

END OF FOSSIL FUELS, PRICE VOLATILITY AND NUCLEAR ENERGY IN 21ST CENTURY

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

FERMI.





FOUNDERS

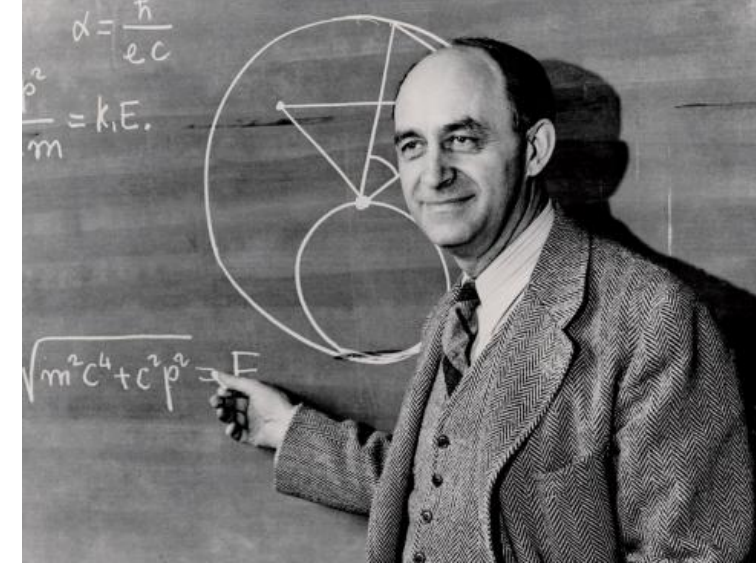
- **Sandor Liive**, M.B.A. Chairman of the Supervisory Board
- **Kalev Kallemets**, Ph.D. CEO
- **Henri Ormus**, M.Sc. Member of Board
- **Marti Jeltsov**, Ph.D. CTO
- **Kaspar Kõöp**, Ph.D. Safety Manager
- **Merja Pukari**, Ph.D.
- **Mait Müntel**, Ph.D. Member of the Supervisory Board

FERMI ENERGIA



TEAM

- Diana Revjako, M.Sc. Member of Board, Head of Planning
- Albert Kopjev, M.Sc. Constructional Engineer
- Allan Vragar, M.Sc. Thermal engineer
- Andrei Goronovski, M.Sc. Neutronics Engineer
- Andres Ingerman, Communications Specialist
- Anet Marii Paumets, Technical Coordinator
- Anu Koppel, M.Sc. Supply Chain Engineer
- Helen Cook, Ph.D. Nuclear Law Partner
- Mihkel Loide, M.A. Head of Communications
- Peter Treialt, M.B.A. CFO
- Urmas Voit, Head of Power Sales



SHAREHOLDERS

Founders; Tractebel Engineering, Kunda Trans, T. Kaasik, K. Järvelill, K. Pärnoja, J. Luts, Last Energy VC, M.Henk, H.Meerits, N. Seli, S. Aswani, A. Lumberg, 1281 Funderbeam investors + Vattenfall



