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Projekt: The Transport Transition as a Socio-ecological Real-world Experiment (EXPERI)

[Dachzeile]

Saving energy doesn't have to mean social imbalance – but we will need to change our habits

Confronted with the illegal war of aggression launched by Russia against Ukraine, the German government is keen to reduce Germany's dependence on energy imports from Russia as quickly as possible. Various technical solutions, along with a diversification of energy import sources, have dominated this debate. The possibility that **consumers could change their energy consumption patterns** has hardly been considered so far. Yet studies in behavioural science suggest that the savings that could be achieved in the near term are significant and could help to strengthen energy security. The coronavirus pandemic has shown us that people are capable of changing their everyday behaviour swiftly and profoundly. In light of this, we should not underestimate the willingness of people to modify their energy consumption behaviour. In our view, five key aspects must be considered:

1. Policymakers and consumers must understand that **energy is no longer a consumer good of unlimited supply**. Until now, energy has been available to private consumers in unlimited quantities and its consumption was constrained only by its price – or at least this was the case for low-income households. These circumstances are now changing over the short and medium terms. Raw materials used in the generation of energy are now scarce resources and we will need to manage their consumption differently than before. Even if energy prices continue to rise, we will be unable to meet the demand for these resources if imports from Russia are restricted or even suspended. Ultimately, we will need to achieve **energy savings in the near term** while ensuring that this does not undermine social cohesion.
2. Distribution mechanisms will play a crucial role if we are to prevent Putin's war from further exacerbating social tensions in Germany and making us both more vulnerable as a society and more susceptible to external influences. In future, we will need to distinguish between **two tiers of energy supply: essential** and **premium**. An essential supply of heating, electricity, and fossil fuels should be available to all households in Germany, regardless of their income, so that citizens are able to maintain their personal and professional lives. It will be crucial to ensure that the burdens of this new energy policy are seen to be distributed fairly. This could be achieved, for example, through the introduction of **progressive electricity tariffs** based on the size of households. Under such a pricing scheme, a two-person household would pay 33 cents per kWh up to an annual threshold of 1,500 kWh, then 66 cents for each kWh above that, for example.

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3. Regardless of the exact price, it is not unreasonable to expect consumers of the premium energy supply to make a personal contribution to reducing energy consumption – not least of all because this consumption will rely substantially on fossil fuels. In urban areas, **the use of motor vehicles is often a matter of convenience** and ignores the availability of quicker and less expensive alternatives such as bicycles or public transportation. Cars are by far the most energy inefficient mode of surface transportation, requiring energy inputs to move an average of 1,500 kg of materials in order to transport a single person weighing around 75 kg. On top of this, the thermal efficiency of most internal combustion engines is a dismal 40%. In view of the new global political context, the waste of raw materials that this entails is simply not something that we can afford – not to mention its harmful consequences for the climate. Car-free Sundays are one measure that could be implemented in the short term to heighten awareness of energy consumption and deliver meaningful savings.

4. In addition to reducing electricity consumption in absolute terms, we must also seek to **shift consumption to peak generation times** for wind and solar power. We should be aiming to charge our electric cars and run our washing machines when large amounts of electricity from renewables are available. Timing recommendations provided by regional electric companies could easily be incorporated into weather forecast apps and TV weather news. This would allow Germany's installed capacity of 131 gigawatts of renewable energy to be better utilized, which in turn would reduce our reliance on burning gas and coal to generate electricity. Germany's total electricity demand per day is usually under 80 gigawatts, according to the [Agorameter](#). Studies show that even the introduction of a simple traffic light system – "red" for the peak electricity price, "yellow" for normal, and "green" for economy – can deliver voluntary savings. More sophisticated digital meters can achieve even more efficiency gains, they simply have to be installed and programmed correctly.

5. What we need now is for experts from science and industry to develop and evaluate various scenarios in order to improve our understanding of what can be achieved by changing people's behaviour. In a second step, we must develop strategies that would enable us to harness this potential. It is important that policymakers are prepared for the eventuality that Putin could actually "turn off the gas" at little or no notice. Should this occur, we will inevitably be compelled to **ration fossil energy**. In addition to the approaches outlined here, rationing would require the use of communication strategies and interventions that would encourage the public to remain calm and act prudently in order to prevent panic and ward off the threat of domestic destabilization. This could include the publication of guidance by government agencies, businesses and environmental organisations on how to reduce energy consumption *and* maintain quality of life. Statements in social media by prominent public figures could help to foster a change of mindset.

Many of us are wondering how we can express our solidarity with Ukraine. As important as the demonstrations, donations and practical aid for refugees are – we must also take steps to weaken the power of the aggressor. **Reducing energy consumption and changing consumption patterns are effective contributions to this goal.** Policymakers must communicate this fact and provide useful guidance. One thing is clear: accelerating the energy transition and reducing overall energy consumption simultaneously will require a national effort. As the Federal Minister for Economic Affairs and Climate Action Robert Habeck recently noted, there is no room for taboos in this new energy future. Looking beyond technological solutions, we must adopt appropriate consumer steering mechanisms as soon as possible.