

1) Manage grid connection queues to connect quickly new demand and renewables

More than 500 GW of wind farms are waiting for grid connection assessment across 10 countries. Not all these projects will be built. Many will be competing in the same national wind energy auctions. Still System Operators will have to assess their requests. This comes with huge administrative load. It is also done on a first come, first served basis that is no longer fit-for-purpose leading to an unbalanced mix of technologies and grid saturation.

National Authorities should better manage grid connection queues with adequate entry and “stay in the list” criteria. They should also filter early on viable from non-viable projects and strategically prioritise certain requests to ensure balanced grid capacity allocation to all strategic net-zero technologies. The Commission should develop guidance for Member States to do this in a coordinated way including for flexible connections.

2) Plan grids based on policy targets for electrification and renewables’ capacity

National Authorities and System Operators must ensure regular feedback loops and consistency between their national network development plans and their latest national policy targets for electrification and renewables’ capacity. The Ten-Year Network Development Plan (TYNDP) scenarios must underpin the Commission’s recommended targets for renewable capacity and electrification in 2040. This has not been done so far.

Transmission and Distribution System Operators should coordinate closely their grid expansion, optimisation and flexibility planning, ensure it is sufficiently forward looking – beyond 2035 - and properly considers delays, bottlenecks and supply chain needs. National Authorities should also ensure that the decommissioning or repurposing of gas pipelines is planned in consistency with electrification and electricity grid planning.

3) Anticipate grid investments beyond 2035 and find the right finance tools

In 2025 Member States will need to anticipate their electricity grid investments to achieve the EU climate goals. Forward-looking planning beyond 2035 and adaptable risk mitigation plans for System Operators will be key.

Network tariffs at national level will remain the main tool to finance these investments. To ensure public acceptance and affordability, network tariff structures must be clear and justifiable to all network users and comparable among Member States - at least at regional level. The latter will be crucial to take forward investments with cross-border or regional relevance such as offshore cross-border infrastructure.

But Member States will need additional tools to complement network tariffs. Guided by regional energy governance groups, they should urgently map available or new tools such as combinations of public and private funds e.g. bonds or mechanisms funded by the ETS revenues and other. This will also require adequate revenue streams for such grid investments. Lastly, the Connecting Europe Facility will need a big scale-up in the new Multiannual Financial Framework.

4) Strengthen regional cooperation and infrastructure security

Several decisions about grid infrastructure planning, investments and security will have big cross-border impact but will also depend on national priorities and governance. For instance, national grid reinforcements supported domestically by network users might be needed to support offshore wind integration in other countries in the same region with good offshore wind potential. To deliver on the EU Grids Action Plan, the Commission and National Governments will need to strengthen regional leadership and coordination for instance by reinforcing the role of the High-level Groups. This will also be key to ensure European sovereignty regarding energy infrastructure and its physical and cyber security including sensitive data protection.

5) Ensure planning security and resilience for grid supply chains

Supply chain bottlenecks have big impact in grid expansion and reinforcement. National Governments should support the planning security and growth of grid supply chains with dedicated finance tools and expedited permitting for new factories. Also, the non-harmonised national implementation of Network Codes leads to market fragmentation. Equipment OEMs need to develop various versions of their products to satisfy different national rules. This doesn’t enable industries to focus their manufacturing capacity on few standardised versions and ramp up production. System Operators and industry should closely collaborate and develop a common list of what must be standardised without constraining innovation or the possibility to offer different technologies.