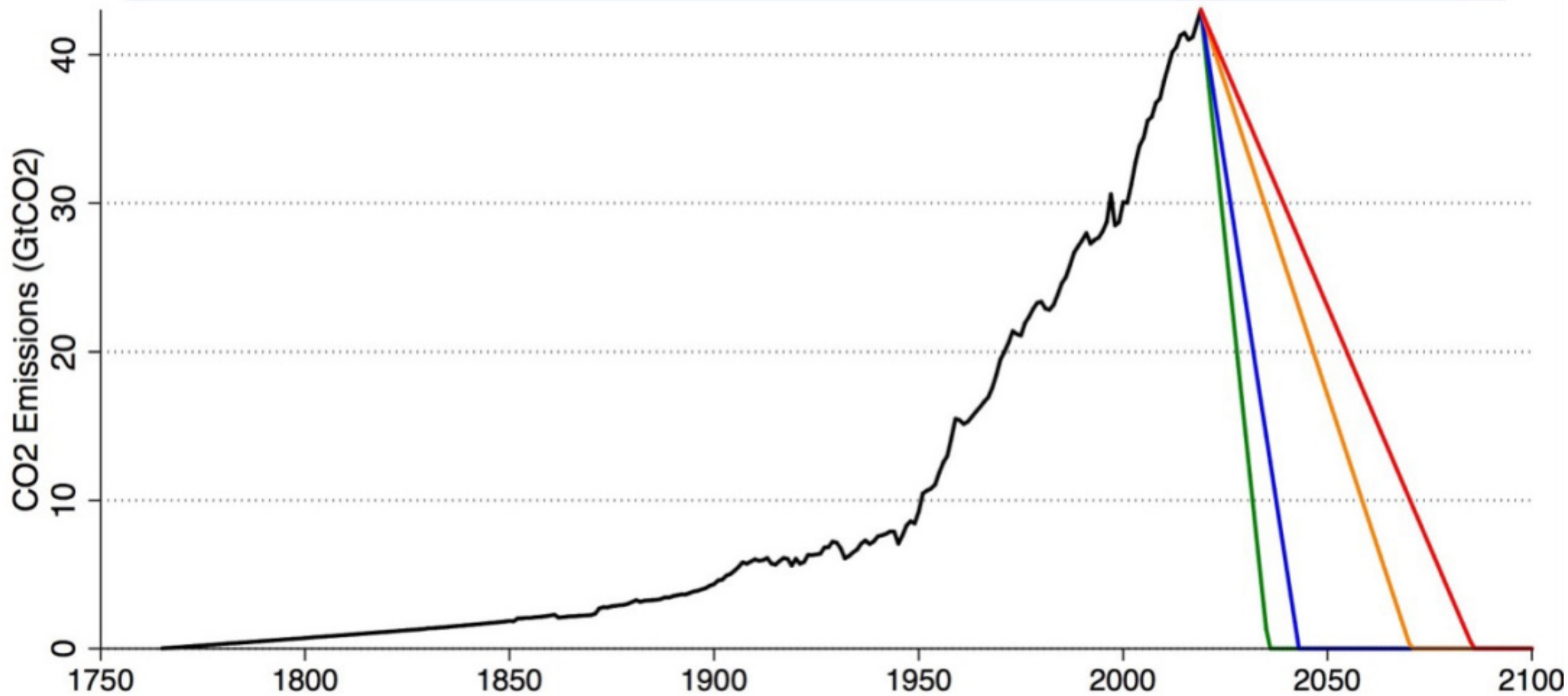
Supervisory Board: S.Liive, M.Müntel, L. Oviir, B. Linde (VF)

