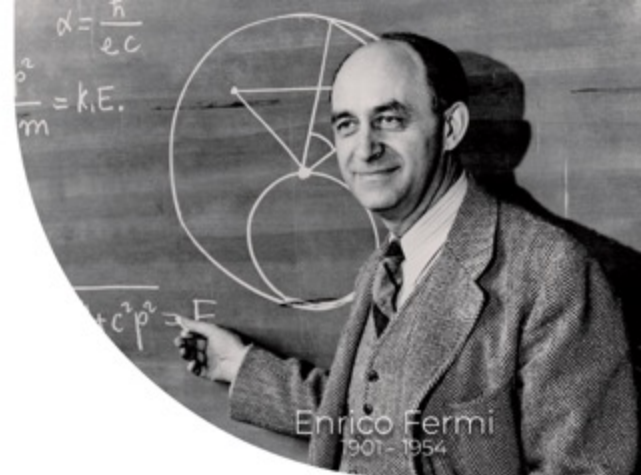


Security of supply and industrial competitiveness with SMRs

Kalev Kallemets, Ph.D.
Co-founder, CEO

June 5th 2024, Amsterdam

FERMI.



FOUNDERS

Sandor Liive M.B.A.
chairman of the supervisory board

Kalev Kallemetts Ph.D.
CEO

Henri Ormus M.Sc.
member of board

Marti Jeltsov Ph.D.
CTO

Kaspar Kõöp Ph.D.
safety manager

Merja Pukari Ph.D.
fuel cycle manager

Mait Müntel Ph.D.
member of the supervisory board



TEAM

Albert Kopjev M.Sc.
constructional engineer

Albert Rice
nuclear engineer

Andrei Goronovski M.Sc.
nuclear engineer

Andres Ingerman
communications specialist

Anet Marii Paumets
technical coordinator

Anu Koppel M.Sc.
supply chain engineer

Diana Revjako M.Sc.
member of board,
environmental manager

Liis Krigul
Virumaa communications manager

Helen Cook Ph.D.
nuclear law counselor

Ivar Kurvits Ph.D.
general counsel

Mihkel Loide M.A.
head of communications

Peter Treialt M.B.A.
CFO

Rainer Küngas Ph.D.
hydrogen expert

Teet Nurmeoja M.Sc.
program director

Urmas Voit
key account manager

SHAREHOLDERS

Founders

Estonian private investors

VATTENFALL 

1,5 mln. euro

FUNDERBEAM
1 281 investors

TRACTEBEL


LAST ENERGY

Raised capital 2019-2024:
7 mln. €

BOARD OF DIRECTORS

Sandor Liive M.B.A.
chairman

Mait Müntel Ph.D.
member of board

Ando Leppiman Ph.D.
nõukogu liige

Björn Linde
member of board (Vattenfall)

