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## **Security for electricity baseload, competitive prices for electricity and independence through the recommissioning of German nuclear power plants**

### **Key messages**

- The continued operation of German nuclear power plants offers a safe, economically viable and climate-friendly alternative to the current energy policy. The coming months are crucial for making a pragmatic and sustainable decision for Germany's energy future.
- Nuclear energy made in Germany means: provision of weather-independent and CO<sub>2</sub>-neutral base load. It makes electricity prices competitive, again and allows independence from electricity imports for a stable and sovereign energy supply.
- Affordable energy protects Germany as a business location. Industries remain in Germany and new future technologies with high electricity requirements can settle.
- The dismantling of the German plants should be suspended, immediately. Nuclear energy is necessary to lead Germany into a safe, affordable and climate-neutral future.

### **New start for Germany with nuclear energy**

Germany's energy policy is facing a massive challenge. Our electricity costs are no longer competitive in an international comparison, thereby threatening the persistence of our economy. It is no longer economically viable to finance and implement an infrastructure (grid, storage and backup) that is largely based on renewable energies.

The problem: renewable energies are not capable of providing base-load. When the wind is not blowing and the sun is not shining, the electricity demand in Germany must be covered by fossil energy sources or imports (of mainly French nuclear power).

The German government expects the gross electricity demand to increase to >1,000 TWh by 2030 (compared to 510 TWh in 2024). This forecast considers the increasing electrification of transport and heating. However, the significant expansion of future technologies (data centers, AI applications) has not been taken into account. Neighboring countries such as France are investing heavily in AI. Hence, their excess capacities of electricity may no longer be available for export to Germany.

If the proportion of volatile energy sources continues to increase in the German energy mix, the need for electricity imports or self-generated fossil electricity will intensify. This is a vicious circle that will lead to fatal dependencies.

Further expansion of renewable energy will not replace conventional gas and coal-fired power plants in Germany. On the contrary - even the existing power plants will not be sufficient to compensate for the volatility of renewables. The need for additional storage capacity and/or fossil backup power plants will be enormous. Such conversion of the

infrastructure can neither be financed nor realized in time. As a result, Germany will no longer be able to provide cheap electricity on its own, and keep the grid stable at the same time.

The continued operation of coal-fired power plants has led to significantly higher CO<sub>2</sub> emissions than planned, and the timetable for phasing out of coal is unrealistic under the current framework.

We need a constructive solution now, to get our energy sector back on track - quickly and sustainably.

The recommissioning of nuclear power plants in Germany is a pragmatic solution, which is economically and socially reasonable. Up to six shut-down nuclear power plants could be brought back online in just a few years - without compromising nuclear safety.

## **Positive effects of the recommissioning of nuclear power plants**

### **1. Viability of Germany as a business location**

- Nuclear power plants are capable of providing base load and stabilizing the grid. Thereby, Germany can meet the electricity requirements of both existing “traditional” industry and the expansion of future technologies, using its own resources.
- Nuclear power plants produce electricity with very low production costs. This keeps the price of electricity stable, allowing the local economy to produce goods at competitive cost, again.
- Nuclear power plants support the achievement of climate targets due to their CO<sub>2</sub> neutrality. This avoids penalties and makes Germany more attractive as a business location. Companies can produce CO<sub>2</sub>-neutral electricity from nuclear energy at any time of the year.
- The recommissioning of up to 6 nuclear power plants is based on the existing power plant structures. This enables rapid availability (3 to 5 years, i.e. by 2030!) of large installed capacity (annual electricity production of approx. 65 TWh).
- Nuclear energy is a high-tech sector, with many German companies and institutions being international leaders. Continuity of this industry facilitates the operation of research reactors, which are indispensable for the preservation of know-how and for medical applications. Moreover, valuable expertise is maintained to enable the development of future reactor concepts in Germany.

