European demand and supply and future generation mix in a Security of supply context
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Abstract

In the next decade, as we move towards 2030, Europe will continue its ambitious path to reducing green-house gas emissions, delivering on its commitment to the COP 21 Paris Agreement of 2016. Primary energy consumption remains the largest source of green-house gas emissions. The EU therefore recently agreed on an ambitious renewables target of 32% by 2030. The power sector will contribute an important share to achieving this objective in many ways: According to data from the IEA and our own work on future scenarios, the share of variable RES generation in the system will rise from some 35% today to almost 50% in 2030.

What is more, we expect that end-user technologies, digitalisation, a steady and significant growth of electric vehicles will enable stronger consumer participation in the market, either directly or indirectly through aggregation. Such developments represent opportunities and new challenges for system operators. It will require ever closer cooperation across the transmission and distribution levels as well as efficient regional cooperation across the technical, regulatory and political boundaries. These forthcoming developments are already today raising new and very interesting questions related to data-management, cyber security, new business opportunities and business models in the power sector, managing digitalisation, sector coupling (electricity, gas, transport), just to mention a few.

The EU’s Clean Energy Package, now going through adoption, aims to set the EU on the right path to address the challenges ahead, not least also by updating ENTSO-E’s tasks and responsibilities.