PARTNERS

 **HITACHI**

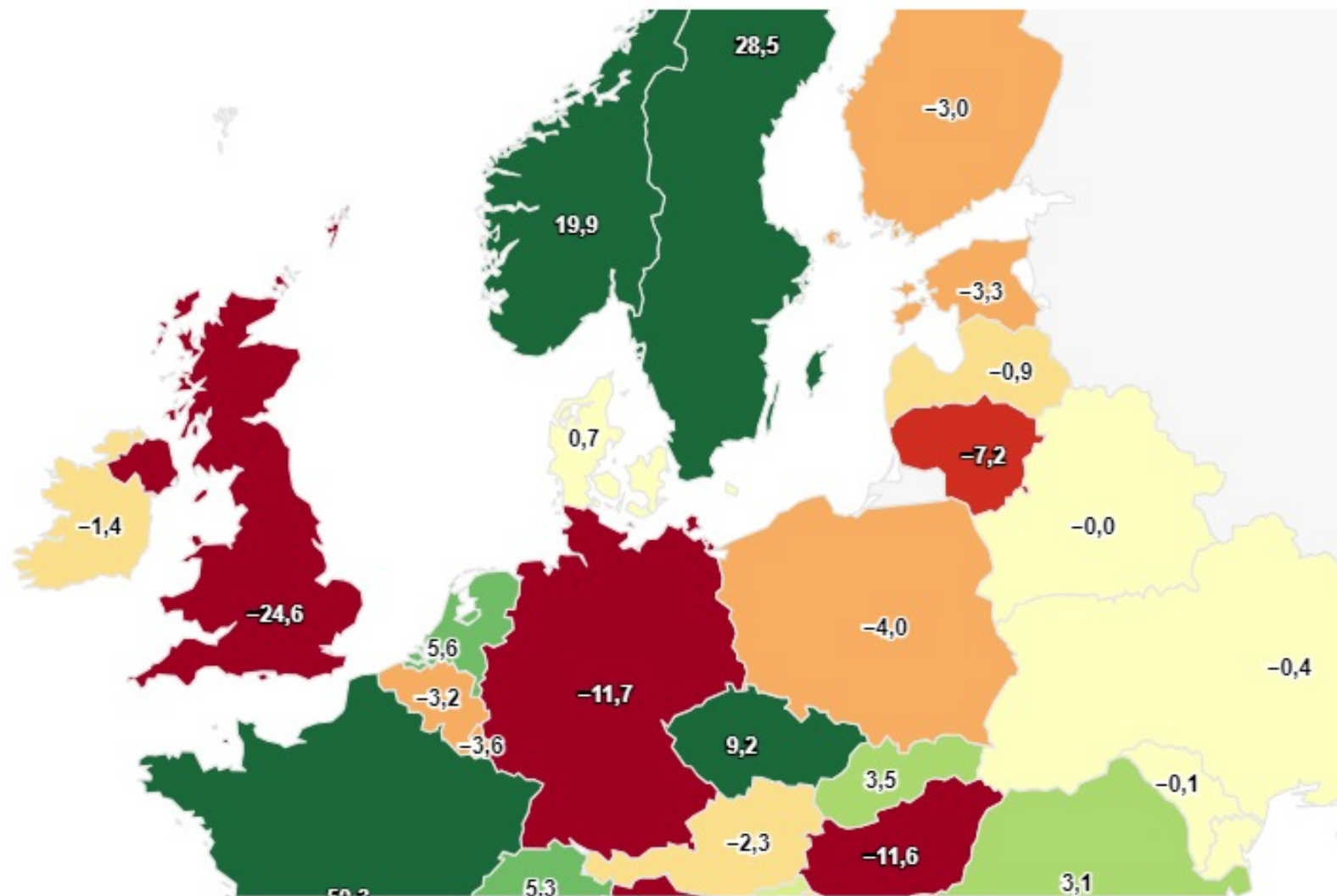






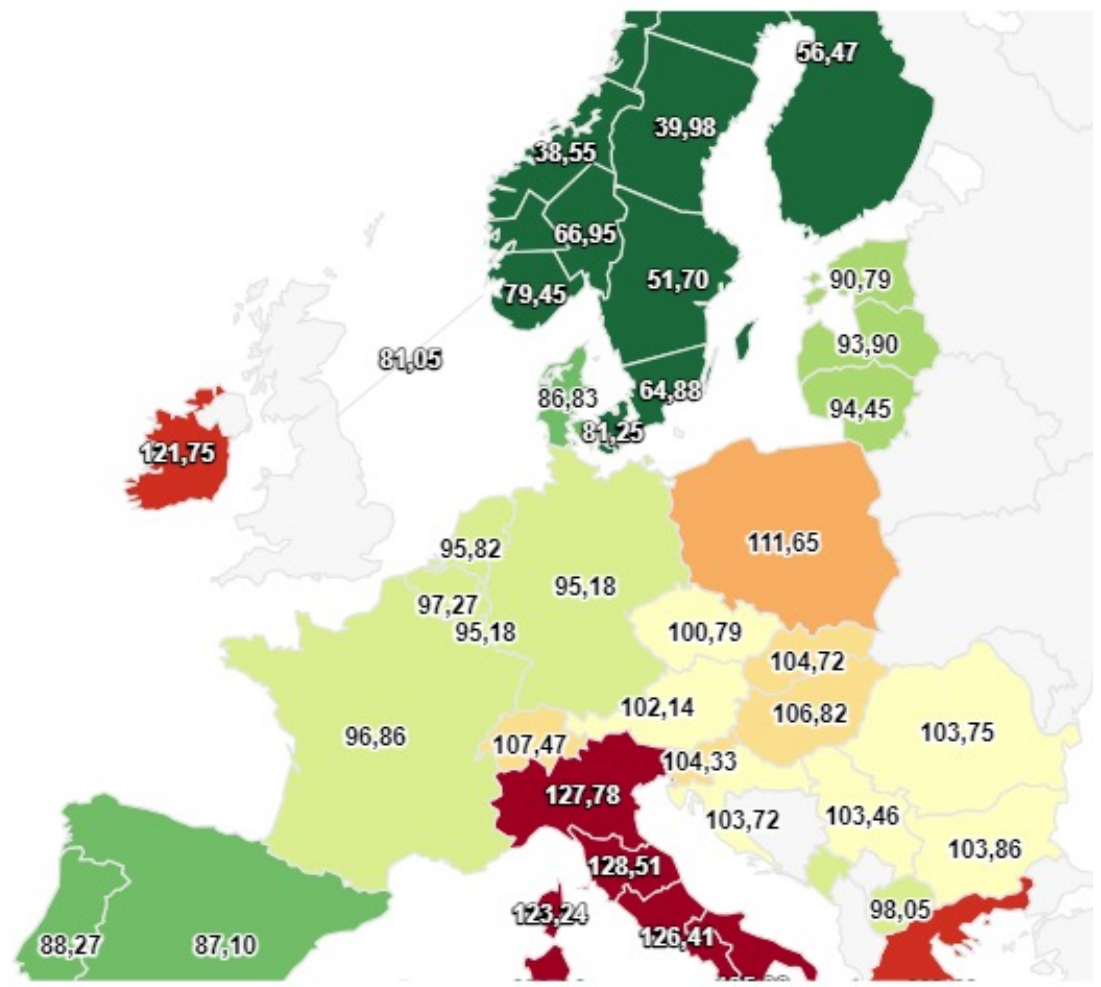
Cross border electricity trading in 2023

