

Finnish wind power from minor to major

9.5.2023

Heidi Paalatie
Finnish Wind Power Association

Finnish Wind Power Association (STY, FWPA)



Suomen
Tuulivoimayhdistys

- Valued industry association for wind power
- Established in 1988
- Over 210 company members, app. 160 private members
 - Wide range of companies related to wind power field
- 8 employees – hiring two more in 2023!
- HQ in Jyväskylä
- Spreads the word about the wind power, active participant in public discussion, publishes magazine "Tuulivoima", organizes seminars and courses

www.fwpa.fi, www.tuulivoimayhdistys.fi
www.windfinland.fi, www.tuulivoimalehti.fi



Anni



Heidi



Kimmo



Anna



Johanna



Aino



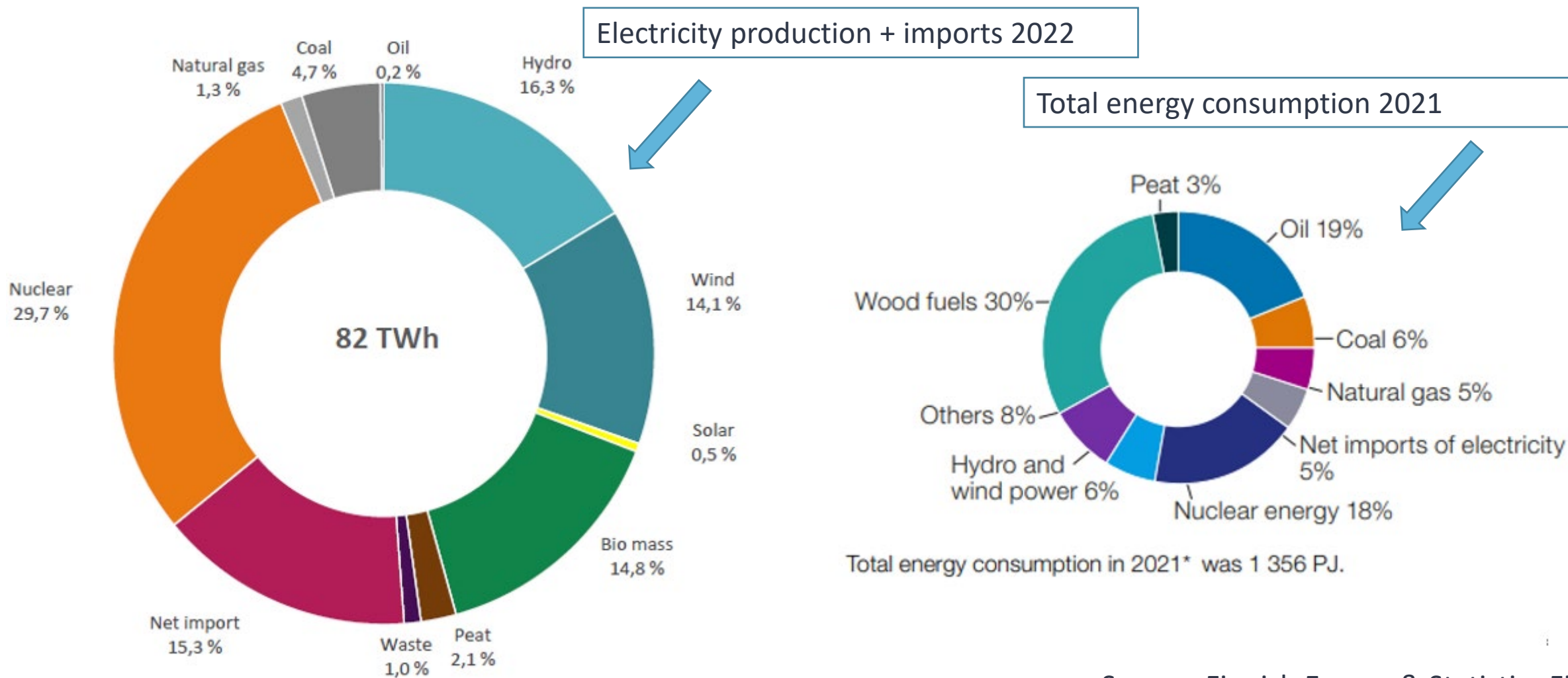
Anne



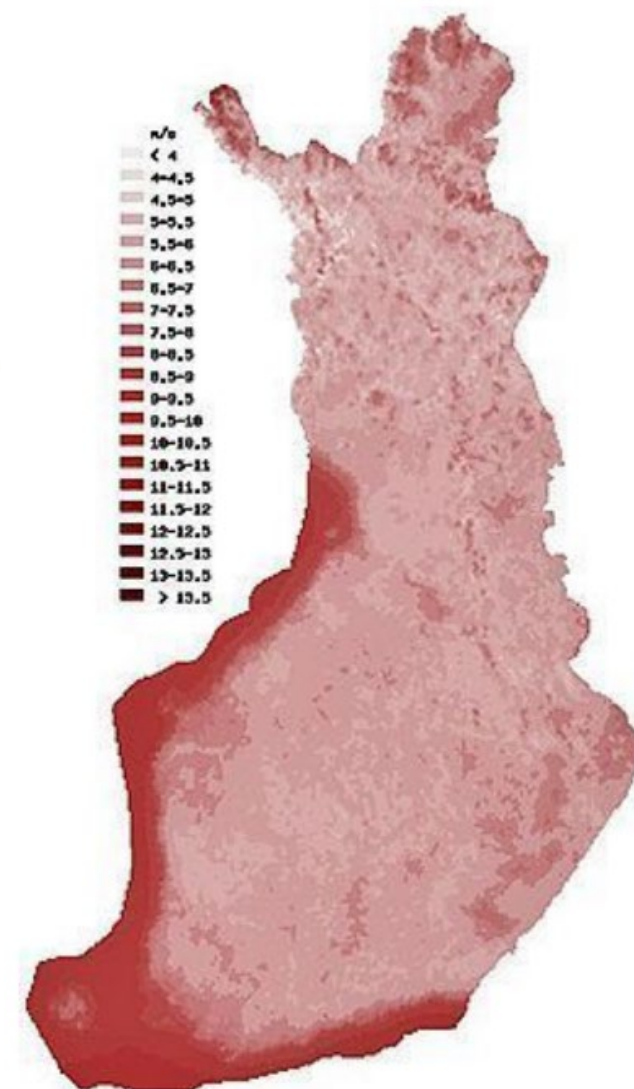
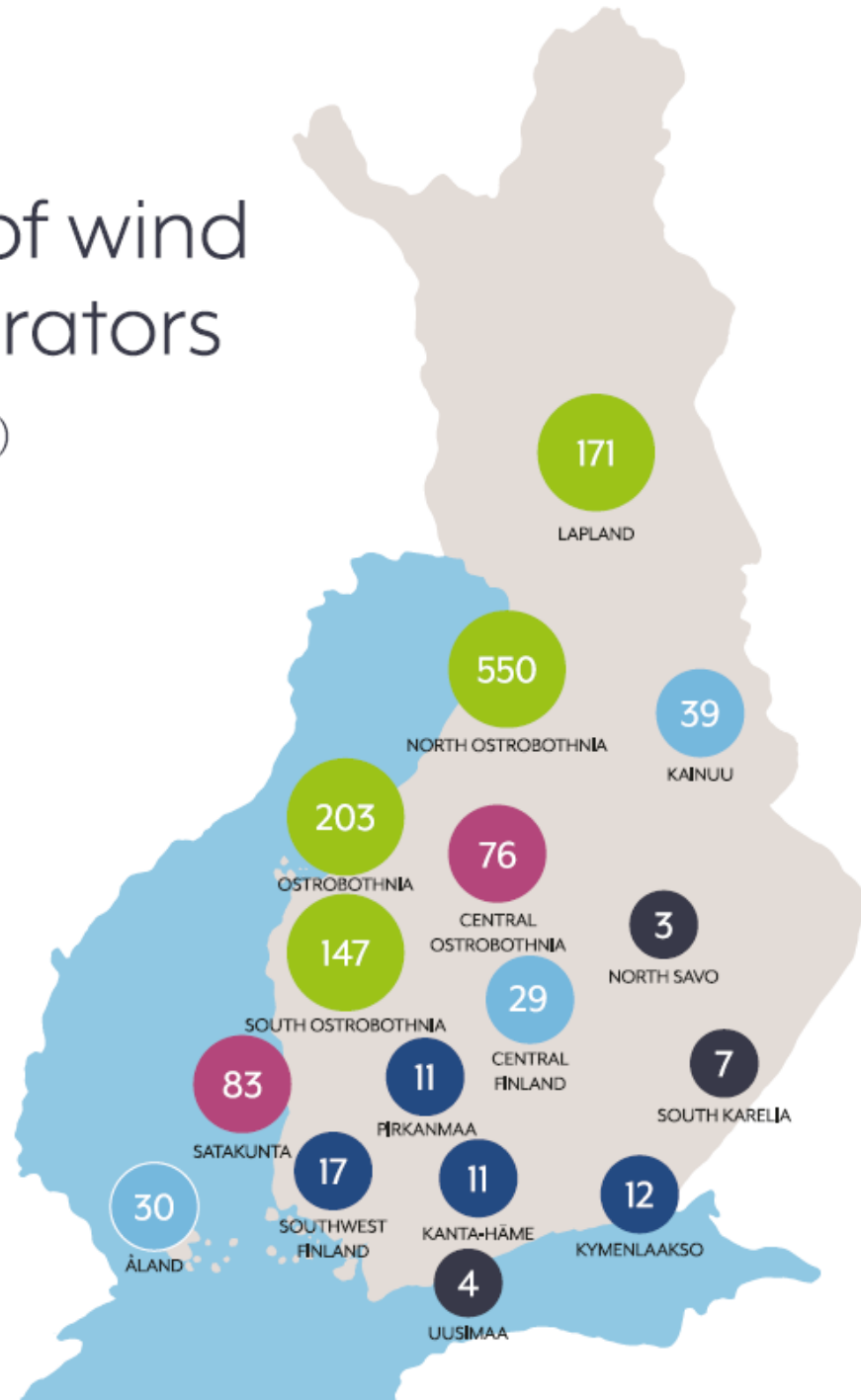
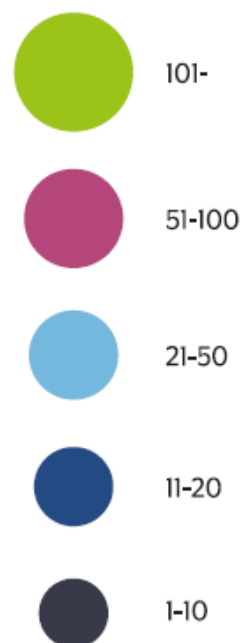
Maria