PARTNERS



Simplified Emissions Pathways for Climate Targets

— Historical — 1.5C 66% — 1.5C 50% — 2C 66% — 2C 50%



PRICES

DAY-AHEAD FLOWS

CAPACITIES

PHYSICAL EXCHANGE

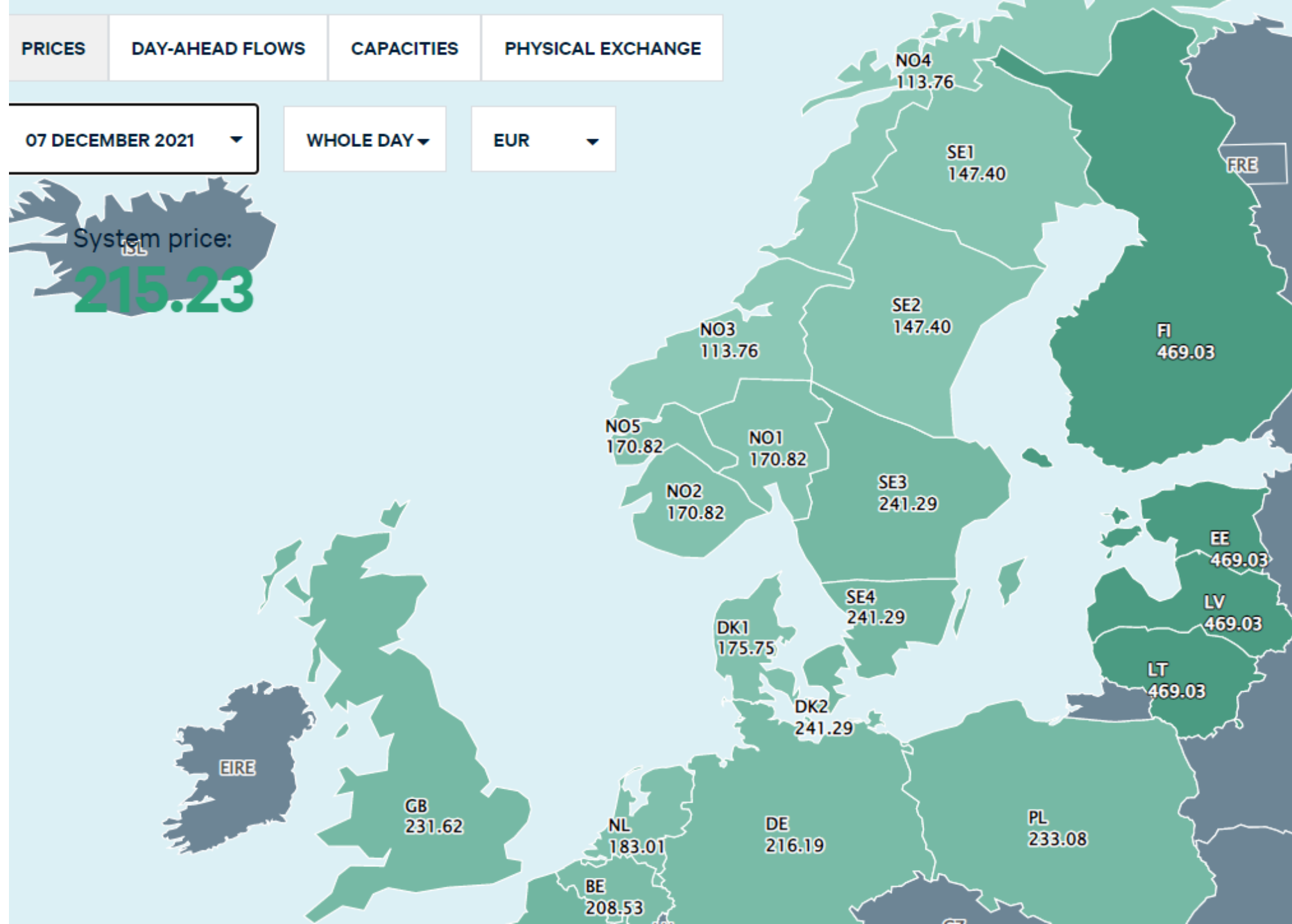
07 DECEMBER 2021

WHOLE DAY

EUR

System price:

215.23





Estonia

November 1, 2022 at 5:00 PM

1107g

Carbon Intensity
(gCO₂eq/kWh)

22%

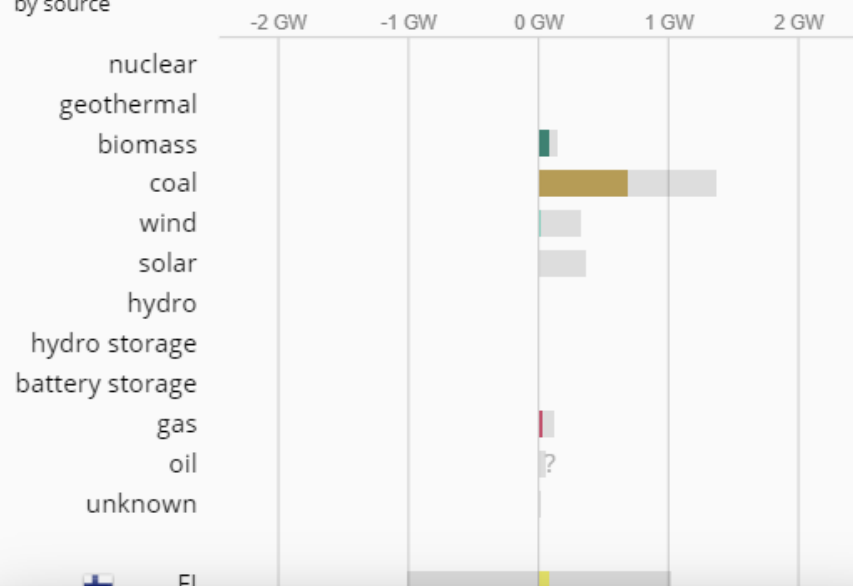
Low-carbon

16%

Renewable

Electricity consumption | Carbon emissions

by source



Display data from the past

November 1, 2022 at 5:00 PM

24 hours

30 days

12 months

5 years

9:00 PM

3:00 AM

9:00 AM

3:00 PM

LIVE

Estonia

November 1, 2022 at 5:00 PM

1107g

Carbon Intensity

22%

Low-carbon

Total of 75GW coal generation closures 2030-40.