In TWh, positive values (green) mean exports, negative values (red) mean imports



Average electricity spot market prices in 2023

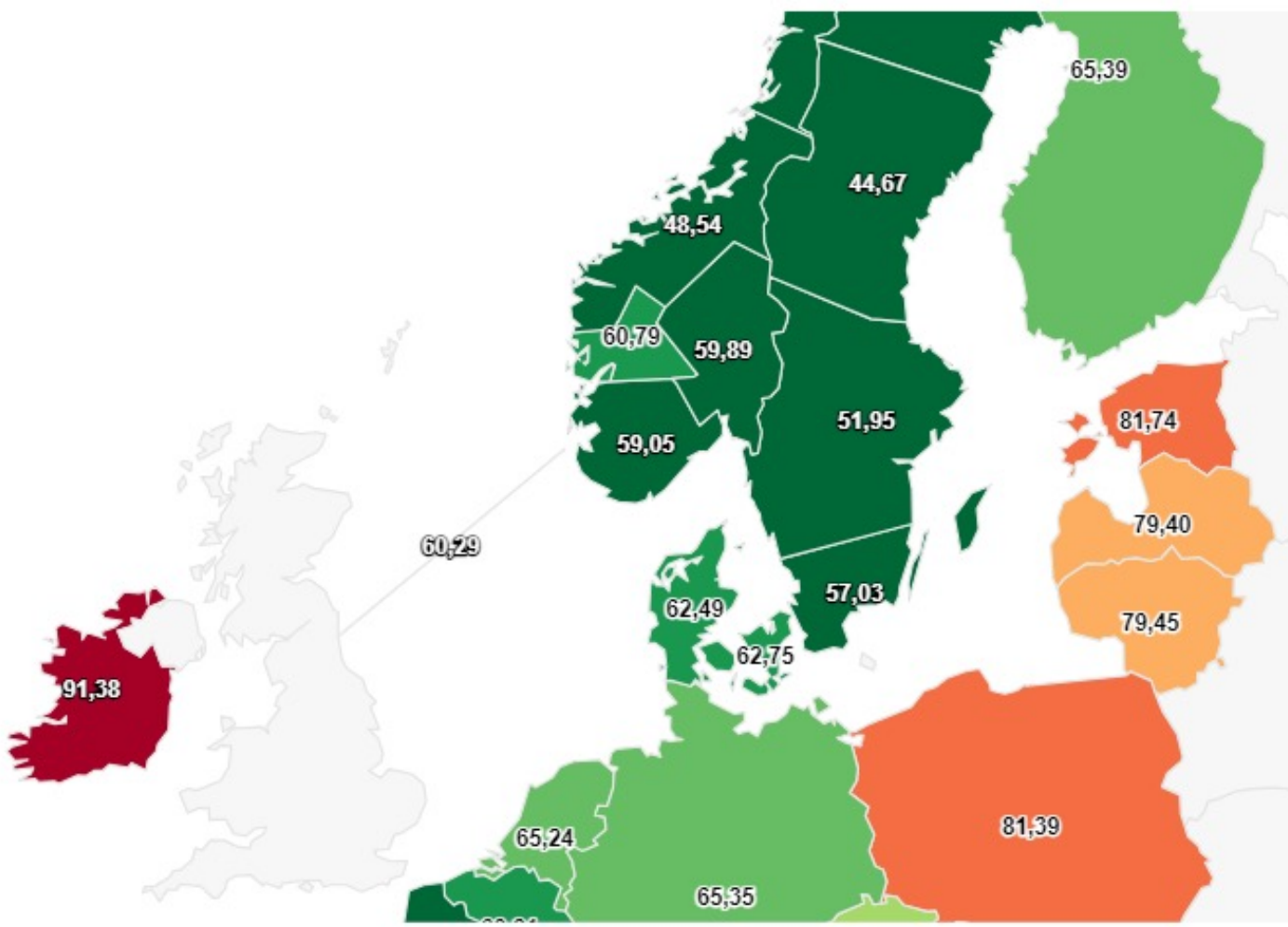
in EUR/MWh



Energy-Charts.info; Last Update: 26.01.2024, 14:43 GMT +1

Average electricity spot market prices in 2024

