its nuclear power plants downwards. It immediately sent electricity prices skyrocketing.

5/11/2022



*France needs nuclear power to avoid power cuts this winter. The power station of Nogent. Photo. ©Matthieu de Martignac/Belga*

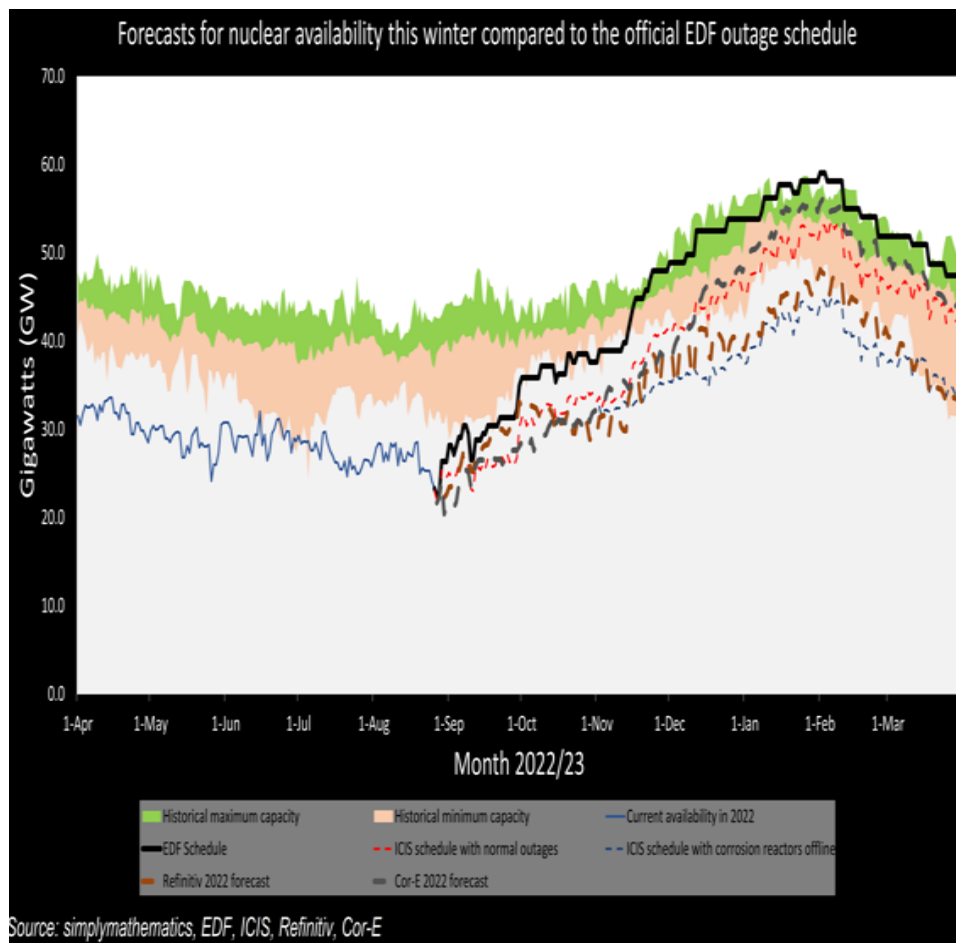
France, once Europe's top power exporter, may not produce enough nuclear energy this winter to help European neighbor countries seeking alternatives to Russian gas for their electricity power plants, and may even have to ration electricity to meet its own needs. France has for years helped to underpin Europe's electricity supply, providing about 15% of the Europe's total power generation.

This year, for the first time since French records began in 2012, France has become a net power importer as its own production of nuclear energy hit a 30-year low, based on data from consultancy company *EnAppSys*. The supply squeeze, caused by a wave of repairs at the country's nuclear power stations, couldn't have come at a worse time. Europe is in the grip of



an energy crisis as Russian gas supplies plummet in the wake of the Russo-Ukrainian conflict. France, which derives 70% of its electricity from nuclear energy, has lost its edge. French power prices have hit a string of all-time highs - topping at €1000/MWh earlier this month based on expectations that the country will not have enough electricity to meet domestic demand. That surge, from prices of around €70/MWh a year ago, added very significantly to a cost-of-living crisis, and not only in France.

