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FIVE QUESTIONS TO CHRISTIAN VON HIRSCHHAUSEN

»New Scenario Framework with CO₂ Emission Reduction Targets and Less Lignite«

1. Professor von Hirschhausen, in the context of energy transition, grid expansion has been a hotly debated topic. What is the actual planning process for the expansion of Germany's electricity transmission system? Since the revised German Energy Industry Act was adopted, planning for Germany's electricity system has been implemented in two key stages. The first stage consists of what is known as a scenario framework, involving discussions about the likely development of the power generation mix for the next ten or twenty years and determined by the German Federal Network Agency. These scenarios form the basis of the Grid Development Plans which, in turn, enter into force at least once every three years in the form of Federal Requirement Plans. The Bundestag adopted the first Federal Requirement Plan Act in 2013 and the assumption is that the next Federal Requirement Plan will be passed in late 2016 or early 2017.
2. What scenarios form the basis of the 2025 scenario framework? In this context, we have seen a major U-turn in the context of the German government's climate targets which, for the first time, feature in the 2025 scenario framework (planning for 2025 and 2035). The Federal Network Agency removed the construction of new lignite-fired power plants from the draft scenario framework and also—for the first time—specified sectoral climate targets for grid development. According to the framework, in 2025 the CO₂ emissions cap in the power sector will be 187 million tons compared with the current level of over 300 million tons. Even this is still relatively high when we consider the government's ambitious target of reducing overall CO₂ emissions by 40 percent by 2020. The electricity sector has very low CO₂ mitigation costs and could therefore make a more significant contribution toward meeting climate targets, compared to the transport or heating sectors, for instance, where it might be a lot more difficult to reduce CO₂ production.
3. Renewable energy sources such as wind or solar power are volatile and create feed-in peaks. How should or could the transmission network operators respond to this problem? Don't forget that the current discussion is about grid expansion for the next 20 years and there has been no serious transmission congestion to date. There are differing opinions as to exactly what the power system should look like in 2050. The most recent studies, such as that conducted by Agora Energiewende, indicate that the architecture of the future grid is relatively independent of the distribution of renewable energy sources, i.e., how renewable energy sources are spread across federal states actually has very little impact on grid expansion.
4. To what extent can grid expansion contribute to the achievement of the German government's climate targets? Grid development per se is obviously not a tool for tackling climate change. It is more a matter of scenario frameworks, which have been very carbon-intensive to date, needing to factor in the German government's climate targets. For the next decade, the expansion of the transmission network should not present any problems. The distribution networks face certain challenges such as smart grids and the flexibility required to integrate renewable energy sources, but, on the whole, the importance of the electricity grid as a topic of political debate is overrated. It is a difficult area, particularly when it comes to regulation, but it is certainly not something that would inhibit the speed of the energy transition in any way.
5. So the grid expansion will not determine speed of energy transition? Grid expansion is a technical and political topic. During the time of Franz Josef Strauß, a shortage of energy was used to secure society's commitment to nuclear power. Since the very first grid studies conducted by the German Energy Agency, dena, network expansion has never impeded the development of renewable energy sources (later termed "energy transition"). Grid expansion is important but it is not a constraint and consequently does not determine the pace of the energy transition.

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