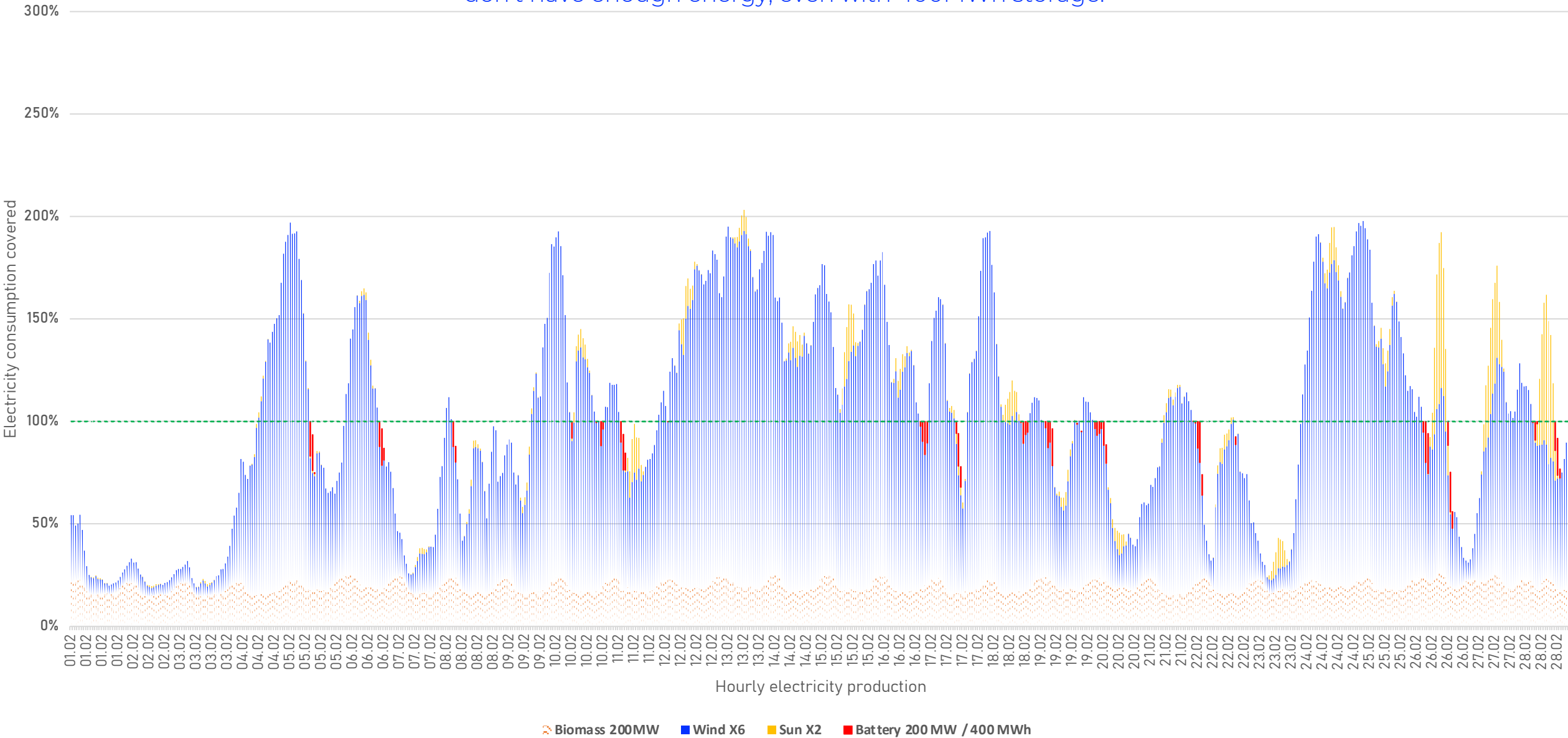
in EUR/MWh



Energy-Charts.info; Last Update: 14.05.2024, 10:37 GMT +2

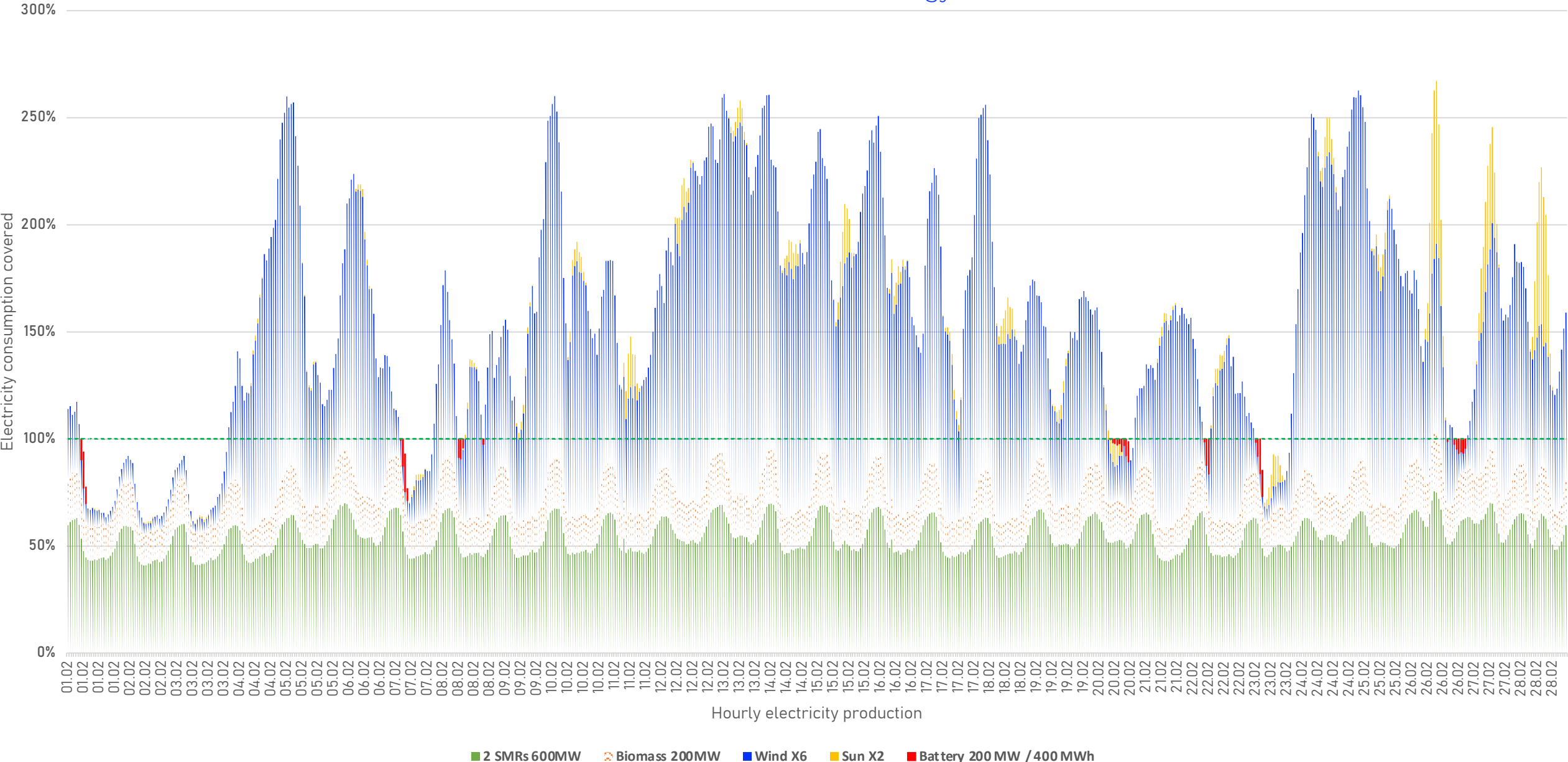
February 2022

If we double the power of solar panels and increase wind power by six times, there may still be times when we don't have enough energy, even with 400MWh storage.



