Renewables Grid Initiative

RGI workshop “Plan, prepare, perform: Best practices for operating the system with high shares of renewables”

Berlin, 7 November 2018

Key findings

On 7 November 2018, the Renewables Grid Initiative and its Members 50Hertz and Germanwatch held the workshop "Plan, Prepare, Perform - Best practices for operating the system with high shares of renewables" in Berlin. More than 70 experts from European transmission system operators (TSOs), regulatory authorities, associations, academia and the energy industry came together to exchange good practices and experiences from different European countries in order to answer the question of how a very high share of renewables in the electricity system and a structured phase out of coal-fired power generation can be achieved while ensuring the stability of the system today. The participants discussed both technical as well as regulatory challenges and solutions.

We need a clear and reliable roadmap to phase out coal-fired power generation

One of the most important findings of the day was that there is a need for a reliable path for the further development of renewables and for phasing out coal-fired power generation. Clarity is needed so that all actors can adapt and prepare accordingly. The transmission grid is able to implement the technical changes required to phase out coal within five to seven years. If the German government were to decide in 2018 to phase out coal-fired power generation in 2030, this would be technically feasible, provided that the right accompanying measures were implemented in a consistent manner in order to ensure system stability and security of supply.

We need to expand and implement the right regulatory measures across all sectors

These include further developing renewables, expanding and upgrading the electricity grid, utilising the flexibility in the electricity system as well as across all sectors, e.g. through storage and demand-side management. Further technological progress and, in particular, clear political and regulatory reforms are needed so that forward-looking market designs can enable economic business models in order to provide flexibility and innovation towards the optimised management of electricity grids.

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A secure electricity system with 100% renewable energy is possible in the medium term

The workshop showed that, using the tools already known, it would be technically and economically feasible to safely operate an electricity system with a share of 80% of fluctuating renewables. Already today, grid operators such as 50Hertz in North-East Germany and EirGrid in Ireland see shares of 60-70% renewables in the electricity consumption of their control areas on many days, with a large portion coming from wind energy. In order to achieve shares of renewable energy above 80%, further innovation is needed, to which all stakeholders are committed. Numerous research projects are ongoing in this area. From the engineers' point of view, nothing stands in the way of an electricity system of 100% renewables in the medium term.

A clear roadmap strengthens the acceptability of grid development among the population

A fixed date for phasing out coal would have a strong positive effect on the acceptability of grid development. All too often, local citizens cite the transport of conventionally generated electricity as the reason for their rejection of a power line.

System security and security of supply require cross-border cooperation

Workshop participants also agreed that regional cooperation across national borders is particularly conducive to ensuring system security and security of supply in the electricity system during this transformation process - while at the same time keeping costs as low as possible.