← Germany

October 6, 2021 1:00 PM

307g

Carbon Intensity
(gCO₂eq/kWh)

64%

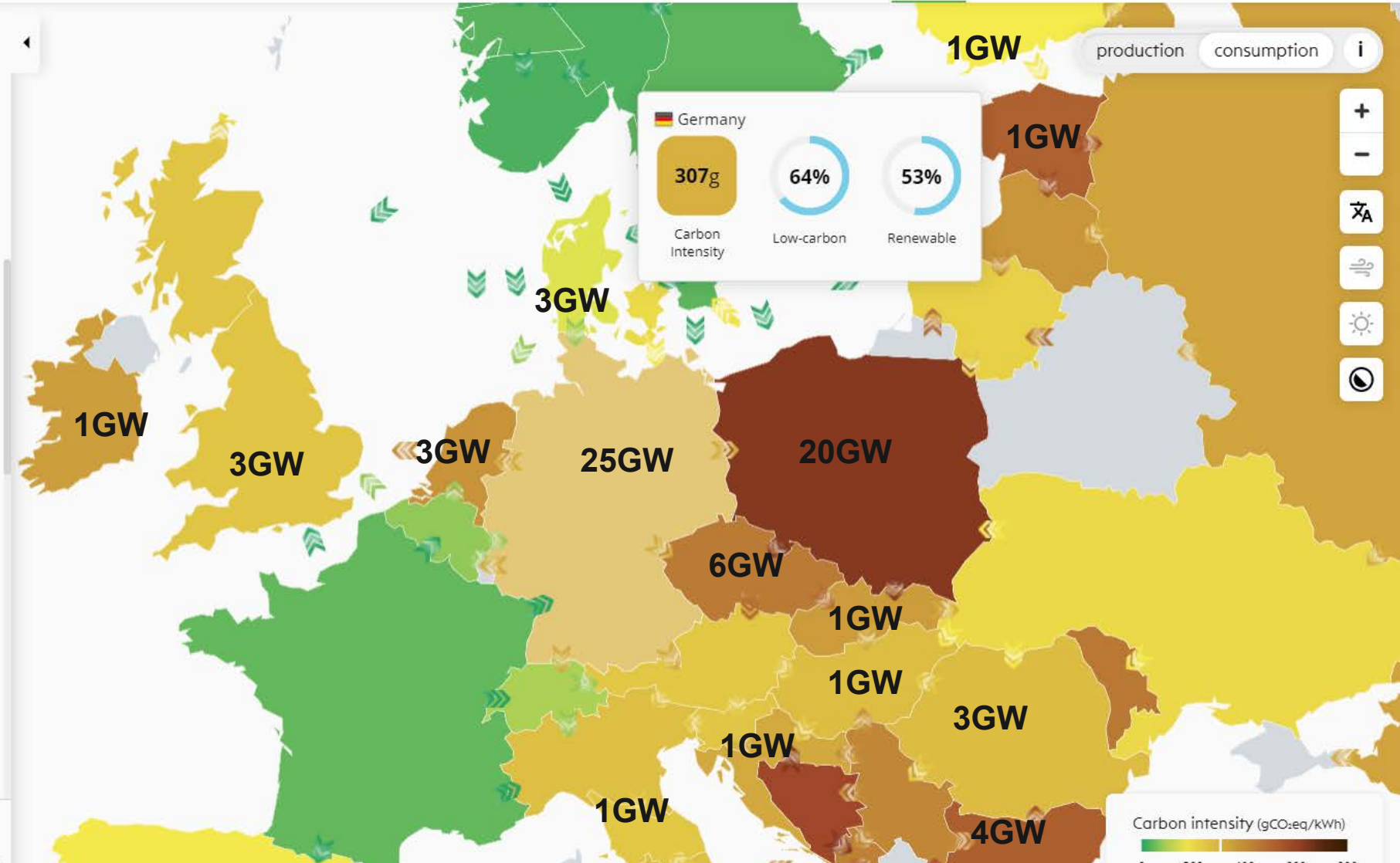
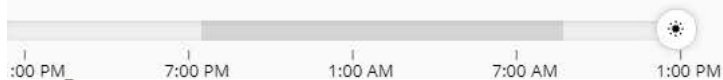
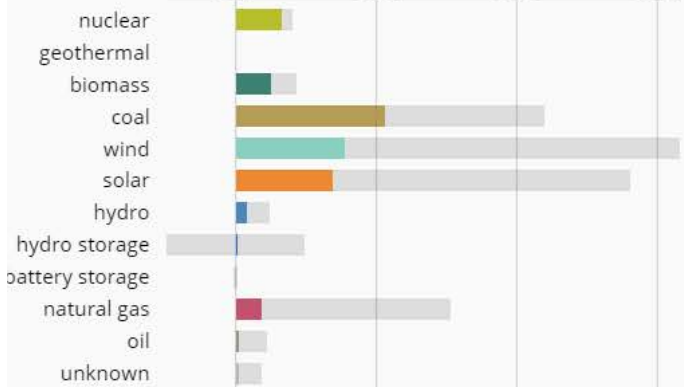
Low-carbon