Electricity clean

– but work to do in all energy



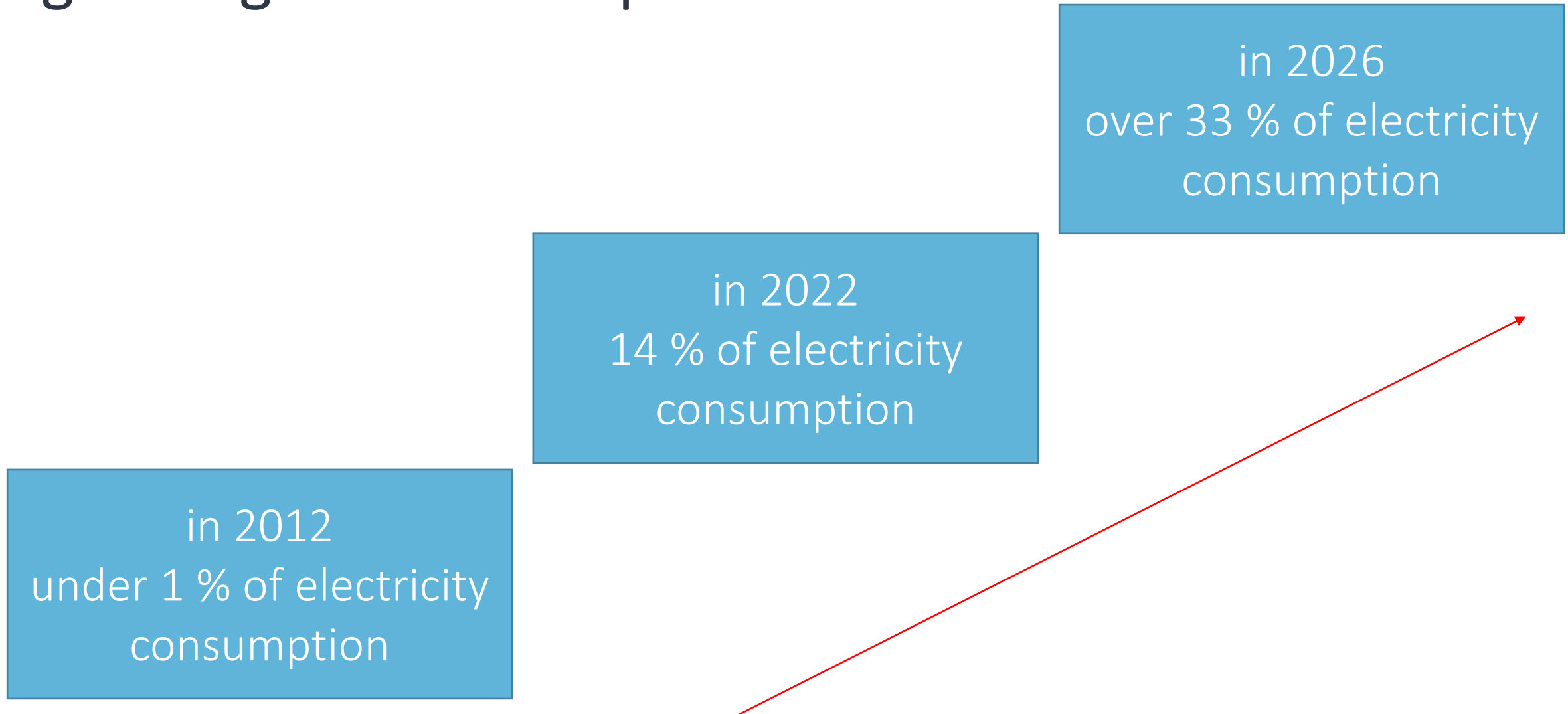
Distribution of wind turbine generators by region (2022)



