

Fingrid main grid development plan 2024-2025

Better Energy comments

Title Better Energy comments to Fingrid main grid development plan 2024-2025	Department area Development	
Docu Note # -	Version 1	Prepared by -
Date 2023-08-30	Classification Public	Reviewed by -

Version history

Version	Date	Change
V1	2023-08-29	Original version

We would like to thank Fingrid for providing stakeholders with the opportunity to comment on the Grid Development Plan. Fingrid's commitment to transparency and accuracy in the planning process is commendable and we hope our input will serve the work going forward.

1 Future solar production capacity in Finland

As the draft main grid development plan points out, Finland has a remarkable potential for renewable electricity production from both wind and solar. There is great potential for harnessing solar energy due to large areas of suitable land and a temperate climate, which increases the efficiency of photovoltaics. In addition, solar energy is a good complement to wind energy, since the sun often shines when there is no wind, and vice versa. By having wind and solar production in the proximity of each other there is also a potential of to ensuring a more efficient usage of the electricity grid.

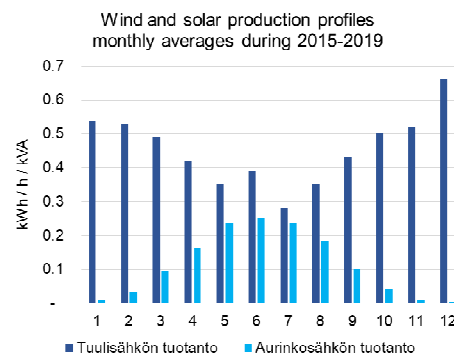
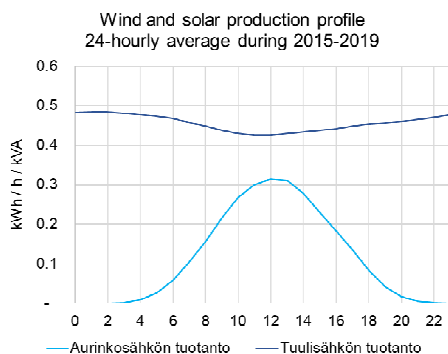
However, the draft currently seems to underestimate the potential contribution of solar power in the energy mix. It is assumed that solar power will generate 8 TWh by 2030 (see figure 25), equivalent to 6-8 GW in installed capacity. The economic potential is of course closely linked to the expected electricity consumption, in particular the electricity needed for power-to-x processes. It is our assessment that these assumptions could benefit from a conservative revision by adding 30-40 per cent more to the projections.

Fingrid's latest Electricity System Vision presents a broad estimation of the growth in power-to-x demand between 0,6-46 GW. It is worth noting that solar power has the potential to grow significantly towards 2035 as Child, Haukkala, Breyer (2017) stresses, a 100% renewable electricity system for Finland would require 30 GW of solar power and it is really only the electrical demand that would set the economic limits to additional renewable capacity. Building upon this point, various European, and in particular Scandinavian, TSOs have revised their forecasts for additional solar power capacity during the past year, which indicates that the potential contribution from solar power has been significantly underestimated previously. The recent revision of the EU Emissions Trading System, which includes a drastic decarbonization towards 2044, also indicates a need to adjust the prognosis of the needed renewable energy capacity build-out in the next decade. In the new Directive, the Linear Reduction Factor (i.e., the annual reduction of cap on emissions) nearly doubles from the previous 2.2% to 4.3% in 2024 and 4.4% in 2028 until the end of Phase IV.

2 Flexible grid connection

The draft main grid development plan signals openness to develop solutions for the active management of network congestion which is both laudable and of the utmost importance. Currently there are more than a gigawatt of permitted and ready-to-build renewable energy projects that are waiting for grid connection permits. An **active network congestion management system** that would enable a more efficient use of existing network infrastructure should be of the utmost priority.

Wind and solar production profiles complement each other in terms of production profile stability. This complementary effect also helps wind and solar in efficiently sharing grid capacity. This grid use efficiency can be further improved by flexibility on the rare occasions when wind and solar are both producing at high capacities on the same networks. Thus, we believe more solar can be added to the grid in areas dominated by wind production in ways that improve grid stability and efficiency. This complementarity and the potential for flexibility should be taken into account already in short term as well as long term grid planning.



We invite Fingrid to start the dialog with stakeholders in order to develop a plan for an active congestion management system that would be best for Finland. We have several alternative congestion management solutions to propose when the decision to start these discussions is made.

3 Development of Regional grid plans

In the draft main grid development plan Fingrid clearly indicates willingness to build a robust power system for future needs and even to meet the consumption of neighbouring countries. We consider the plan good and responsible, and we want to participate in the development of the network and enable the implementation of the plans with a faster schedule.

However, fulfilling the legal obligation - even in theory - to connect all the renewable energy projects in Ostrobothnia is extremely challenging. Therefore, it would be more meaningful to describe the future connection capacity potential: how many projects (or the capacity) Fingrid manages to connect to the grid in the near future (instead) in addition to the number or capacity of connection inquiries. By doing this would Fingrid guide project developers to direct their efforts to areas where grid capacity is more accessible. The assumption of faster solar power project development in Ostrobothnia is misleading, as applications must be processed in order of arrival. And currently there is a queue formed by grid connections of wind power.

We support the idea where project developers build their connection lines themselves, and later the networks are supplemented as part of the main grid. This method involves project developers and provides a path to a smoother grid connection process with a potential upside later on.

4 Stakeholder dialog to ensure success

The global climate changes call for a fast green transition, and it is obviously, that the electricity system plays a key role to succeed, and thereby puts Fingrid and other electricity system operators in the hot spot for facilitating this. On one hand there is a need for speeding up the green transition, but at same time there is a need for doing it in a reliable and efficient way to keep the costs to an absolute minimum.

To ensure a fast, reliable and efficient green transition, we must all join forces and pull in the same direction.

In terms of the electricity system, it is of greatest importance, that everything from technical requirements, system services and flexibility to market mechanism and tariff structures are all supporting the future needs.

This is not an easy task, and we do not believe this can be achieved without a strong trustworthy collaboration between all stakeholders.

As an independent power producer and developer of large-scale renewable energy plants, it is very important for us to understand what the challenges are in the electricity system. At the same time, we also believe that Fingrid needs to know what the challenges and opportunities there are for the different technologies in order to create the best possible technical and economic framework. Because of that, a continuous dialog is essential to ensure success.

We will be happy to contribute to this dialog.