



For a more successful energy transition: Down with electricity prices

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The goal is clear: In the future, Germany's energy needs are to be met to the largest possible extent by electricity from renewable sources. This will entail high initial expenses for companies and households, as existing infrastructure will have to be retrofitted or replaced. At the same time, companies and households have seen electricity prices rise more strongly than petrol, diesel, natural gas or heating oil prices over the last few years. This suggests that policymakers should reduce the state components of electricity prices as quickly as possible. This would have favourable social-policy effects and strengthen Germany's position as an industrial hub, particularly since it has already suffered considerably from electricity-price-related burdens.

It is policymakers' intention that Germany's energy requirements be met to the largest possible extent (or even completely) by power from renewable sources. Renewable energy is to replace natural gas or oil for heating purposes and petrol or diesel as fuel in the mobility sector. A shift towards electricity is also envisaged for those industrial processes, which currently still rely on coal, natural gas or oil. If it is impossible to replace fossil fuels by electricity, green hydrogen (i.e. hydrogen produced with renewable power) is supposed to be an option. Some visionaries are even proposing an "all electric world". In 2019, however, electricity had a share of only about 20% in total final energy consumption in Germany.

The way towards a world in which electricity plays a much larger role is stony and difficult. It will be necessary to establish sufficient renewable power capacities. Moreover, the problem of weather-dependency of wind and photovoltaic plants has to be addressed. That is why these types of renewable energy still make only a small contribution to assured capacity, even though their generation capacities have been increased considerably. High-performance and cost-efficient industrial-sized power storage technologies are still not in sight.

In addition, companies and households will be in for considerable expenses if they are to shift from fossil fuels to electrical power in the coming years. The existing infrastructure will need to be retrofitted or replaced. For example, electric heating pumps are to be used for heating instead of natural gas, oil or district heating produced by thermal power plants. This will require huge refurbishment expenses in the building stock. Car owners are expected to replace their current cars with petrol or diesel engines by e-vehicles. Companies may have to implement completely new industrial procedures if



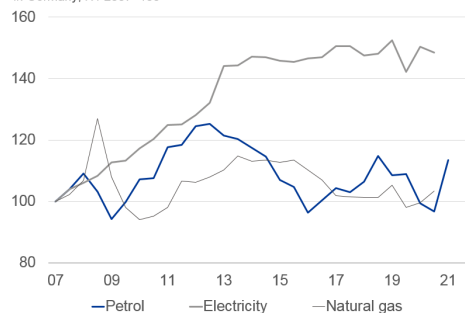
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they are to rely on power and/or green hydrogen in the future. This is an enormous challenge for energy-intensive sectors in particular.

In short, households and companies will have to invest huge sums up front. At the same time, they will need some kind of reassurance that these investments will pay off, in particular if existing infrastructure (industrial plants, heating systems, vehicles, etc.) is to be replaced ahead of the end of its natural lifetime. The government will not be able to subsidise the transformation in full. Both policymakers and companies should give up this illusion as quickly as possible.

Electricity prices have risen more strongly than petrol or natural gas prices

Prices for petrol, electricity and natural gas in Germany, H1 2007=100



* Prices for households. All prices including taxes and fees.

Sources: Eurostat, Association of the German Mineral Oil Industry (Mineralölwirtschaftsverband)

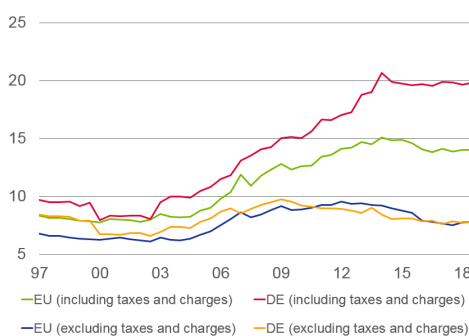
Above-average increases in electricity prices during the last few years

This means that private-sector investment is urgently required for a large-scale electrification of the economy. At the same time, companies and households have seen electricity prices rise more strongly than petrol, diesel, natural gas or heating oil prices during the last few years. Much of this electricity price increase is due to state components. German electricity prices are therefore among the highest in the world and considerably above the EU average. For example, gross prices (i.e. prices including taxes and fees) for commercial customers (not large-scale industrial customers) were 43% above the EU average in H2 2020. Excluding taxes and fees, the difference amounted to only about 8%. This weighs on Germany's position as an economic hub. If electricity prices continue to rise at an above-average clip, owners of electric cars, for example, will see their regular expenses rise disproportionately in comparison to owners of combustion-engine cars.