Wind power production in Finland is growing fast – wind power covered:



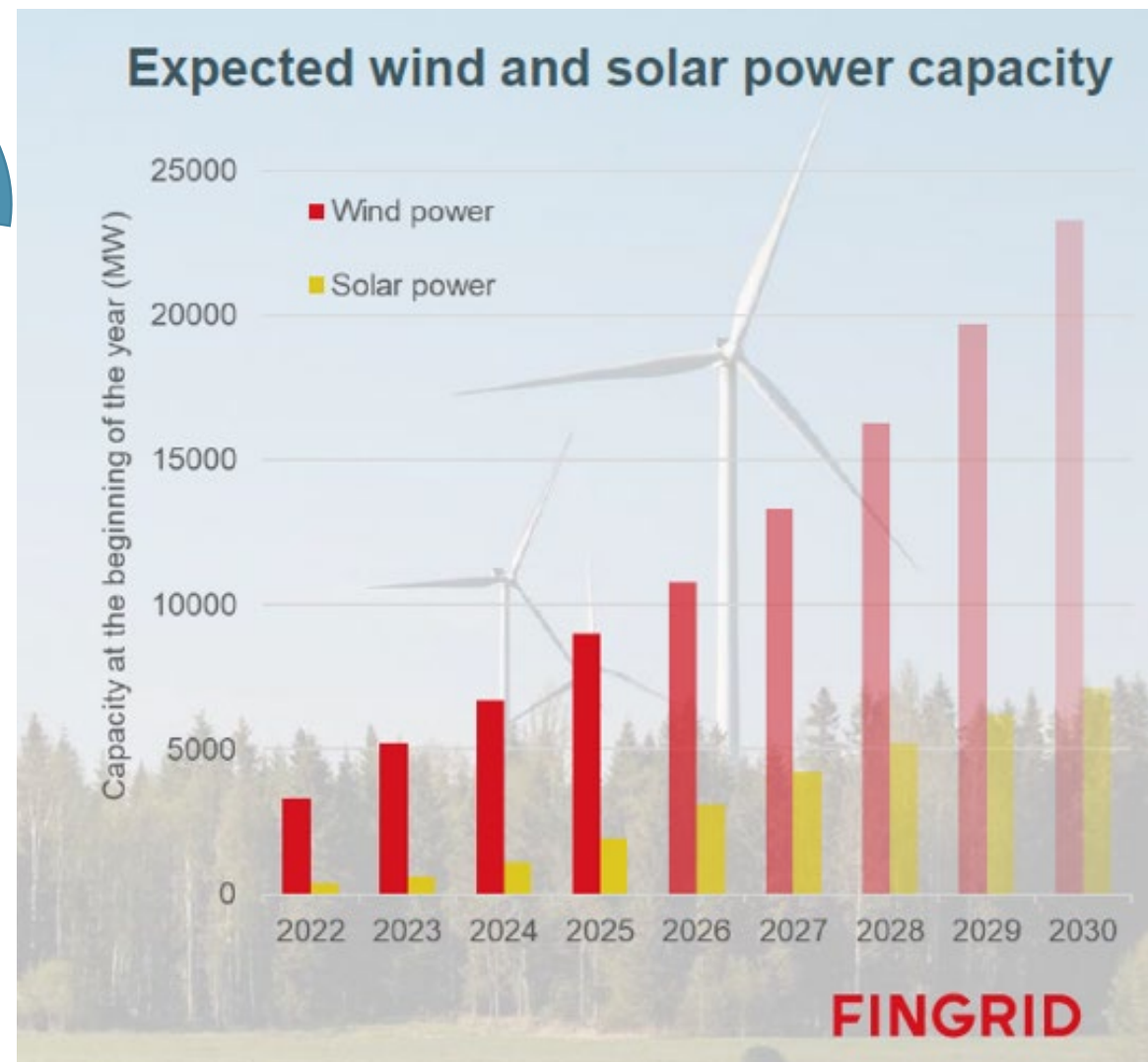
Suomen
Tuulivoimayhdistys



Fast growth of wind power

Fingrid
estimate:
23GW 2030

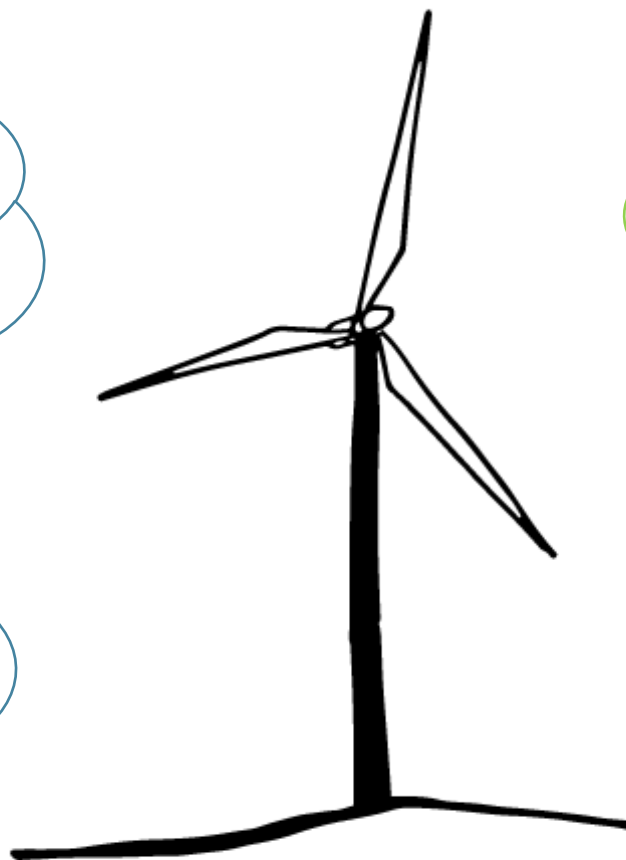
vs. 5,7 GW
2022



Fast growing capacity

Wind power now
5,7 GW
1393 WTG

Coming online
2023-2025*:
3,3 GW
500 WTG



Onshore project