February 2022

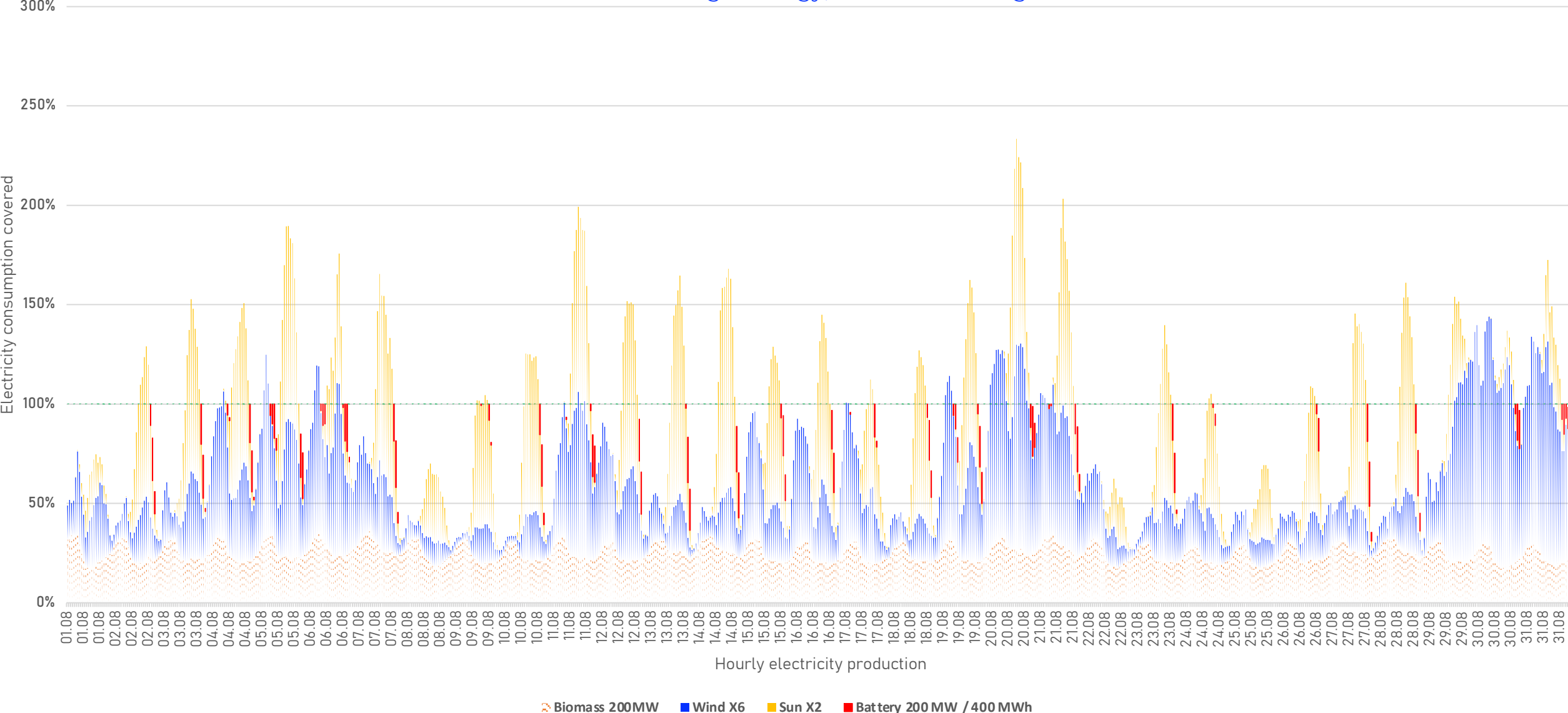
Renewables & Nuclear energy



■ 2 SMRs 600MW ■ Biomass 200MW ■ Wind X6 ■ Sun X2 ■ Battery 200 MW / 400 MWh

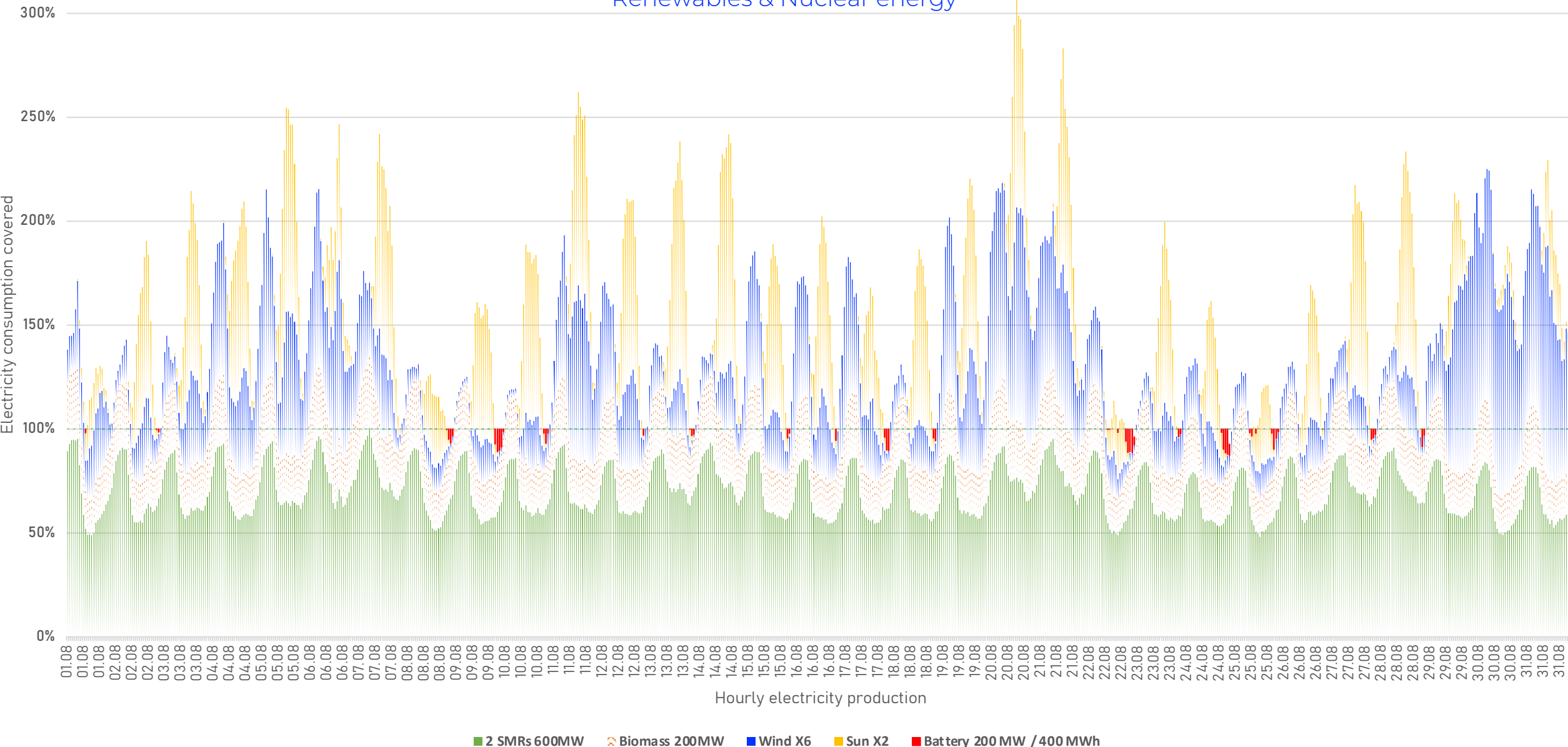
August 2022

If we double the power of solar panels and increase wind power by six times, there may still be times when we don't have enough energy, even with storage.