53%

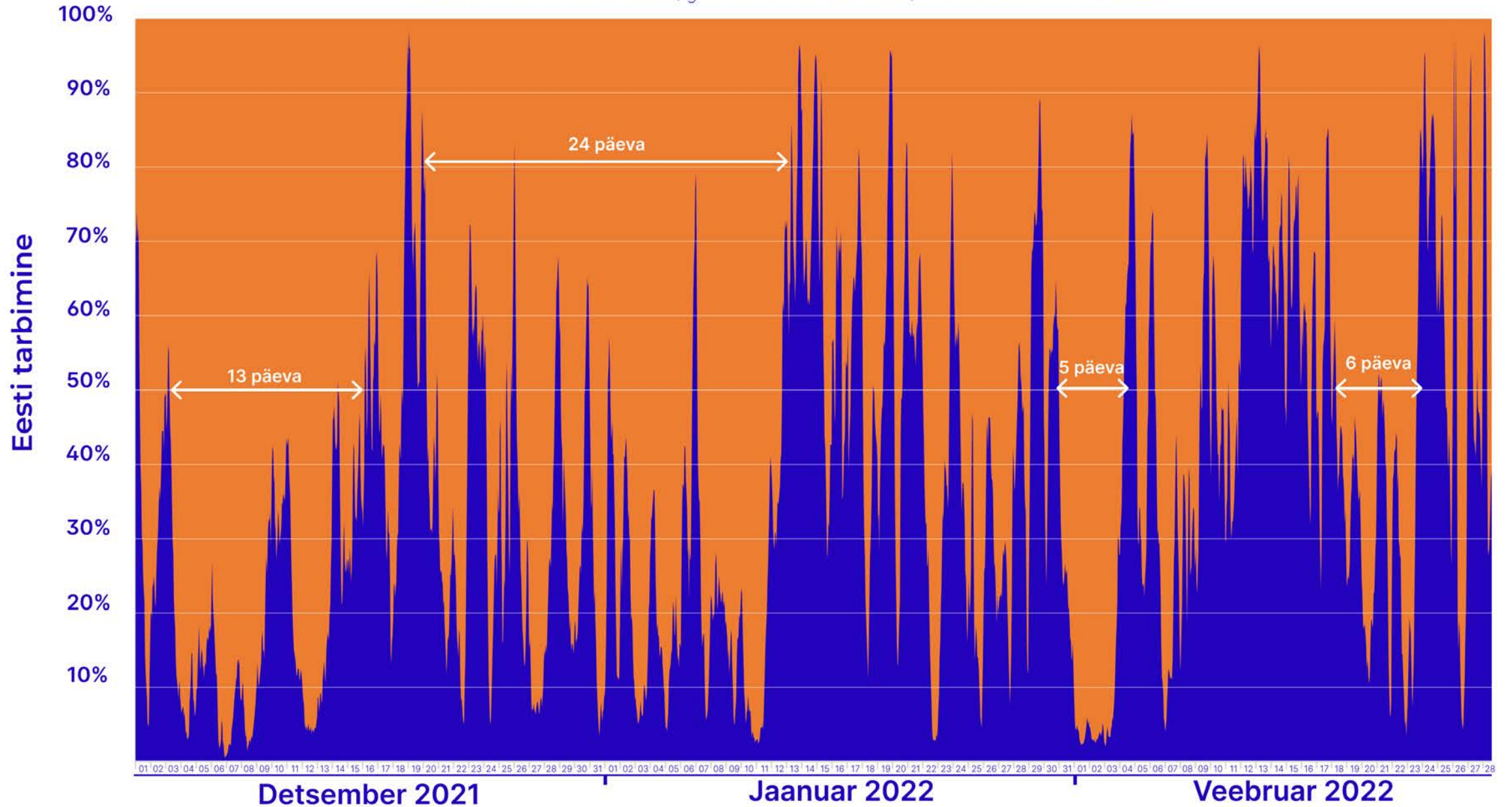
Renewable

Electricity consumption | Carbon emissions

by source



Eestis toodetud elekter (päike **x2 + tuul **x3**) / tarbimine**
detsember 2021 , jaanuar 2022, veebruar 2022



