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The German Energy Transition in the European Context – Can the ambitious goals be reached?

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Europe and especially Germany are aiming at highly ambitious climate protection goals for the next decades until 2050. These goals require that the energy production and consumption has to be nearly completely modified within the next 30 years. In Germany this challenging process has started in 2009 and has worldwide become known as German "Energiewende" (energy transition). It concerns all energy-consuming sectors like electricity production, heat and cold supply for private homes and industrial processes, as well as all forms of traffic and mobility. The magnitude of this challenge becomes clearer if one realizes that the energy consumption in Germany is still primarily based on fossil fuels (> 75 %), that all existing nuclear power stations (~ 6 %) will be shut down completely until 2022, and that the renewable energies (~ 13 %) still consist mostly of biomass which can hardly be augmented. Admittedly, the transition process is presently much too slow, the goals for 2020 will nearly all be missed, and the resistance of citizens and industry against wind power, overhead cables, or costs increases. Therefore, questions arise, for instance which technologies and which political measures are required to reach the goals, whether such an energy transition is actually possible at all, and how large the additional costs may become. These are questions, which other countries like Japan may also ask. They have recently been answered for Germany by a 30-membered working group of the German National Academies. The results will be reported.

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