"Sky-high electricity prices are an economic threat, with France's nuclear issues seemingly turning into a greater challenge than Russian gas flows," said Norbert Rücker, head of economics and next generation research at *Julius Baer*.

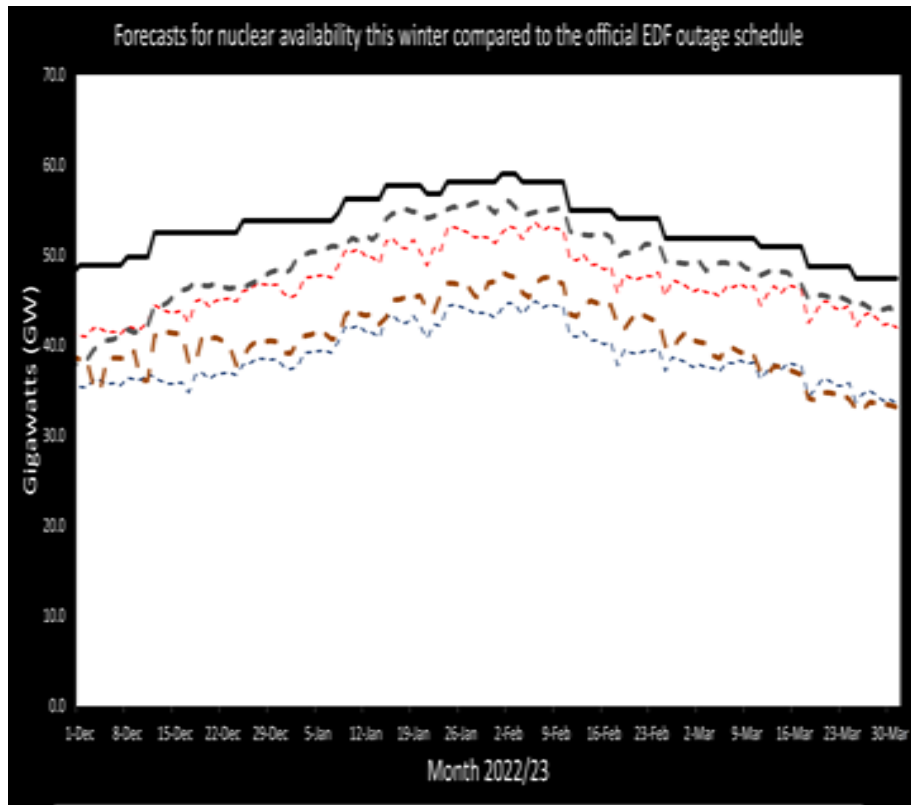


Analysts see winter availability at much lower than EDF's projections following the worst year for nuclear production in France in over 30 years. A record number of France's 56 nuclear reactors have gone offline due to overdue maintenance and checks related to *corrosion issues* that first emerged last December 2021. Some reactors have had to cut production during summer to prevent rivers used to cool reactors from overheating and cause death in river ecosystems, But also water levels were simply too low for intake to cool the reactors. This is bound to take place more often during future summers.

As of 29/08/2022, 57% of nuclear generation capacity was offline, based on data provided by the state-controlled nuclear power group EDF.



EDF's current outage schedule sees production levels returning to around 50 gigawatts (GWp) daily by December from around 27 GWp now as reactors gradually come back into the winter season hydrological regimes. But the market, analysts and union officials think that this forecast is too optimistic.

