

The power sector is changing!

Renewables-Grid-Initiative

Climate and energy security concerns are drivers of a quick transformation towards a largely renewable power sector. The European emissions reduction targets and the commitment to keep temperature increase below 2°C require the power sector to be fully decarbonised by 2050. Large parts of society demand that the decarbonisation is achieved predominantly with renewable energy sources.

The Renewables-Grid-Initiative promotes effective integration of 100% electricity produced from renewable energy sources.

New technologies already today offer the possibility to harvest abundant and sustainable renewable energy sources. Large amounts of renewables from **utility scale** and small, **decentralised** units are starting to be integrated in the European power grid. This trend will continue and it can be expanded to reach very high percentages of renewables, **even 70 to 100%**, if society continues to support these changes. Over time, this transformation will lead to more stable and possibly lower electricity prices and it will guarantee **energy and climate security** in Europe and beyond. Already today, with the use of **smart** technologies, **consumers** have the possibility to become **producers and sellers of electricity and actors in demand-side management**. Never before the opportunity for building a sustainable and reliable electricity system has been so great.

Key to this transformation is the availability of a **grid infrastructure** that enables the transmission of electricity from production to consumption and storage areas. Grid overhead **lines** and underground **cables** allow us to do this. Renewable energy sources are abundant and vary, but they are most available in remote areas where demand is low and economic activities scarce. It is necessary to make better use of the existing grid, and it is crucial to enable the development of this key infrastructure to become more flexible and integrated at a European level in order to meet evolving energy and environmental needs.

In the coming decade **thousands of kilometres of new lines should be built** across Europe. Therefore, **careful strategic and participatory planning** is needed to realise new grid infrastructure to meet the electricity needs of the next 50-70 years and systematically address public concerns. The new grid architecture should enable the integration of all renewable energy sources – independently from where and when they are generated – to expand the possibility for distributed generation and demand-side management. Such a new system will deliver not only **energy security** in a world with decreasing fossil fuel resources, but also **reliability, transparency and predictability** of the electricity markets in and around Europe. Furthermore, it will deliver **climate protection** and the required **emissions reduction**.

The Renewables-Grid-Initiative advocates national and EU authorities to strive for an efficient, sustainable, clean and socially accepted development of the European network infrastructure for both decentralised and large-scale renewable energies.

Political and public support is key to realise this transformation. A clear and long-term policy framework is required to provide confidence among investors to guarantee that effective and necessary investments in transmission systems can actually be made.

The challenges we are facing in the field of security of supply and climate protection can only be addressed by actors across different sectors of society. A broad-based alliance of science, businesses and NGOs can support governments and parliaments to make the necessary decisions in a transparent way.

The Renewables-Grid-Initiative is ready and can provide the needed support. Strong political leadership is needed to engage with the general public and address the legitimate concerns of people being affected by new grid development. In particular safety concerns have to be addressed systematically and in a transparent way so that this essential infrastructure can be realised timely to deliver benefits to all.

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