TTF Gas

1D



Natural Gas EU Dutch TTF (EUR/MWh) 116.19 -7.16 (-5.80%)



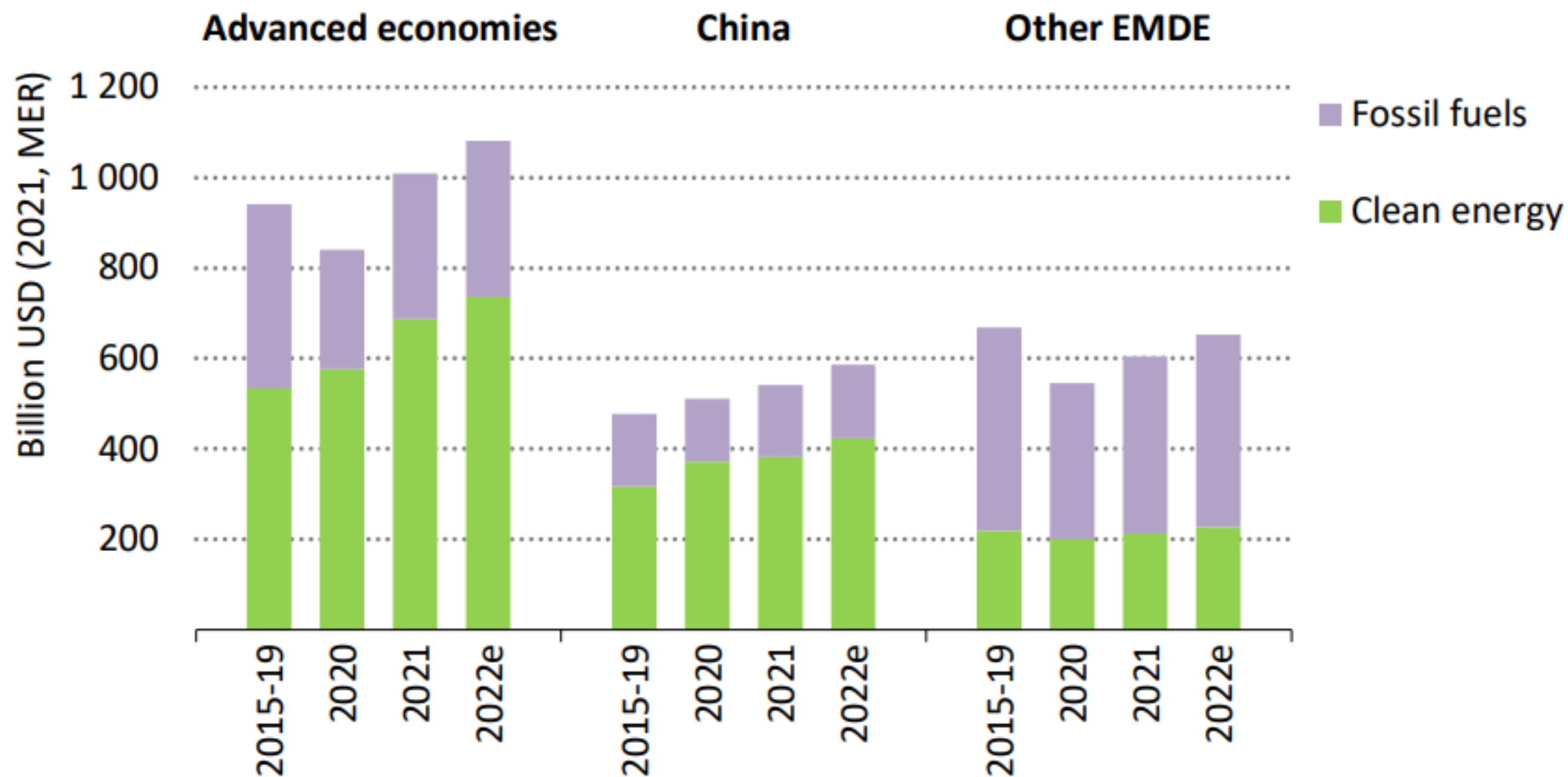
116.19

1D 1W 1M 6M 1Y 5Y 10Y All

„Just business“

