



Certainty of Supply

By Paul Rittersma, Partner

Back in early 2000, with wind energy still not being mainstream and solar PV in its infancy, there used to be a red flag on 'more than 20% renewables on the electricity grid'. At the time, it was the clear and common opinion of energy experts that grids would not be able to cope with more than 20% of intermittent power resources such as wind energy. Denmark was by then already well on track to reach the 20% mark, and regular future black-out and power disruption scenarios were forecasted if the renewable energy business would keep going and growing this way.

Now, more than ten years later, let's look at what happened in reality. Growth in installed capacity in renewables has been stunning and outperformed many, if not all forecasts. Countries including Denmark, Germany, Spain and Italy are on a very regular basis producing 30-40% of their total energy consumption from intermittent sources such as wind and solar. The lights are still on and widespread blackouts have not occurred.

Maybe the experts were wrong, a bit conservative, or driven by self-interest not to change the conventional energy landscape too much with their red flags. Part of the explanation certainly comes from the substantial efforts that have been made in expanding the transmission and interconnection lines and in coordinating actions across neighboring countries. For example, Norway and The Netherlands have been connected, so have The Netherlands and the United Kingdom, including a shared service center created by TenneT and Amprion that locates supra-regional bottlenecks in the grid and supports system operations. Grid operators have also successfully pushed renewable energy operators into forecasting their output for the next 24 hours, the best example being Spain where asset operators and the system cooperate in a sophisticated way.

Looking forward, it's safe to say that the success of the energy transition in Europe as well as any certainty of supply discussion anywhere in the world will not be a matter of having the right regulatory framework in place or of just doing the economics for commercially driven renewables. It will equally largely depend on whether the required infrastructure to dispatch and carry the power to the main load areas will be put in place and whether there are harmonized approaches to efficiently deal with the intermittent nature of renewables. By doing so, renewables and transmission, instead of becoming threats to certainty of supply, will be partners in enhancing its stability.

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