pipeline:
~50 GW
300 projects

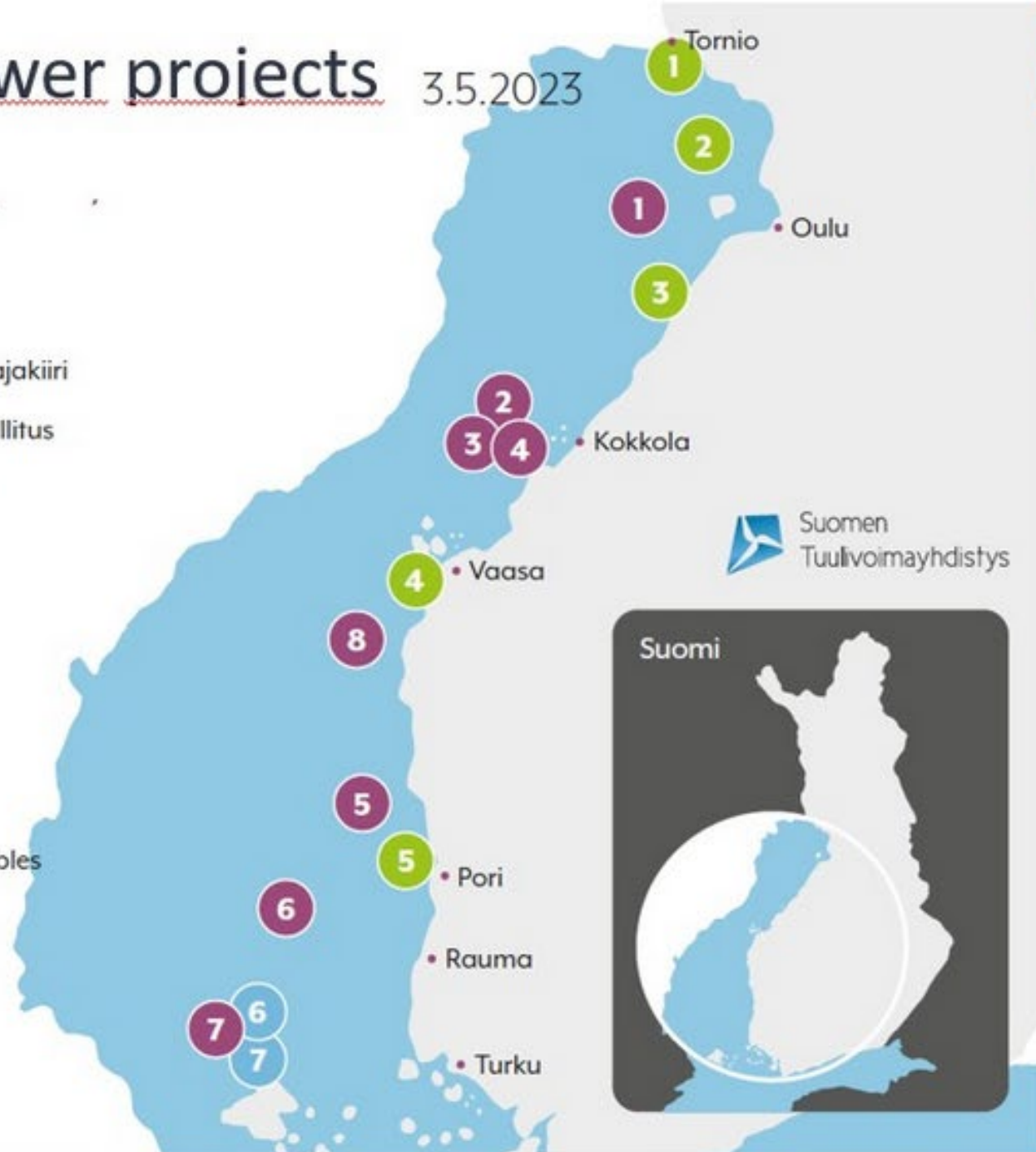
Offshore project
pipeline:
~33 GW
20 projects

* According to the investment decisions
published before 30th of Jan 2023

Offshore wind power projects

3.5.2023

- 1 Röyttä, Tornio, Rajakiiri
- 2 Suurhiekkä, Ii, Skyborn Renewables
- 3 Maanahkiainen, Raahen ja Pyhäjoki, Rajakiiri
- 4 Korsnäs, Vaasa, Vattenfall ja Metsähallitus
- 5 Tahkoluoto, Pori, Suomen Hyötytuuli
- 6 Stormskär, Ilmatar
- 7 Väderskär, Ilmatar
- 1 Oulu/Raahen, OX2
- 2 Kokkola, Voima, Ilmatar
- 3 Pietarsaari/Kokkola, OX2
- 4 Pietarsaari/Kokkola, Skyborn Renewables
- 5 Merikarvia/Pori, Eolus
- 6 Rauma/Eurajoki, Eolus
- 7 Ahvenanmaa, Vågskär, Ilmatar
- 8 Korsnäs, Norrskär, Ilmatar