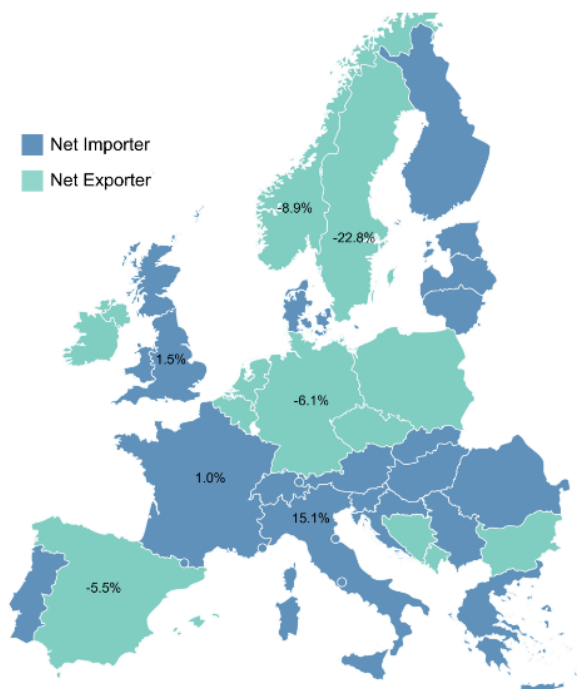


Analysts expect French nuclear availability to be below EDF's current schedule - how low - depends on *the state of the corrosion affected reactors* as well.

In a normal year, France produces around 400 TWh (or 400,000 GWh) nuclear electricity and exports about 10% of it, also in warmer months. During winter electricity consumption peaks. This year, EDF forecasts French nuclear production at 280 to 300 TWh, the lowest since 1993. France imported power from the likes of Germany and Belgium during the summer, when it would normally export it.



## Europe's power market -- buyers and sellers



Source: Rystad Energy

Europe's net importers and net exporters over 2022

"That makes for scary winter prospects," said Paris-based nuclear energy consultant *Mytle Schneider*. Six analysts polled by *Reuters* estimated that France's power capacity during the winter will fall below EDF's forecasts by 10-15 GW/day until at least late January 2023. This means France will need to import more power when the rest of Europe will also be facing an energy crunch, and a risk on blackouts.

Last week, EDF - which this year cut its nuclear output forecasts several times while issuing four financial profit warnings - delayed the restart of several reactors to at least mid-November, fuelling uncertainty even more. Current power market prices reveal a lack of confidence in EDF's ability to bring all its reactors back online in time for the winter season, a parliamentary source close to government said, although this source also said the availability of the nuclear station 'park' should be able to recover from its current low levels. "We should be able to win back a large part of the reactors which are currently offline," the source said. "We can also ask the French people to make efforts, specifically to reduce consumption peaks."

The measures the French government could take include, forced interruption of power supply to industrial and commercial consumers, reduced heating in public buildings, turning off street lights and controlled power cuts, the source said.