Rising electricity prices during the last few years are an obstacle to the desired investments in an electricity-based economy. A turnaround is obviously necessary. Companies and households need some reassurance that electricity prices will remain low in order to provide an incentive to make the infrastructure investments, which policymakers are looking for. In particular, it is desirable that industry investments be made in Germany (and not anywhere else).

Taxes and fees are an important driver of German electricity prices

Electricity prices for commercial customers, cts/kWh



* Annual power consumption between 500 and 2,000 MWh

Source: Eurostat

State components of electricity prices need to decline

This suggests that policymakers should reduce the state components of electricity prices as quickly as possible. They might, for example, abolish the renewable energy surcharge or other levies. Funding for existing renewable energy facilities and other items which currently rely on the renewable energy surcharge might come from the federal government's coffers in the future. This expenditure would amount to a major budget item, which would not be really negotiable either, as contractual payments to plant operators will continue for some years. Nevertheless, in this scenario, funding for renewable energy would become part of the annual budget discussions and compete with spending for other government tasks (education, healthcare, domestic and external security, social security transfers, etc.). The costs of the energy transition would thus become the subject of a parliamentary debate – a welcome development in view of the issue's overall economic and social dimension. At the moment, the renewable energy surcharge is determined by the network operators.

Moreover, new (large-scale) renewable power plants might be funded to a larger extent than before by so-called power purchase agreements, under



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which industrial large-scale customers promise plant operators to take off the electricity output at terms set in advance. Expenses for the provision of traditional plant capacities, which are to be used only if the electricity demand cannot be covered by regular capacities and imports, should also be funded from the regular government budget, not via electricity prices. Tender procedures for these fall-back capacities would ensure that prices are determined in a competitive procedure in the future, too. In addition, electricity taxes in Germany might be reduced to the EU minimum, and power might become one of the goods to which the reduced VAT rate applies.

Finally, it might make sense to check options to decouple network fees at least to some extent from electricity prices. From a regulatory vantage point, it would be justifiable to fund the necessary extension of the network and its operation not via electricity prices, but from the government budget. Once again, tender procedures might be used to ensure cost efficiency. The government would not need to operate or own the networks itself. In the end, all these measures might more than halve electricity prices for households and commercial customers.

Flexible electricity tariffs as a supplementary measure

Apart from these options to reduce electricity prices, demand-side measures might bring additional price relief. Flexible electricity tariffs or smart meters come to mind. They would reward customers for consuming electricity during periods in which much renewable energy is fed into the net. Consumers would then benefit from the low marginal costs of wind power and photovoltaics – something they cannot do if electricity tariffs are fixed.

Social and industrial policy advantages

In terms of social policy, lower electricity prices would be welcome, as low-income households spend a larger share of their income on electricity than more prosperous households. In 2019, power providers threatened in about 4.75 million cases to cut households off from power. It seems that action is necessary.

Lower electricity costs would also be of huge importance for the industry and the competitiveness of Germany as an industrial hub. Electricity prices are an important factor in investment decisions. This applies not only to energy-intensive sectors, but also to capital-goods producers. Digitisation and production automation will make electricity prices even more important in the future. If they remain high, large chunks of industrial value creation will come under (even more) pressure in Germany. For many years now, we have been pointing out that the capital stock in energy-intensive sectors in Germany has steadily declined due to the uncertainty about future energy and climate-policy-related framework conditions. In particular, energy-intense industries might shift the early stages of their value-creation chains abroad. Crude steel production or the production of basic chemicals, for example, might be relocated to countries where electricity is particularly cheap and/or where green hydrogen can be produced in large-scale quantities at low cost. This might be more profitable than importing green hydrogen and consuming it in Germany. Over time, later stages of the industrial value creation chain might be relocated as well.



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Policymakers seem to have recognised the need to act. The electoral programmes of the CDU/CSU, SPD, Greens and FDP all contain calls for abolishing or reducing the renewable energy surcharge. Only a few years ago, this consensus was unthinkable. Now, the new government will simply need to match its actions to its promises.

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