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The energy transition: back to the future?

By Wilfried Lütkenhorst & Anna Pegels,
German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE)

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The energy transition: back to the future?

Bonn, 24 February 2014. The German energy transition (*Energiewende*) is globally unique in seeking to ensure a sustainable future for a mature industrial society without using nuclear energy. Clear political objectives put a premium on climate change mitigation, a nuclear phase-out and the massive expansion of renewable energies. The strategy has received strong social backing to date. Innovative and competitive industries are exporting German energy technologies to expanding global markets, providing a prime example of the new industrial revolution towards climate-friendly economic development.

And yet the dissenting voices are growing progressively polemical. Opponents are becoming increasingly aggressive in defending their fossil (and fossilised!) interests. A cool head is needed now more than ever to avoid throwing out the baby with the bathwater.

Facts are helpful: costs...

A new study conducted by the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE) in cooperation with the International Institute for Sustainable Development (IISD) analyses a key area of the energy transition – the costs and benefits of rolling out solar and wind energy. Without doubt, the costs of promoting these technologies are significant. However, this should be no surprise: we are dealing with a political commitment to provide kick-off funding for new technological pathways. The results are impressive, too. Renewables accounted for around 24 % of the electricity produced in Germany in 2013, with well over half of this amount generated by wind and solar energy alone. The hotly debated electricity surcharge under the German Renewable Energy Sources Act (EEG) amounted to 5.3 € cents/kWh or 22 % of the energy price for private households. However, it is worth noting that funding per unit of energy was five times higher for solar than for onshore wind energy.

...and benefits

At the same time, a total of 206,000 jobs were created (2012) in the wind energy and solar power sector, most of them highly skilled, and the industry prevented over 56 million tonnes of carbon dioxide emissions that would otherwise have damaged the atmosphere. Furthermore, competitive global players have emerged, particularly in the wind energy sector (Siemens and Enercon alone account for 18 % of the global turbine market). Add to this the favourable environmental balance sheet: wind energy and solar power incur greenhouse-gas and pollution costs of between 0.3 and 1.2 € cents/kWh, while the figure for black and brown coal is between 9 and 11 € cents/kWh.

Distorted debate

It seems that the debate is currently dominated by two phenomena that are generating a great deal of resistance. The first is the crisis in the German solar industry. The market, politically designed to have guaranteed feed-in tariffs, is increasingly being conquered by overseas producers, primarily from China. German providers are being hit by a wave of insolvencies, jobs are being lost and technological leadership, at one time considered secure, is slipping away. The reasons for this trend are still being vigorously debated. However, a lack of innovation and the simple continuation of mature production processes surely play an important role. In all these developments, the healthy state of the wind energy industry is often completely overlooked.

The second phenomenon sees evaluation of the energy transition at risk of being reduced to an (increasingly distorted) analysis of electricity prices. One of the reasons for the EEG electricity surcharge being an easy target is its transparent appearance on energy bills. At the same time, the enormous subsidies still being pumped into fossil fuels remain largely opaque.

Germany is reaching its limits as a global pioneer

Germany's pioneering role in achieving climate-friendly growth in an industrial society is the subject of immense global interest. Depending on where observers stand on the political spectrum of climate interests, they want the energy transition to either become a resounding success soon or to fail miserably. There is much at stake for all concerned. The limitations of a go-it-alone approach by Germany are also becoming increasingly apparent. The close interlinkage with the European emissions trading scheme calls for greater coherence between regional and national policy targets and measures. Scaling up renewable energy generation against a backdrop of falling prices for carbon certificates more closely resembles a bizarre tilting at windmills than a systematic industrial policy.

Analysis instead of attack

There is no doubt that Germany's national energy transition project has reached a crossroads. Key challenges remain unresolved: the long overdue network expansion needed to transport energy from the North Sea to consumer and industrial centres in western and southern Germany; the need to develop efficient, large-scale storage technologies, and the undisputedly excessive funding of solar power, which failed to anticipate the rapid drop in the price of PV modules. The fact that solar power capacity per capita in Germany is currently three times higher than the EU average should give cause for reflection.

Nevertheless, an industrial and energy policy geared towards sustainability must accept a certain degree of calculated risk and even setbacks. At the same time it cannot afford to lose sight of its long-term objectives. The costs of the energy transition can be immediately accounted for. However, the same is not true for the long-term benefits of being in the vanguard of establishing a sustainable energy system.