

RGI Virtual Workshop

Europe in Transition: How can we accelerate the shift to an integrated, renewables-based energy system?

Berlin, 22 October 2020

On 22 October 2020, more than 160 European stakeholders came together to discuss the future of the energy system at the Renewables Grid Initiative's virtual workshop "Europe in Transition: How can we accelerate the shift to an integrated, renewables-based energy system?".

Several experts from European transmission system operators (TSOs), regulatory authorities, industry associations, academia, non-governmental organisations (NGOs) and youth activist organisations, as well as representatives of the European Commission and the German and Portuguese Council Presidencies engaged in a comprehensive dialogue about the cross-sectoral solutions needed to enable an energy system based on high shares of variable renewable energy.

The following summarises key take-aways of the discussion:

A reliable electricity system with high shares of variable renewable energy is well on its way. The better we collaborate, the sooner we will achieve it.

Already today, several TSOs have committed to operating electricity systems with high shares of variable renewables. Stefan Kapferer, CEO of 50Hertz, provided insights into the company's vision to achieve 100% renewable energy by 2032, as did Mark Foley, CEO of EirGrid, the Irish TSO, whose company is striving for a transition to 70% RES power by 2030.

While not all national and geographical frameworks allow for the same pace or ambition, participating TSOs concluded that decarbonisation is necessary, and renewable energy sources are economically and technically feasible in the medium term. The TSOs also expressed their commitment to contributing to decarbonisation efforts and stressed the fact that higher decarbonisation targets and a higher renewable energy penetration will require the participation of all actors, across the entire economic and energy spectrum. Key conditions for accelerating the energy transition include an increase in public acceptance for the necessary infrastructure at national and project level, and a common understanding of the challenges and changes needed. What's more, grid planning needs to be further improved to better include distributed resources as well as digitalisation options and related risks.

Participating TSOs also emphasised the courage needed to experiment with new technologies and different approaches, and, in this context, the need for collaboration with energy regulators.

Decarbonisation of our energy system by 2050 is possible through a smart combination of electrification and use of green gases.

Integrated system planning is essential for developing reliable pathways to net-zero emissions. Equally important is the development of an electrification roadmap which fully takes into account geographical differences and technological advances – a valuable contribution to furthering our knowledge. While it is clear that electrification based on renewable energy sources is a fundamental pillar of the decarbonisation efforts, it is also increasingly necessary to identify future users of green gases and to develop compelling incentives for them.

Actions and investments related to the European Green Deal and the Recovery Plan for Europe have to be designed and implemented to support energy system integration, enable the participation of individual consumers and acknowledge the role of the electricity grid as the backbone of the energy transition.

The availability of clean energy is necessary for industrial and economic growth and the creation of European jobs.

Accelerating and aligning the energy transition with economic growth at the European level requires cooperation between a variety of stakeholders. Speakers emphasised the need to increasingly engage with industry, small- and large-scale consumers, and civil society to speed up the transition and reach net zero emissions. In particular large industrial consumers with ambitious sustainable energy targets drive the transition forward by connecting investment priorities to the reliable supply of renewable electricity. A suitable example for the shift in demand priorities was offered by Google, which highlighted their ambition to match their hourly electricity demand with carbon-free energy from the regional grids in which they operate. In addition, the company is developing a system to shift the timing of certain computing tasks to match the availability of low-carbon power sources.

The energy transformation is a societal challenge that requires commitment, collaboration and communication between all stakeholders.

The energy revolution is more than a technical, economic and political transition, it is a paradigm shift which requires the participation of the entire society. It is based on trust and requires transparent and well-designed processes for bringing stakeholders together to understand challenges and find common solutions, including in the area of infrastructure planning. Participants highlighted the need for inclusiveness and cooperation between TSOs and civil society, the inclusion of a broad range of perspectives from small- and large-scale consumers and international cooperation between Europe and its partners. In particular, the provision of flexibility services will require the participation of all actors – from the generation, transmission and distribution to the demand sectors.

Circular economy principles and ecosystem restoration should play a significant role in the energy transformation.

Decarbonising our economies entails opportunities for environmental protection. Adopting an integrated system approach at the planning stage can contribute to resource efficiency, thus leading to a more resilient environment, a more efficient and affordable energy system, and faster decarbonisation. This approach is particularly relevant for the development of large-scale renewable energy projects, such as offshore wind and power grids. In this context, it is necessary to develop sustainable technologies and infrastructure, as well as processes for deployment and sourcing that take into account circular economy principles.

The planning of energy infrastructure should be based on robust scientific principles of environmental protection. In addition, the precautionary and the 'do no harm' principles should be applied already at the planning stage. European regulation also plays an important role, in particular in aligning stakeholders' interests and ensuring that ecosystem restoration is part of the overall vision.