## 2. Early phase-out of coal and significant improvement in the carbon footprint

- Renewable energies are not capable of providing base-load. Therefore, reserve power plants must be kept available, which are currently coal-fired power plants. The continued operation of nuclear power plants enables the rapid phase-out of coal-fired power generation without jeopardizing security of supply.
- CO<sub>2</sub> emissions can thus be reduced earlier and environmental pollution minimized. For comparison: A lignite-fired power plant with an output of 1,000 MW emits approx. 1 kg of CO<sub>2</sub> per kWh generated. This results in 8,000,000,000 kg CO<sub>2</sub>/year for a single lignite-fired power plant.
- In fact, nuclear power plants are the ideal complement to renewable energies to compensate for their volatility. Nuclear energy therefore also supports the further expansion of wind and solar energy in the long term.

## 3. Contribution to national and European energy independence

- A nuclear power plant only needs approx. 25 tons of low-enriched uranium per year to produce approx. 11 billion kWh of electricity. Such quantities of fuel can easily be procured in stock for several years. This is because uranium is available worldwide and is mined in large quantities (approx. 50,000 tons per year). A shortage of uranium is not in sight.
- In a geopolitically uncertain world, Germany must rely on its own strength, which is nuclear power.

Recommissioning of up to six nuclear power plants is technically feasible - but time is pressing. The sooner the decision is made, the less money it will cost - climate-friendly power plants can go back online, quickly, to secure the base-load.

Together, we can take responsibility for a sustainable energy supply. With an energy mix of nuclear energy and renewable energies, together, we can achieve economic and ecological goals, simultaneously.

**With the following plan** for the continued operation of German nuclear power plants, we will bring individual nuclear power plants back online and Germany back to the forefront of industrialization:

### 1. Check the feasibility for re-start

- Immediate time-out for the dismantling, to enable a technical, regulatory, and economic review
- Analysis of the options for recommissioning while maintaining high safety standards.
- Adaptation of the legal framework to enable continued operation.

## **2. Timely political decision for recommissioning**

- Amendment of the Atomic Energy Act so that Germany can once again benefit from cheap and secure electricity before 2030.

## **3. Creation of a sustainable utility structure**

- In many European countries, nuclear power plants are traditionally operated by state-owned utilities (e.g. EdF in France or Vattenfall in Sweden). In Switzerland, nuclear power plants are operated by private, partially state-owned or cooperatively organized energy companies. To ensure the sustainability of political decisions, the Belgian state has joined a utility as a shareholder, to facilitate long term operation.
- In Germany, a mix of state participation and private investment is conceivable, to secure financing and increase operational efficiency. Integrating the plants which are permanently dismantled into the new utility would generate further advantages due to the pooling of resources.
- Private companies and research institutions could participate in the innovation and modernization of the plants. They could be compensated by profits of the new operating company for research and development.

## **4. Step-by-step recommissioning**

- Depending on the dismantling status, individual nuclear power plants can be put back into operation in the near future.

## **5. Long-term integration into the energy transition**

- Development of a strategic plan for the German energy supply, which integrates renewable energies and nuclear power, but also the planned hydrogen economy.
- Development of new technologies, such as modern reactor concepts, which can also contribute to solving the final storage issue.
- Nuclear energy and nuclear safety “Made in Germany” have always been a key driver of the economic success of German companies.

### **Re-entry - now!**

It is high time to make the right decision now - for a stable and sustainable energy policy. Deindustrialization, excessively high electricity prices, dependency on electricity imports and the uncertain supply situation – all of this must end now!

KernD offers an opportunity to the new federal government for taking the future into our own hands and stopping the deindustrialization of Germany. KernD's member companies are available to provide expertise and capabilities.

Nuclear will make a decisive contribution to safe, affordable and readily available energy, Germany can achieve its climate targets, achieve independence and strengthen the competitiveness of its industry - today and tomorrow.

*KernD is the leading competence network for nuclear energy in Germany. As an association of key players in the industry, KernD brings together companies, research institutions and experts who are committed to the safe use, research and further development of nuclear technology. With its expertise and experience, KernD is the first point of contact for all questions relating to nuclear energy in Germany.*

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