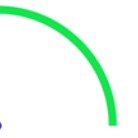


Figure 2.7 ▶ Global energy investment by region





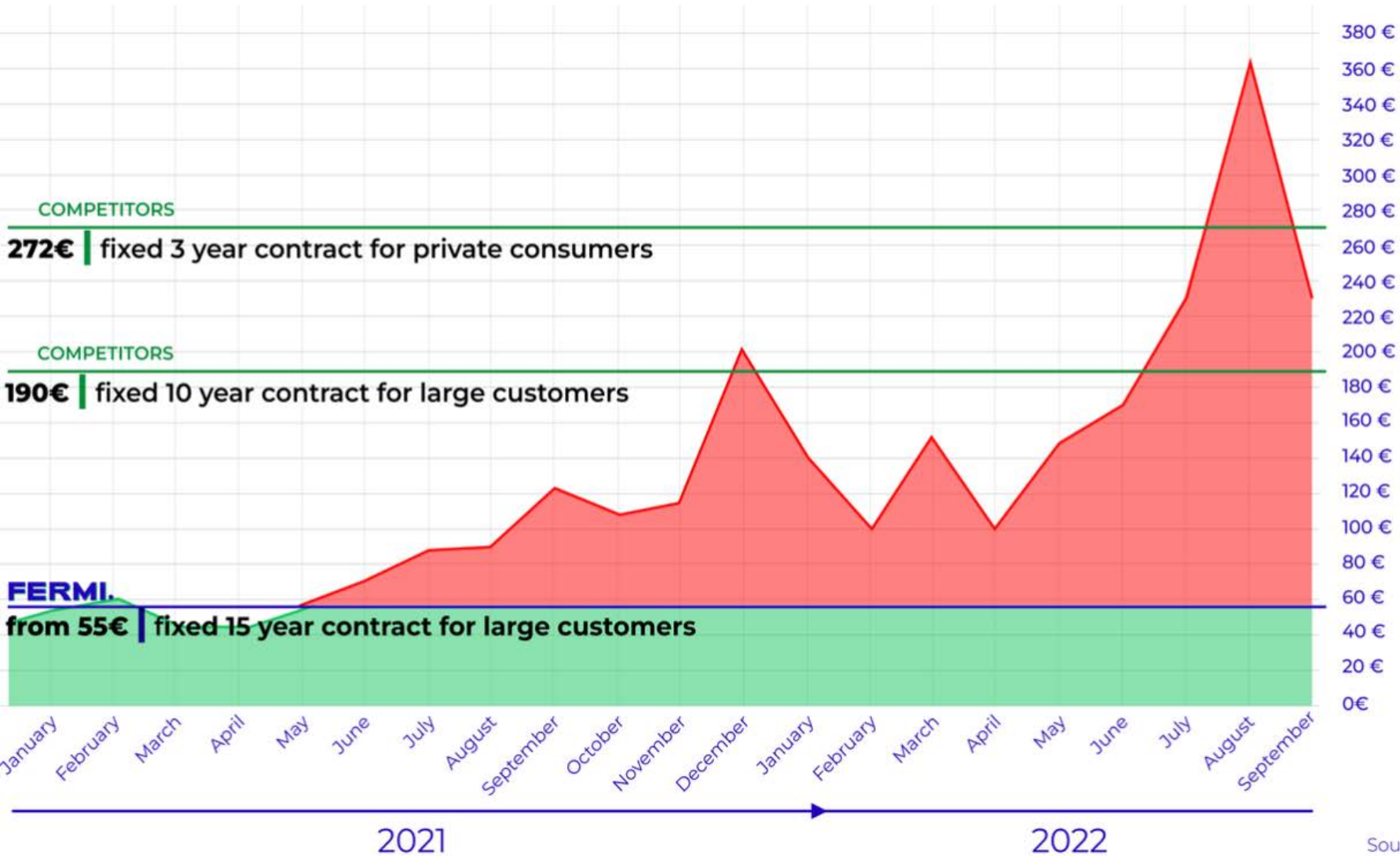
Why renewables bring price instability and high prices?



