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A nuclear blazing row

The nuclear debate in Europe is heating up. The issue is emotional. And it polarises

Stereotypes are a funny thing. Germans are considered comparatively unfriendly by their European neighbours. But we are also considered rather rational. And yet, even these stereotypes can no longer be trusted. Currently, this can best be seen in the discursive debate around a form of energy that is experiencing a revival in the wake of the Russian attack on Ukraine and global warming – nuclear energy. Unfortunately, our neighbours consider us less informed and rather stubborn on this issue. Accordingly, our arguments no longer need to be listened to; they supposedly come from deep within the ideology chest.

This is regrettable because, on closer inspection, there are many arguments that objectively speak against seeing nuclear energy as the salvation of the energy transition. Many of its supporters fall into a quasi-religious worship of this technology, which is in considerable contrast to the real challenges. The practical problems are nonchalantly swept under the reactor. Small Modular Reactors are not yet ready for the market? Nevertheless, they are being touted as the silver bullet of energy supply. Besides, in view of the growing danger of hybrid attacks on critical infrastructure, who can seriously imagine a network of at least 3,000 reactors around the globe as a timely solution – it is not worth producing these mini-reactors below this number compared to conventional nuclear power plants. Nuclear energy is the only form of energy whose production costs have not fallen in recent years, consequently, it is becoming increasingly unprofitable? Never mind that! Nuclear energy is still presented as an economically sensible decision. I could go on with the list endlessly.

High expenses and construction difficulties

Those who are not convinced by the reference to the safety situation and the still unresolved question of final storage may be more convinced by the duration and costs. The proponents' arguments are always the same:

Nuclear power is climate-friendly. Nuclear power is cheap. Nuclear power is reliable. Yet many of the projects show that this is not the case:

Hinkley Point C is a new construction project in the UK. Its construction began in 2017; originally, the power plant was to be connected to the grid this year. However, the date was postponed to 2028 at the earliest. The construction costs have already risen from the original €19 bn to €37 bn.

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The construction project is supported by the French state-owned company EDF and the Chinese state-owned company CGN and is financed through so-called Contracts for Difference (CfDs). With these contracts, which are often discussed in the course of the expansion of renewables, both consumers and producers are protected against price fluctuations. In the case of Hinkley Point C, the remuneration for the electricity is guaranteed for an incredible 35 years after commissioning. The price agreed in 2012 was £89.50 per megawatt hour and is adjusted for inflation. This was and is significantly higher than the price of electricity in the UK. It is estimated that the additional cost to consumers is £50 bn. This means that the project is still very profitable for the operators despite the increased costs. EDF expects a profit of just under eight per cent. The risk is very limited because the British government has given guarantees in the event that the power plant should be shut down early for political reasons.

A look at Finland also shows the difficulties with the construction of new nuclear power plants. The recently commissioned Olkiluoto 3 reactor is considered the most powerful reactor in Europe. Originally, it was supposed to be connected to the grid in 2009 – but four years turned into 18. Even the Berlin airport was finished faster. Originally, Olkiluoto 3 was supposed to cost 3 bn euros. Instead, it cost 10 bn. That puts it in line with the nuclear trend. The French reactor Flamanville 3 was also supposed to go online in 2012. So far, that has not happened. The costs in this case: at least 12.7 instead of €3.3 bn. And again, I can go on and on.

Opposing views in France and Germany

Germany could do a much better job of promoting its own fact-based point of view here if we had less of a reputation of wanting to push through our own interests and points of view in energy policy decisions. Diplomatically, there is still room for improvement. Moreover, Germany naturally has an open flank in such debates as long as dirty coal continues to play such a prominent role in the energy mix. In this respect, we are at the forefront throughout Europe – but, of course, it is difficult for others to be lectured on their energy mix.

In Germany, too, the debate is heating up. The intensity of the debate stands in no relation to the importance of nuclear energy in the electricity mix. The issue is emotional. And it polarises. The timing of the phase-out may cause irritation among neighbours. However, nuclear energy is not a flexible matter. The phase-out was planned a long time ago, and anyone who now wants to give the impression that it could have been easily revised is deceiving the population. The often-used argument that we got out of nuclear and coal too early is misleading. We didn't leave too early, we switched to renewables too slowly. It is not without a certain irony that the Conservative CDU/CSU, of all parties, are now accusing us of having phased out nuclear power too early.

At the European level, the issue is also hotly disputed. Time and again, the debates put the brakes on legislation on important energy policy reforms. The demand to promote nuclear energy comes up again on almost every issue. In recent months, for example, a dazzling nuclear alliance has come together in Europe on France's initiative. Its members are Bulgaria, Finland, France, Croatia, the Netherlands, Poland, Romania, Slovakia and Slovenia, the Czech Republic and Hungary; Italy has withdrawn for the time being after initial interest, and Sweden is currently taking a low-profile position because of its Council presidency. The aforementioned states have set themselves the goal of closer cooperation in the nuclear supply chain.