Suomen
Tuulivoimayhdistys



Territorial water



Åland



EEZ

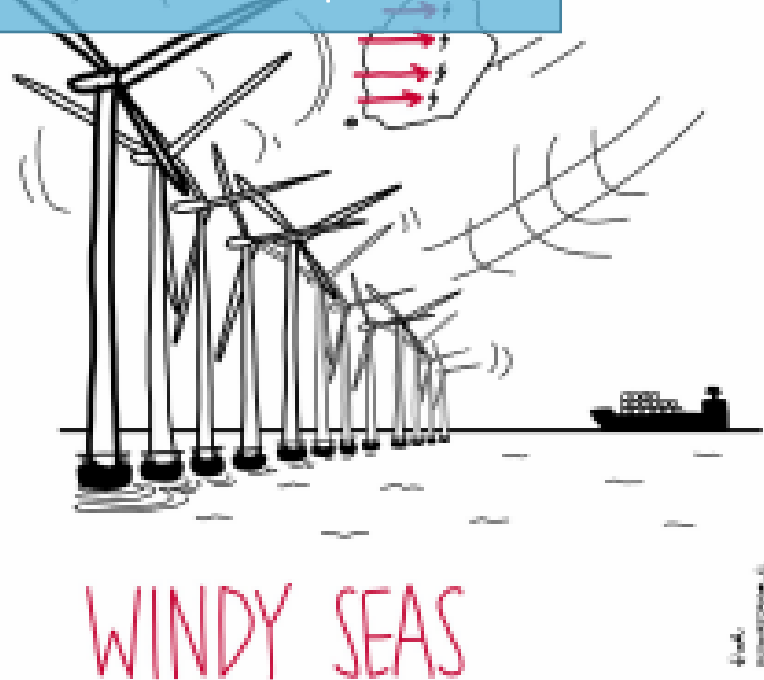


Suomen
Tuulivoimayhdistys



TSO Fingrid visions big for offshore

Note! 1 of 4 scenarios,
the most positive for
offshore wind power!



- According to Fingrid Network Vision, “Windy Seas” scenario, in 2035
 - Electricity consumption is 163 TWh (2045: 210 TWh)
 - Offshore wind production 71 TWh (2045: 143 TWh)
- In all 4 scenarios the electricity consumption will rise from current 86 TWh to 128-188 TWh by 2035

Energy sector transforming – and it all emphasizes the need of wind power

- Nuclear will be the second biggest method then
- Hydro production remains on current level
- Solar has a lot of potential
- CHP declining
- P2X and demand response growing
- Heat storages, industrial electric boilers, batteries, pumped-hydro plant...
- Wind power will be the biggest production method 2026/2027



