

8 POINTS FOR AN EFFECTIVE AND AFFORDABLE ENERGY TRANSITION

Preliminary Note

The basis of Germany's prosperity, its economy, has been stagnating for two years. Other countries, such as the USA, are much more successful. In particular, the high system costs of the energy transition are a burden on companies, citizens and the national budget, and thus on Germany's global competitiveness.

In its special report of March 7, 2024, on the implementation of the energy transition with regard to the security of supply, affordability and environmental compatibility of the German electricity supply, the German **Federal Audit Office** states that “the costs of the electricity system will increase significantly and low electricity generation costs for renewable energies do not in any way guarantee a low-cost electricity supply”. In fact, qualified analyses expect a further increase in electricity costs of 70 - 100%.

Despite enormous expenditures for the energy transition, Germany is not a frontrunner when it comes to the environmental compatibility of its electricity generation. With 380 gCO₂ per kWh of electricity, it is far behind countries like France (42.5 gCO₂ per kWh) in the EU.

Without a radical change in energy policy along the lines of the eight points set out in this text, we will not succeed in finding a way out of the economic crisis and towards sustainable growth.

At the same time, changing course would also make a substantial contribution to solving the global climate challenge: the savings we make can be used to support the transformation processes in developing and emerging countries, whose CO₂ emissions are rising simply because of their continuing population growth. They need our support to develop in the most climate-friendly way possible, in line with the Paris Agreement and the 2030 Agenda, although according to the UN position, these countries are allowed to increase their emissions further until 2030.

It is not too late to change course. The following eight points for reversing the deadlock of the German "Sonderweg" point the way to an affordable energy transition in Germany that achieves climate goals faster and more cost-effectively than current policies and thus stops the further deindustrialization of our country. At the same time, they open the door to an effective approach in a global context.

8 Points for a Path out of the Crisis

1. Germany needs competitive electricity prices, and a reliable long-term supply of electricity at all times.

In Germany, an electricity system that is supposed to be based almost 100% on solar and wind energy cannot achieve an affordable security of supply for industry and citizens in international competition. Photovoltaics and wind power lead to high system costs for grid expansion, storage and underutilized backup power plants. The politically desired full expansion leads to avoidable additional costs of 70-100% compared to today. And the cost of electricity is already far too high. Currently, large sections of the mid-sized companies no longer consider Germany to be a competitive business location. Instead of putting all its eggs in the sun and wind basket, Germany needs a balanced mix of different energy sources. Sun and wind should be combined in roughly equal proportions with reliably controllable forms of energy (e.g. biogas, natural gas with carbon capture and nuclear power).

2. New photovoltaic and wind power plants have to be viable without subsidies

In 2024, the Renewable Energy Sources Act (EEG) and its guaranteed feed-in tariff will cost taxpayers more than 20 billion euros. This situation will only get worse in the future. After more than 20 years of taxpayer support, it is time for renewable energy to compete in the market place without subsidies!

3. Making fossil-fuel power plants climate-friendly by means of CO₂ capture

Carbon capture is a key technology for the coming decades if the global climate problem is to be tackled successfully. It is not fossil energy sources that are harmful to the climate, but fossil emissions, which must be prevented. Even existing power plants can be made CO₂-free with carbon capture. The prerequisite for this is the systematic development of a CO₂ network infrastructure to supply the captured CO₂ to a useful material recycling process or to compress it underground.

4. Seize the opportunity of German natural gas!

The LNG gas imported from the USA and Australia has a higher CO_{2eq} footprint than German-mined brown coal and is also significantly more expensive. In addition to lignite, Germany also has considerable natural gas deposits of its own, which are more climate-friendly and available at around 50% of the current price of imported gas. Since natural gas is indispensable for the time being, under no circumstances should our existing gas distribution infrastructure be dismantled!

5. Use hydrogen only for economical applications

Germany's National Hydrogen Strategy envisions the large-scale use of green hydrogen in areas where it is far too expensive:

- Surplus PV and wind power, which is converted into hydrogen, stored and converted back into electricity in gas-fired power plants when needed, is many times more expensive than today's electricity price.
- Green hydrogen produced in Germany is more than twice as expensive as fossil natural gas and is therefore not an alternative for Germany's energy-intensive industries (chemicals, steel, metals, glass, paper, textiles, etc.).

These realities will not change even if green hydrogen is imported!

The hydrogen strategy needs to be rethought, should focus on cost efficiency and should allow all "colors" of low carbon hydrogen. Hydrogen should be used where there are no cheaper decarbonization alternatives, e.g. in chemical processes, as a diesel substitute in heavy duty transportation, and in the production of carbon-neutral aviation fuel.

6. CO₂-neutral fuels for energy-intensive industry and mobility

CO₂-neutral fuels are an important building block for the decarbonization of energy-intensive industries (including chemicals, glass, paper, textiles) and mobility. Both natural and synthetic sources should be used. Due to the high demand for CO₂-neutral fuels, the production of e-fuels should be simplified by regulators, and the requirements of additionality and simultaneity should be dropped. The ban on internal combustion engines should be lifted and the fleet directive should cover the entire life cycle of a vehicle.

Plants, soils and the oceans absorb a significant portion (about 50%) of the CO₂ emitted by humans each year. Nature's capacity to bind CO₂ can be further increased globally by reforesting degraded areas and restoring soils.

Part of the crop production in reforested areas should be used to produce CO₂-neutral biofuels that can partially replace fossil fuels.

7. Consider re-entering nuclear energy

The phase-out of nuclear power was a mistake by German policymakers, jeopardizing security of supply and significantly increasing the cost of our electricity system.

The leading nations of the world and the Intergovernmental Panel on Climate Change continue to rely on the use of nuclear energy and are increasing it. We call for an action program to preserve the option to return to nuclear energy. In general, a different attitude to the issue is needed, also because of the cooperation with our neighbors in the common EU market.

Research activities related to nuclear fission and nuclear fusion must be intensified to secure the future, also because a lot of expertise has already been lost.

8. Market-based solutions instead of bans and excessive bureaucracy

Germany should return to the values that have helped us achieve economic prosperity and technological leadership: market economy, free science and entrepreneurship. Excessive bureaucratic, planned economy EU regulations such as ESG, CSRD, EnEFG, Supply Chain Due Diligence Act, Taxonomy, etc. cause competitive disadvantages for the German economy and should be reduced to a reasonable minimum.

On the basis of the agreement reached in Baku on Article 6.4 of the Paris Agreement, which explicitly supports global cooperation in the area of CO₂, including offsetting, Germany and the EU should instead focus on entering into comprehensive global cooperation partnerships to enable common climate protection targets, harmonized emissions trading systems and global CO₂ pricing, including financial transfers for economically weaker countries. German and European companies should be able to profit as much as possible from this. One focus is the offsetting of CO₂ emissions from e-fuels, which are of great importance for our future mobility. Offsetting is not a “buyout”, but a central building block for global cooperation.

Conclusion

If the proposed points are implemented, a further cost explosion in energy prices in Germany can be avoided. The existing electricity and process heat infrastructure can continue to be used to a large extent. Costs of several hundred billion euros for grid expansion and electricity storage can be saved! In addition, Germany would improve its energy self-sufficiency and reduce the CO₂ footprint of its power generation system to an international benchmark of 50 gCO₂ per kWh.