



Global Energy Solutions e.V.

For Prosperity and Climate Neutrality

Interview Fritz Vahrenholt

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Bert Beyers: Do you think that the energy transition in Germany, as it is now planned, will work?

Fritz Vahrenholt: No, I think it will fail. We can already see the failure. The head of the Federal Network Agency is already telling us that we can expect shortages that can only be overcome by power cuts. In industry, but also in private households. Simply relying on wind and sun ignores the fact that there is no wind worth mentioning 140 days a year. During this time, however, we also need secure electricity. And the alternative of building gas-fired power plants does not make the situation any easier. Because gas is very scarce worldwide at the moment and will remain scarce. We are taking gas away from other countries like Pakistan and the prices have meanwhile been driven up so high by Europe and Germany in particular that they are now starting to build coal-fired power plants again instead of gas-fired power plants. We shut down our coal-fired power plants, replace them with gas-fired power plants - drive the price up and other countries return to coal, that doesn't work. If you phase out coal and nuclear power and at the same time want to convert mobility and heat to electricity, you make electricity very expensive. We already have the highest electricity price in the world after Burkina Faso. And that's all bad for the industrial location. In the end, industry needs competitive electricity prices. In China and the USA, electricity costs only a third or a quarter. And we can't sustain that in the long run.

The German government is planning 80 per cent electricity from renewables for 2030. Do you think that is realistic?

I think that will be difficult. Even if we build five wind power plants every day, we have to make provisions for the lull at the same time. That means we would have to build about 40 gas-fired power plants. At any rate, that's what the Federal Government stipulated in the coalition agreement. However, we have an electricity crisis in Germany, above all, because we have shut down huge generation capacities. And now, of course, new consumers are being added, electric cars, heat pumps. And that makes things even more difficult. Renewable energies account for just five or six percent of primary energy. Because electricity only accounts for 20 or 25 percent of our energy budget. That's why I think it's foreseeable that we'll have to go other ways than the ones we've taken now.

What are the paths?

We have to expand and broaden the electricity supply. And we cannot shut down any more power plants. But that is the plan. We will probably shut down the nuclear power plants, although I think that would be a big mistake. But at the same time we will import electricity from French, Czech or other nuclear power plants. Nevertheless, I believe that the phase-out has been decided politically. But we have to be sure that the coal-fired power plants that have now been switched back on from the reserve will not be shut down again in 2024. How is that supposed to happen?

What will happen to the climate then?

We have to deal with this: How can we make coal-fired power plants environmentally friendly, how can we make them climate-friendly? And that brings us to the magic word carbon capture, i.e. CO₂ capture. This is the big issue that the whole world is dealing with and developing. In Germany, however, carbon capture is prohibited in some areas. We are also not allowed to inject CO₂ underground. By the way, CO₂ capture would be cheaper than the money for CO₂ certificates that goes into the state coffers.

What about natural gas?

That is the second issue that is unavoidable. We have huge natural gas reserves in the North German Plain that could supply us with natural gas for 20 to 25 years. Instead, we import fracking gas from the USA. This is extracted under conditions that are not particularly environmentally friendly. After extraction, the wells remain open. This means that methane still escapes. Methane is a powerful climate gas. In addition, liquefied gas is transported by ship, which releases a lot of CO₂. I'm pretty sure we can do better. We can use other fracking fluids. We can also safely assume that every district administrator in our country who issues a production permit will pay attention to the refilling of boreholes. And that would at least give us a chance to produce gas and electricity competitively - and protect us from power cuts.

But we are far from that in Germany. At the moment, the train is going in the other direction.

In Germany we have a socio-political situation in which people believe they can avoid all risks. And of course extracting natural gas from deep layers is a risk, but a manageable one. But without taking new risks, you have no chance of managing things. Coal is also frowned upon, it is said to be evil. That's why we don't want to approach the solution to the problem by sequestering CO₂. But if we could do that with our engineering skills, we could expect the same from India and China. I have now recently learned that the Icelanders are pressing CO₂ into basalt rock. And basalt is a siliceous rock that combines with the CO₂ to form dolomite, which stays down there for thousands of years. If that's the case, then we have to do it. Because it is undisputed that we have contributed to global warming through CO emissions.²

You are considered a sceptic on climate issues.