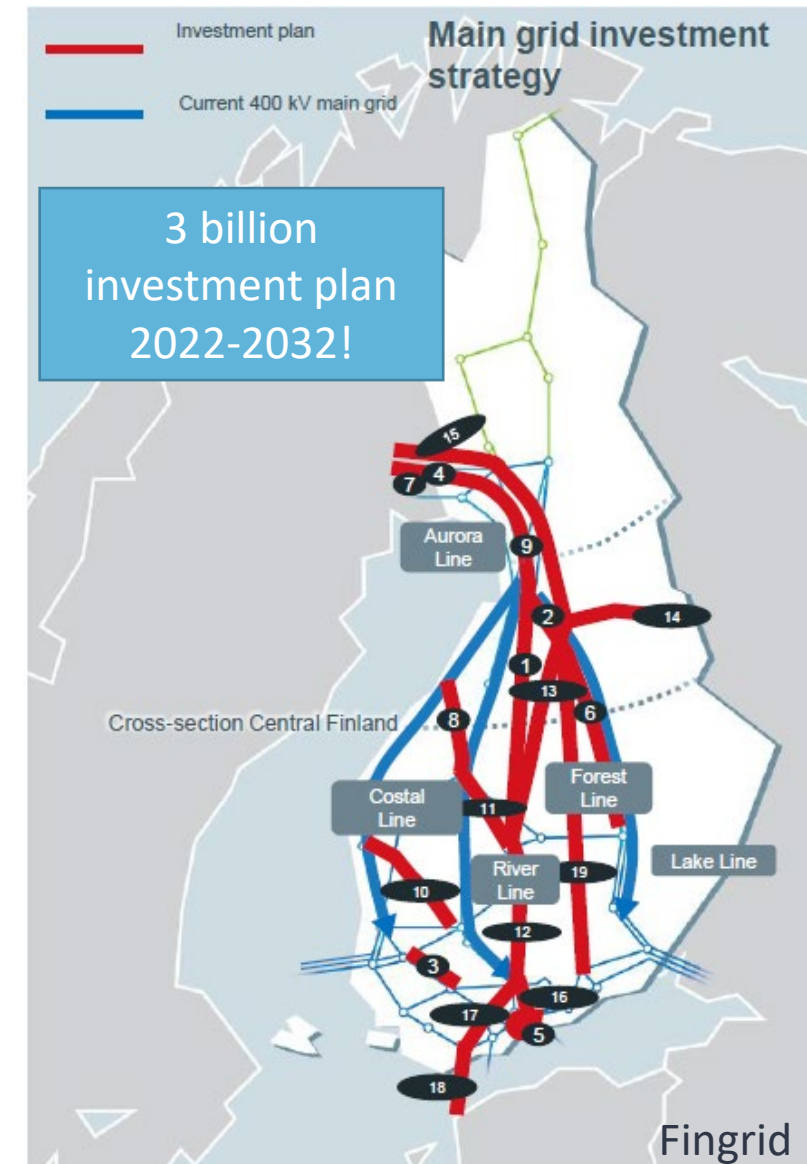
Photo: Suomen Hyötytuuli

Topical in (wind) energy sector & politics

- The new governmental programme
- (EU) market reform
- Grids
- Co-existence with military radars, Eastern Finland
- Windfall
- Finland will switch from being a net-importer to be a net-exporter (around 2027)



Suomen
Tuulivoimayhdistys



Topical in (offshore wind) energy sector & politics

- EEZ exclusivity & costs
- Property tax of offshore wind turbines on territorial waters needs to be brought to equal level with onshore turbines
- Auctions on territorial waters by Metsähallitus 2+2 2023-2024
- Finland has defined the TEN-E offshore targets:
 - 1 GW in 2030
 - 5 GW in 2040
 - 12 GW in 2050

FWPA: 100 TWh
of annual
production (~25
GW) in 2040

The offshore project pipeline is **approximately 33 GW**.

It is estimated that these projects would be **on-line by 2045**.

33 GW offshore capacity would have got a remarkable employment and tax benefits to Finland.

The 33 GW offshore project pipeline can mean 224 000 person-years and the tax impacts 4,5 billion euros over the lifetime of the wind farms.



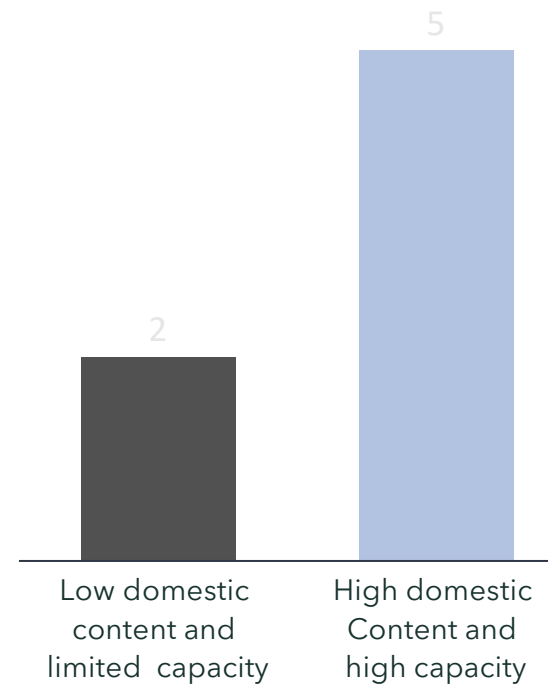
The volume and the local content of the offshore projects have an influence on the tax and employment benefits.

**The full potential can be reached
by investing in the Finnish supply
chain.**



Investments in offshore wind power pay off in
taxes and jobs.

Tax benefits (billion €)



Employment potential
(man-years)



- Tax and employment benefits with low domestic content and small capacity (16 GW)
- Tax and employment benefits with high domestic content and high capacity (29 GW)

The background of the entire image is a photograph of a large crowd of people at an event, overlaid with a semi-transparent purple filter. The people are mostly men in business attire, some wearing face masks. They are standing and talking in small groups. The text is centered over this background.

WIND

WIND FINLAND 2023

THE WIND POWER EVENT OF THE YEAR

4 OCT. 2023

KAAPELITEHDAS, HELSINKI