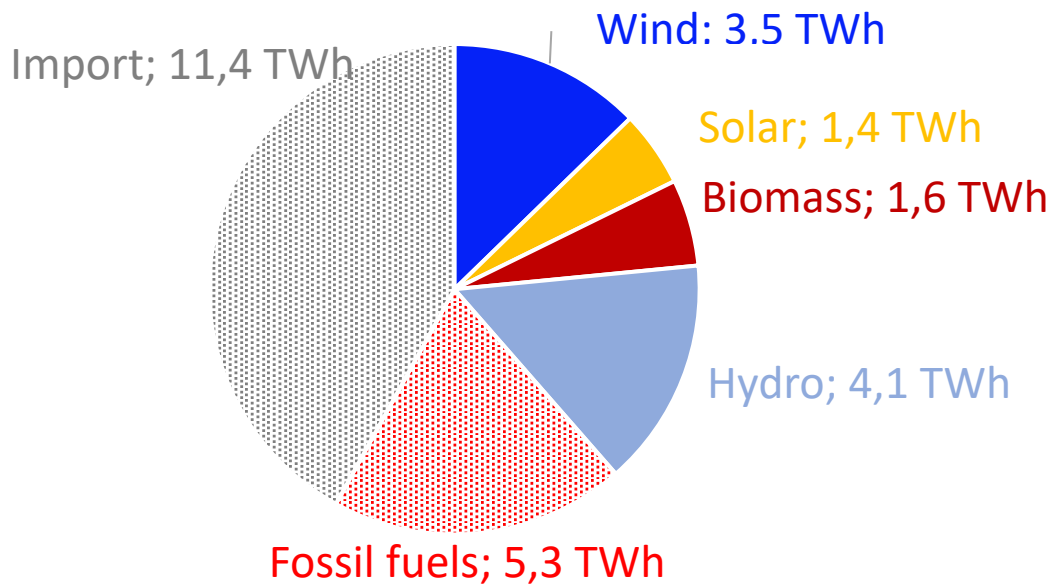
August 2022

Renewables & Nuclear energy

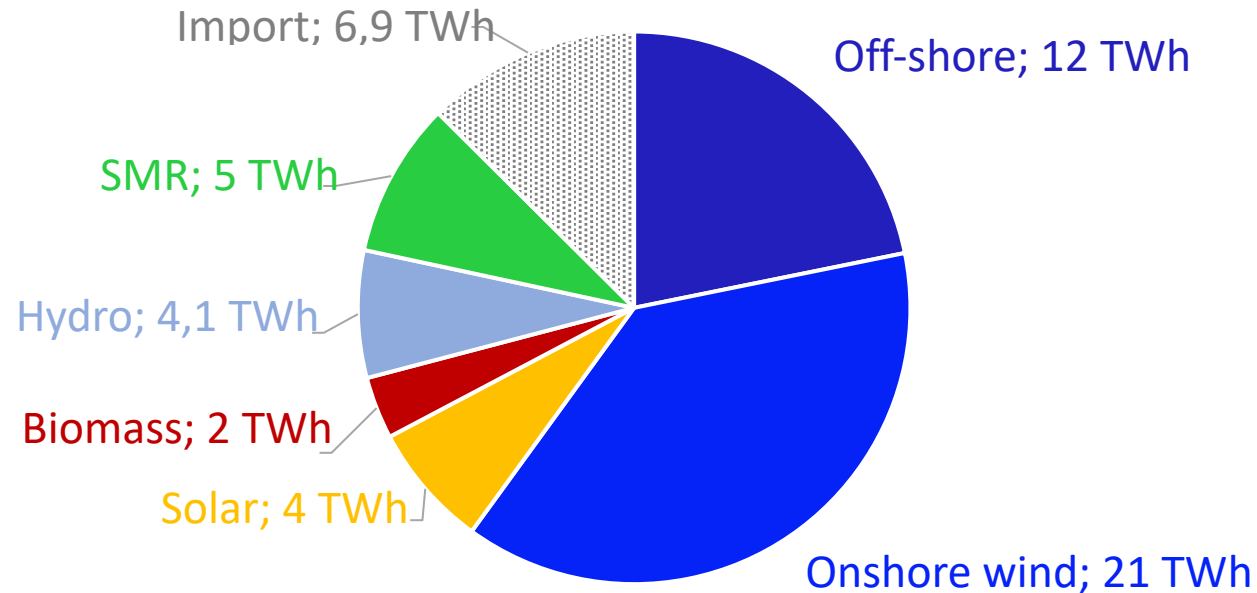


■ 2 SMRs 600MW ■ Biomass 200MW ■ Wind X6 ■ Sun X2 ■ Battery 200 MW / 400 MWh

Baltic power consumption 27 TWh | 2023 a.



Baltic power consumption 45 TWh | 2038 a.



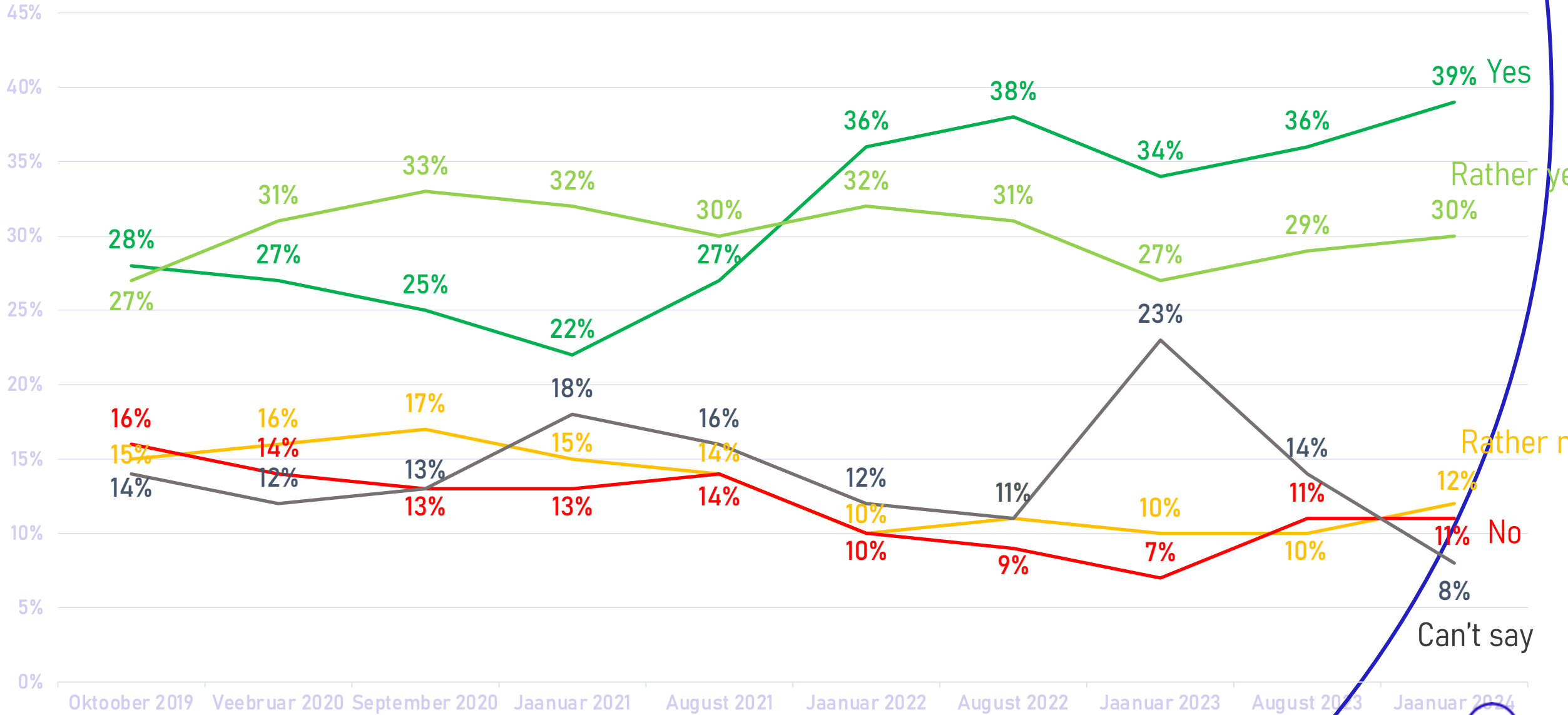
Capacities MW (2023 a.)	
Oil shale	1 400 MW
Natural Gas	2 675 MW
Wind	1 388 MW
Solar	1 321 MW
Biomass	428 MW

Challenges:

- Fossil fuels uncompetitive; serve only reserve
- Hydro can't grow
- Solar growth 3X
- Wind growth 6X
- Large grid and stability investments needed
- Only baseload 600 MWe nuclear

New capacities MW (2038 a.)	
Offshore wind	3 000 MW
Onshore wind	8 300 MW
Solar	3 800 MW
Nuclear	600 MW
Closing MW (2038 a.)	
Oil shale	1 400 MW
Natural gas	2 675 MW

Do you support new generation SMR to ensure security of supply given oil shale decline?