Whether we can really attribute the entire warming to humans, I would put a question mark behind that. Because after the Little Ice Age 150 years ago, there was also natural warming. But we have to attribute a large part of it to ourselves. And now we have to solve the problem. We need time for that. And we have that time, because the extreme scenarios of warming, which have been the subject of much

political propaganda, are not scientifically tenable. This is now common sense in climate science. The CO₂ problem will not be solved if Germany relies solely on renewables and destroys its industrial base. With wind power, electricity prices per kilowatt hour are 8 euro cents. And if you store the electricity temporarily, you have to reckon with three and four times that price, because on the hydrogen path electrolysis/storage/reconversion you lose three quarters of the energy. You won't be able to produce steel, copper, silicon, zinc or plastics in Germany with that.

Realistically speaking, how are things going in Germany?

As early as next year, the German government will be faced with the question of how to deal with the 10,000 megawatts of lignite and hard coal-fired power plants. They were shut down and then reconnected to the grid because the Russian natural gas failed. Now let's imagine the Bundestag election campaign in 2025, in which the Greens have to answer the question why Germany either suffers from nationwide power cuts or, under Green government participation, has the highest CO₂ emissions for years - because of the coal-fired power plants. Then the next step is to say: Yes, if we are going to use coal for a certain period of time, let's please make it environmentally friendly and capture the CO₂ from power plants. I think the discussion is inevitable.

And Economics Minister Habeck has already moved.

He said, yes, we could imagine capturing CO₂. Not from evil coal, of course, but in industry. But that is already a first step. He was the one who prevented the dumping of CO₂ in deep rock strata in Schleswig-Holstein. I don't think the model of a developing country with power cuts first in one district and then in the next is a good starting point for a Bundestag election. The big issue at the next federal election will be: How can we get a secure electricity supply in Germany again as quickly as possible?

You yourself have made a proposal for a Plan B for Germany's electricity supply: First, offshore electricity, second, lignite with carbon capture and third, nuclear energy. But that won't happen overnight either.

My plan B is indeed an industrial electricity price, which the Federal Chancellor once announced. That should be our goal: 4 euro cents per kilowatt hour. And that would require a mixture of lignite, offshore and nuclear energy. If you take this mixture, then you can also justify lignite-based electricity for a certain period of time. That is then even significantly cheaper than electricity from gas. But of course, the perspective must be to get the CO₂ out completely in the end. Moreover, the three nuclear power plants that are now being shut down must not be given a demolition order. The federal states must play along with this, first and foremost Bavaria. Thank God, this is not yet the case with the three we shut down a year and a half ago. We could reactivate them as well. For example, Isar 2, which was the world's best nuclear power plant with the best reliability. As long as the demolition order has not been issued, the old licence is still intact. So, in an emergency, it might be possible to do a U-turn on the issue. In the case of lignite, it's a question of continuing operation - and then retrofitting. And with offshore, that's being built anyway. That's why my proposal is not so far-fetched.

And what about industrial electricity?

For this, we need our own exchange electricity price with our own trading platform. But that is not a difficulty either. After all, we are talking about six million jobs that make up our prosperity. The German economy is already an excellent circular economy. And the chains must not be allowed to break.

In your book you write that it would take 20 years to correct the wrong decisions of energy policy. That doesn't sound very optimistic.

If the pressure is great enough, the politicians may be able to turn things around in two years. But if that doesn't happen, then it will indeed be the case that we move in the direction of a developing country. Then at some point we will import more advanced energy technology like inherently safe fourth-generation nuclear power plants. The other nations, they're not that stupid, they keep going. The Chinese are working on CO₂ capture, by the way, they are also developing inherently safe nuclear power plants. The Americans are doing the same. Bill Gates and many private people are in the

process of developing a new nuclear reactor that cannot burn out and does not produce long-lived radioactive residues. Unfortunately, we are not doing research in this sector of the future. I find that most regrettable. But other countries are not asleep. And then we will have to import this technology at some point. And that costs prosperity.