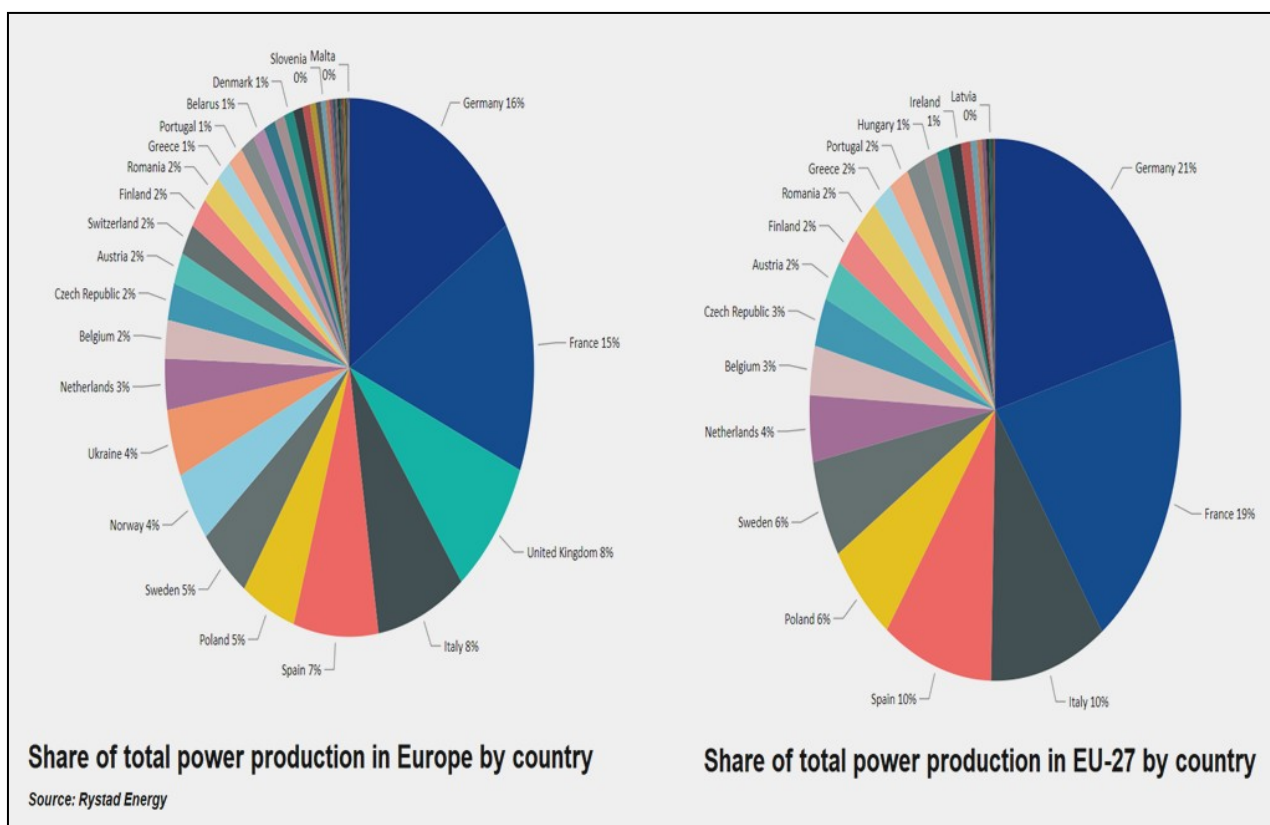


French Prime Minister Elisabeth Borne urged companies to draft energy saving plans by next month, warning they would be hit first if France has to ration gas and electricity.

## Rolling Blackouts?

CGT, France's biggest union, braces for some rolling blackouts this winter. "The situation is really worrying..., to say that there won't be power cuts is an optimistic gamble, unless one already knows for sure that the winter will be warm," says *Virginie Neumayer*, who follows nuclear issues at CGT. Even if EDF is able to boost nuclear production, analysts say, France will still not have spare power to sell to neighbors starving due to Russian gas cuts, with Italy, the UK and Switzerland seen as countries which are hit worst.

"We have seen some effects over the last months already, as Spain, the UK and Italy all have had to increase their domestic production, since export volumes from France have been much lower than normal," said *Fabian Ronningen* of the consultancy company *Rystad Energy*. "I think Italy would be the most affected country (if France stopped exporting electricity), as they are Europe's overall largest power importer."



Europe and EU-27 power production totals

The CEO of EDF, *Jean-Bernard Levy*, said on Monday that among the reactors that are closed, 12 were closed for corrosion problems and the rest were either shut down for routine maintenance delayed by the pandemic or taken off-line to prepare them for winter.



Levy said the company was "totally mobilised" to avoid outages. "These works are heavy, we will need hundreds and hundreds of skilled people, we are making them come from abroad, the U.S. in particular," he told at a business conference. He said corrosion issues require workers to operate in a part of the reactor where radiation is high, meaning exposure has to be limited in time when operating in high radiation environments. This limits the total time workers can spend in the high radiation parts of a reactor core area. Sometimes these workers are named 'reactor jumpers'.

For the coming winter, meteorologists often look at how the La Niña weather pattern develops over the summer as an indicator of a colder than average winter. Currently, the odds of that happening are at 60% during December-February 2022-23, U.S. government weather forecaster the *National Weather Service's Climate Prediction Center* said.

On the longer term, questions remain, whether EDF, which is in the process of being fully nationalised, can maintain it's ageing fleet of existing power stations in operation. Most of the French nuclear power stations were built in the 1980's.

France's nuclear safety watchdog *ASN* said in May this year that fixing the corrosion issues affecting EDF's reactors will take years to come. Moreover, the next generation nuclear reactors EDF has built - including one in Flamanville in France, and another at Hinkley Point in England - have run billions of euro's over their foreseen budget and as a consequence are several years beyond schedule. By the way, the same is true for a new reactor built in the south of the US. The project runs continuously into financial problems.

Additionally, the topic of nuclear power station decommissioning, the *clean* disposal of the radioactive waste it produces and the cost of this all (the nuclear deficit!), has not been discussed here. That may well be a next human generation problem!

No time to waste, I would say, or we all end in deep shit!