Minister: Riigikogu to debate nuclear power in Estonia this year



Minister of Climate Kristen Michal receives the INR report from Aline des Cloizeaux (second from left). Source: IAEA

Debate on Estonia's potential route towards the use of nuclear power and the building of a nuclear power station will be ongoing at the Riigikogu this year, Minister of Climate Kristen Michal (Reform) says. The government last week received a report on its progress in this area from the main international nuclear agency.

Estonia nuclear preparations well organised, IAEA mission finds

30 October 2023

Estonia has developed a comprehensive assessment of its nuclear power infrastructure needs to enable the government to decide whether to launch a nuclear power programme, an international team of experts has concluded.



(Image: IAEA)

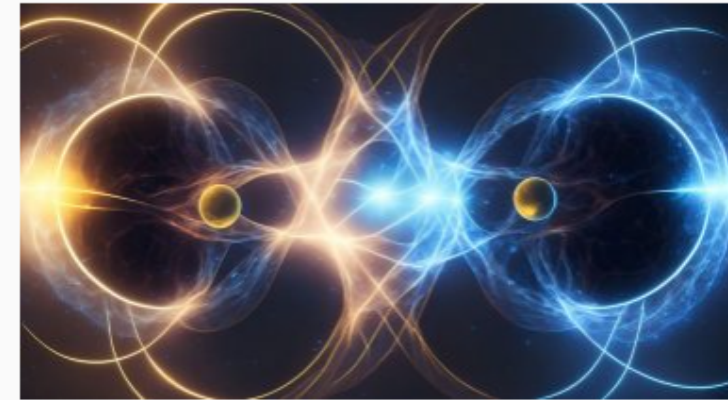
The International Atomic Energy Agency (IAEA) team reached its conclusion after an eight-day Integrated Nuclear Infrastructure Review (INIR) mission to Estonia, which was carried out at the request of the country's government.

Members of the Riigikogu submitted a draft Resolution allowing preparations for adoption of nuclear energy

09.05.2024 / Press releases, Plenary assembly

Today, 55 members of the Riigikogu (Parliament of Estonia) submitted for parliamentary proceedings a draft Resolution which will allow to start the preparations for adoption of nuclear energy in Estonia and the creation of a suitable legislative framework.

According to the draft, the Riigikogu will pass a fundamental decision on whether to allow production of nuclear energy in Estonia or not. The draft is mainly based on the analysis conducted by the Nuclear Energy Working Group in 2021–2023, which concluded that the adoption of nuclear energy in Estonia is feasible.



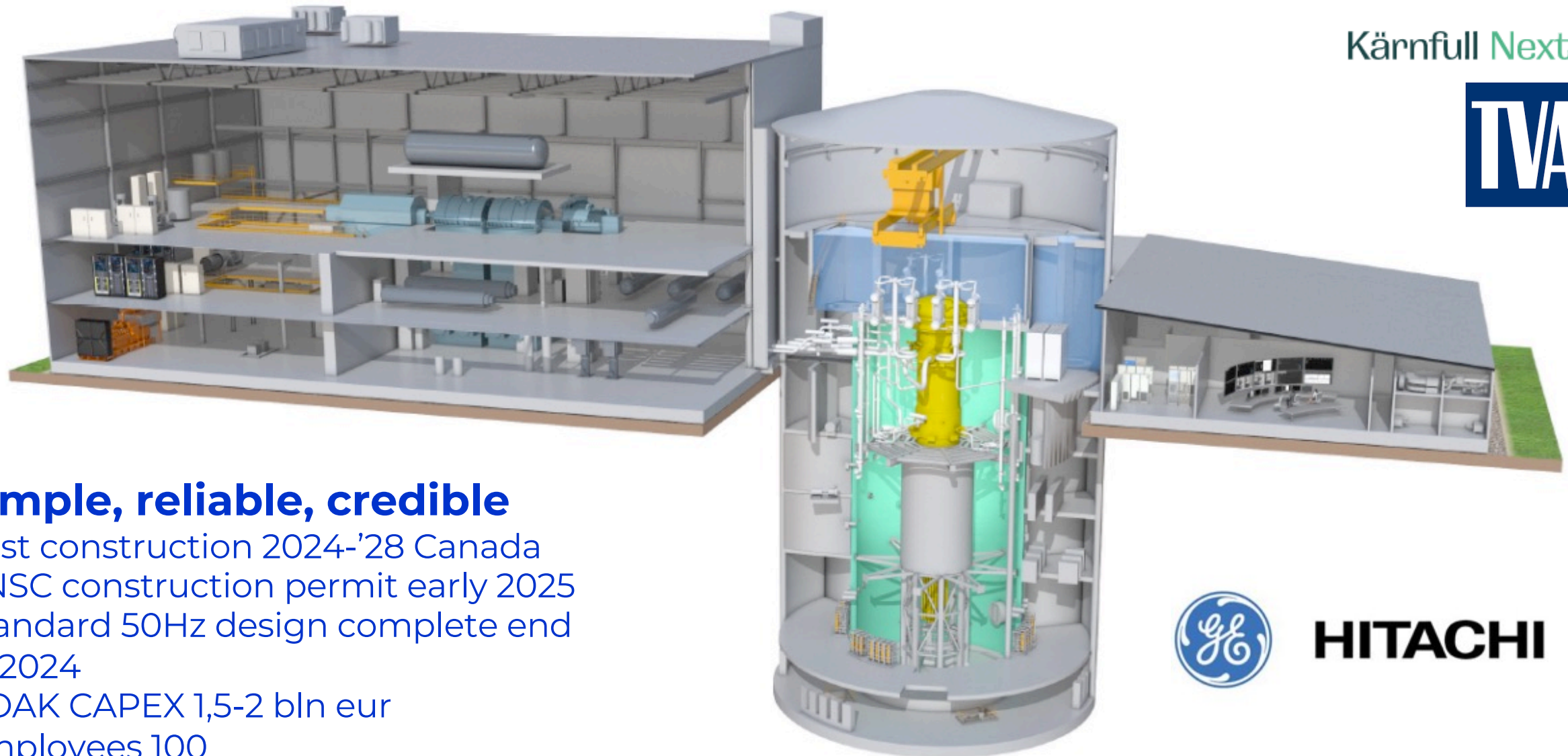
[See the latest information](#)