So they are relying on nuclear power.

The French are building nuclear power plants, the Poles are building two nuclear power plants on the German-Polish border, the Dutch are building three. The Swiss have not yet decided. The Czechs will certainly build some too. In other words, we will try to winter with spur lines from our neighbours' nuclear power plants. That will be the perspective. So yes, if we don't have the strength and if the reservations about new, innovative solutions don't materialise, then the next generation will go through a prosperity valley for ten or 15 years. But thank God we are not alone in the world. At the moment, we believe we can solve the CO₂ problem with our measures. But that is not possible. Germany accounts for two percent of emissions. China adds one percent every year. In this respect, we should ask our young friends to look at Tiananmen Square and not Potsdamer Platz. Because it is in China that the course is set for the climate.

Who do you want to reach with your book?

Primarily politics. That is my greatest wish. In the governing parties there are already one or two who are beginning to have doubts. I would also like to see the opposition parties deal with it, because the pressure has to come from all sides. The industry knows that. They know the issues, but they don't dare speak out. I can afford it. I am old enough to be able to survive a shitstorm. In Germany, it is difficult to voice fundamental criticism. I founded a wind power company in 2001 and it was very successful. We were the second largest player in Germany and this technology is now in the North Sea. And one of these turbines bears my name: Fritz. And I am proud of that. At that time there was a shitstorm from the other side. The energy industry laughed at me. That's why I don't want to be misunderstood with my current criticism. I also think that renewables make an important contribution to the energy mix. It's the mix that counts and we must not march too fast. We must not get out of the race until we are sure that it will work. So please only get out when we have already got in and not the way we are doing it at the moment. We are building wind

farms and the overhead power lines from north to south will be established in 2032. Yes, how stupid is that? I already know that the wind will have to be shut down and we will pay for this electricity that was never produced. All electricity customers pay for it. The additional grid costs due to renewables now amount to 2.5 billion. That is not a sensible policy.

How do you see Germany in the world?

We are about to make - as the Wall Street Journal headlined - the world's dumbest energy policy. The European Commission is not much better. But the other countries have very different starting points. The French have nuclear energy. The Swedes have nuclear energy and water, the Norwegians have water and gas. And we say: we don't need natural resources, we don't need gas. We are the only country in the world that wants to supply this highly developed society only with sun and wind. The Japanese know their situation and say: We are a small country, we don't have the land for renewables. So we rely on nuclear energy and on importing hydrogen. And I would like to see this pragmatism from other countries. And I think we have to ask ourselves the question: Why on earth are the Germans so alone in the world?

Why is that?

Firstly, we are still doing really well - for now. This can easily lead to a kind of neglect of prosperity: Green electricity comes from the socket. The second thing is, of course, that we have our own history, sometimes a bad history. And now we want to be on the right side, on the side of the good guys who save the world - but in doing so we will achieve exactly the opposite. And the third, it already has partly religious features. If I say we need lignite-fired power plants, then I am already part of the evil and not of the good. But I say I am part of the solution. That means: we must not demonise technologies that can still be useful to us and the next generations. At the moment, we are energy policy ghost drivers.

And you have never avoided quarrels.

I have always enjoyed standing in the wind. When I got into wind energy, RWE laughed at me. I was the nutcase. Back then I said: we can't rely on coal and nuclear energy alone in the long run. We have to address this issue as well. Because there are many countries in the world that have high solar irradiation or a lot of wind. Why shouldn't we use that? Let's make it competitive! Later, I realised that, contrary to all scientific knowledge, people believe that fluctuating wind and solar energy can provide a secure power supply, 100 percent of the time. That's when I got caught up in the wind again. Technically, everything is possible, but it will be so expensive that we will endanger our prosperity.