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France, in particular, is lobbying to get nuclear power for 'low carbon gas' production into the Renewable Energy Directive (RED) or the regulatory package for the gas market. The situation is similar with the Delegated Act on Green Hydrogen. So far, these efforts have had only limited success. And, from the nuclear camp, only the already mentioned Small Modular Reactors, which are not yet ready for the market, made it into the ranks of the 'key

technologies' of the Net Zero Industry Act. The topic is likely to come up again in the upcoming debate on the electricity market reform, combined with the demand for state subsidies as envisaged for renewables, for example via Contracts for Difference. The result will most likely be a compromise that does not rigorously exclude nuclear energy but does not really help France's efforts either. The fact that France is proceeding so decisively here reveals the weakness of the French nuclear industry, of all things. With an ageing nuclear fleet and shutdowns during periods of drought, it has run into rough waters and is looking for financial support.

Contrary to what is often said, these debates at the EU level are not about dictating the energy mix of the member states. Each member state decides on its own energy mix. This has evolved historically, makes economic sense and will remain so even if the Energy Union is deepened. Anything else would not be enforceable, neither at the government level nor among the population. We must therefore relax in this debate. Those who want to continue to rely on nuclear energy can do so. Besides, many of the currently loudly announced projects will not be realised anyway. Because in practice, as outlined, the nuclear revival looks rather meagre.

The crux of the issue

Contrary to what is claimed by proponents, the European discussion is not about national decisions for or against nuclear power. What is decisive is the question of financing. The member states are bound by the EU's jointly agreed climate targets. Indeed, nuclear energy has a lower CO2 footprint than fossil fuels such as coal, oil or gas. But low-CO2 power plants that will be connected to the grid in 20 years are of little use to us in the challenging next 10-15 years. And here we come to the core of the debate – the sources of financing. The financing of such projects cannot be provided by the relevant European pots that have been set up for the energy transition. These funds are needed for the expansion of renewables and the development of complementary technologies such as batteries and smart grids. Because these make the energy transition possible now and not one day in the distant future. And the corresponding EU funds are nowhere near enough to make bets on the future.

Another point is European independence. A worryingly high proportion

of both existing and planned nuclear power plants are based on cooperation with Russian (and at the global level also Chinese) companies that are close to the state. This increases the danger of technological and financial dependence and poses the risk of political influence. All current discourses on strategic autonomy, sovereignty and diversification go against this. Those who continue to hand themselves over to authoritarian states with their eyes wide open on the issue of critical energy supply, of all things, are playing with fire.

The situation is more difficult with existing nuclear reactors. Hungary and Bulgaria, the Czech Republic and Finland, and Slovakia and Slovenia have a total of 19 Russian-designed reactors. They are correspondingly dependent on Russian fuel elements. Against this background, it is understandable that the EU has so far acted rather hesitantly and not put the nuclear sector on the sanctions list. To virtually shut down these nuclear power plants for the Eastern Europeans with sanctions would cause a lot of bad blood and probably fuel the pro-Russian voices in some of these countries even further. Very convincing offers would first be needed to compensate for the loss. The examples of Ukraine and the Czech Republic show that a switch to US technology is possible, but it takes time.

For its nuclear weapons, France needs civilian nuclear power.

Then there is the nuclear armament sector. Without nuclear power plants, France's military infrastructure would face massive problems. Starting with research, through supply chains and trade relations, it does not stop with manpower. For its nuclear weapons, France needs civilian nuclear power. It is completely unrealistic to imagine that the country would voluntarily give up its nuclear deterrent in the near future. And, accordingly, France will continue to look for markets for its nuclear technology. But it serves no one's interests if the nuclear issue becomes a permanent tension-laden sideshow in the European energy transition.

The cooperation of the French nuclear industry with the Russian state corporation Rosatom is, however, a cause for concern. Although France is not as dependent on Russian supplies for uranium as some Eastern European states, there are definitely interconnections through joint projects in third countries. Critics see this as indirectly promoting Russia's geopolitical strategy. President Macron is the most committed advocate of strategic autonomy for Europe. Continued close cooperation

with Russia in the sensitive area of nuclear technology, of all things, would come across as neither particularly strategic nor particularly autonomous.

Similarly, from a European perspective, it is worrying that a growing number of countries in the Global South are indebted to China or Russia through the use of nuclear energy and are dependent on them for their energy supply. There are currently 57 nuclear power plants under construction worldwide, 22 of which are in China and 5 in Russia. Of the remaining 30 construction projects, 15 are operated by Russian companies. China has signed memoranda of understanding for nuclear cooperation with 25 countries worldwide. However, there are currently only three concrete projects – two power plants already in operation in Pakistan and a planned new reactor construction in Argentina. Although nuclear power is unlikely to pay off in purely economic terms there either and its contribution to climate protection and energy security is doubtful in view of the long construction times, nuclear power is seen in many places as a symbol of national prestige. Since the Russian company Rosatom offers all-inclusive solutions for the construction of new nuclear power plants, including technical knowledge, safety training and financing, the company is particularly attractive for countries that have hardly any previous experience with nuclear power. Those in Europe who view this development with concern should urgently put forward better offers and energy partnerships based on renewables at the much-cited eye level.



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