Tech choice: GE Hitachi BWRX-300

Customers:



Kärnfull Next™



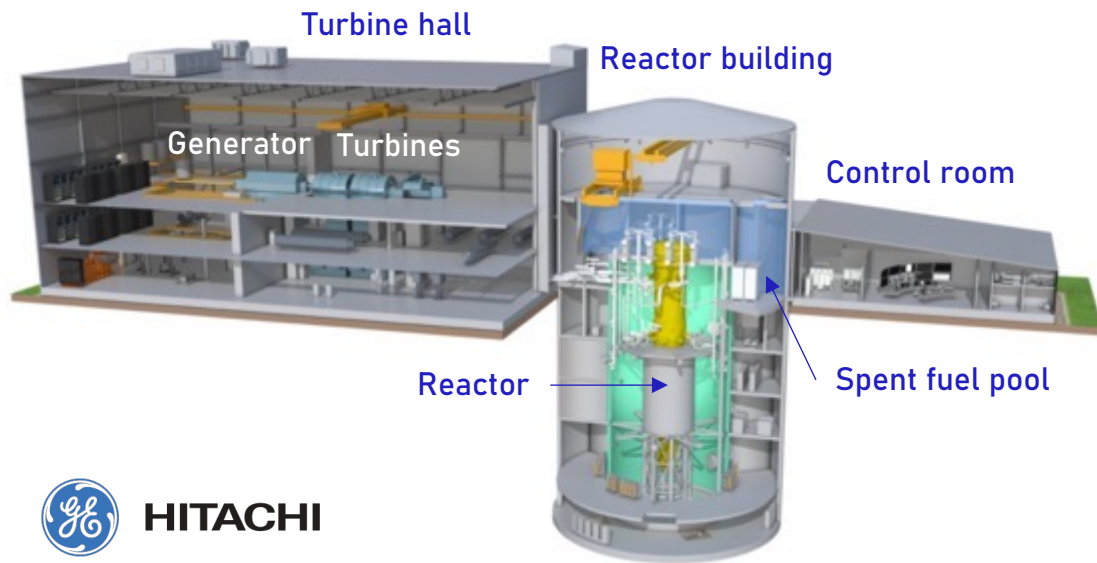
Simple, reliable, credible

First construction 2024-'28 Canada
CNSC construction permit early 2025
Standard 50Hz design complete end
of 2024
NOAK CAPEX 1,5-2 bln eur
Employees 100



HITACHI

GEH BWRX 300 reference



Reference Plant (unit 3-4 preferably) subject to schedule, design maturity and CAPEX confidence

Construction license in Canada likely January 2025.

FERMI timeline is to submit CP application and I stage FID once the reference plant in Darlington has reached commercial operation (unit 2, 3 in progress)

Lessons learnt from Canadian, Polish FOAK will allow Fermi to significantly de-risk the project

Additional units under consideration in Europe provide real gain of economies of scale for construction and operating costs.

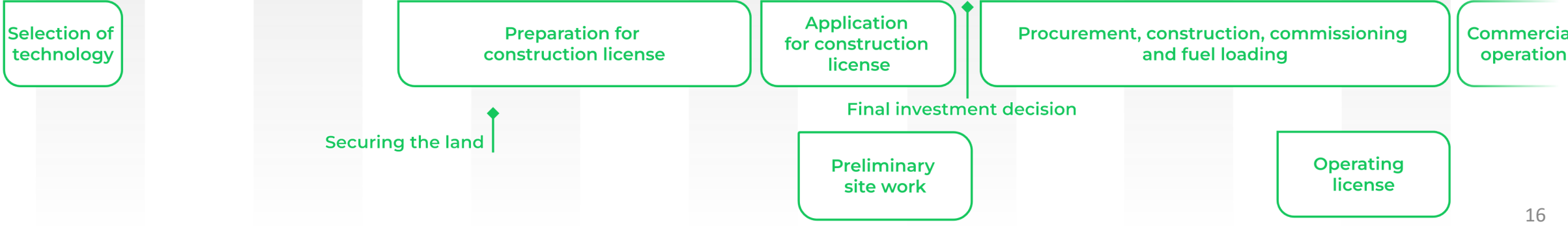
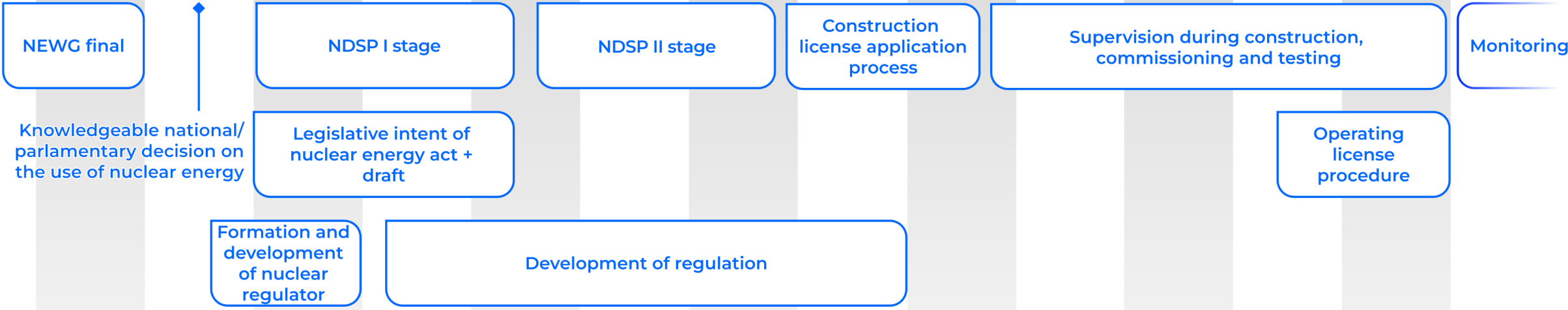
Important to work with EPC capable constructors.



Darlington SMR site: 160 ppl working; RPV manufacturing ongoing; 1bn CAD invested



UPDATED SCHEDULE with 2035 COD target



Thank you !