1. Unpredictable volumes (monthly, annually)
2. Unpredictable backup fuel (fossil, biomass) and CO2 prices
3. Unpredictable (declining) backup availability.
4. Insufficient supply chain/raw materials relative to scale (17GW wind in EU instead of 34GW needed for 40% by 2030)
5. Critical raw material and processing dependence on PRC
6. Decreasing land availability for deployment & grid.
7. High interest rates to deal with inflation -> lower investment.
8. Subsidies and hidden subsidies.



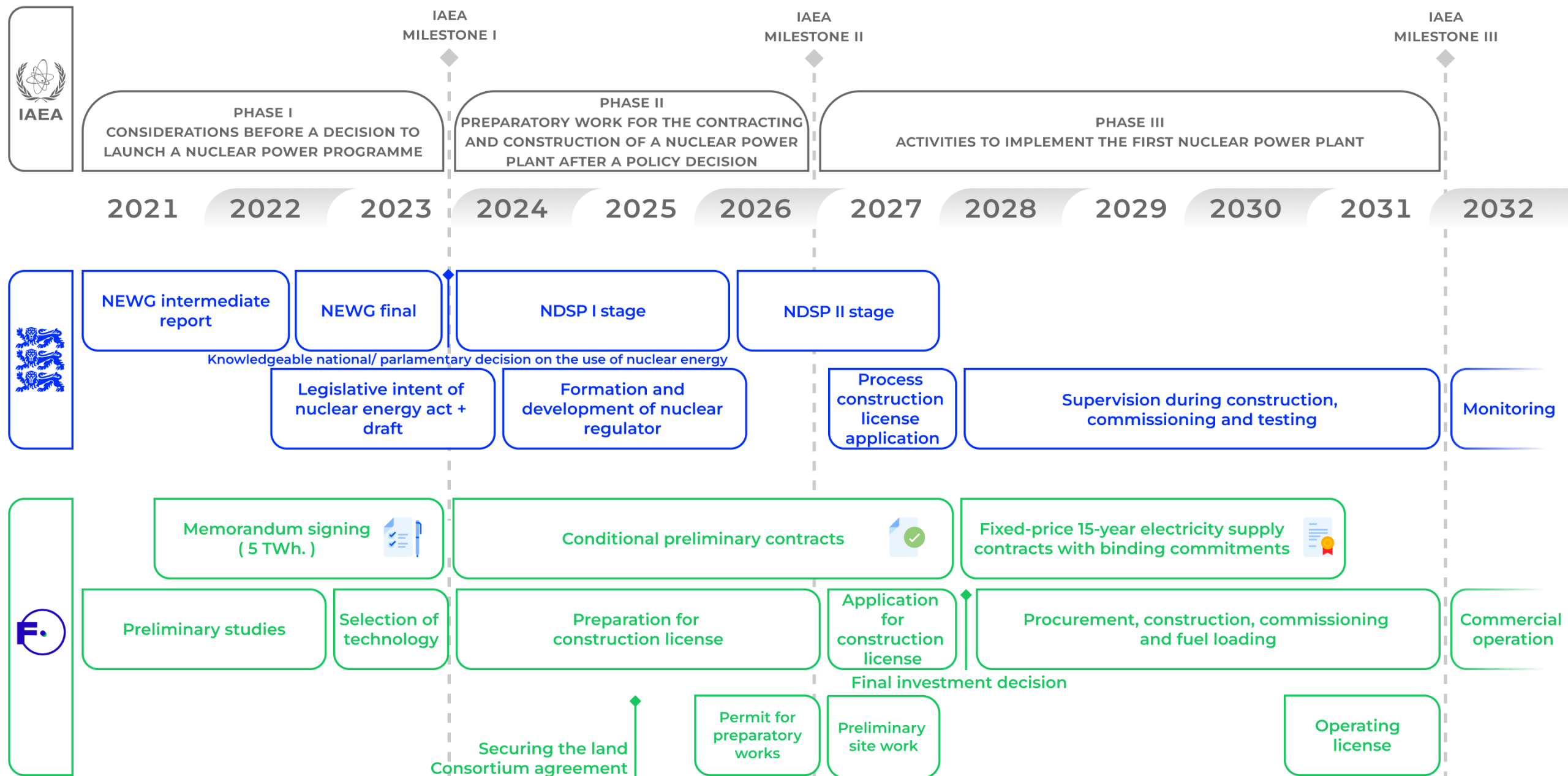
Electricity price € / MWh 2021 - 2022



Fermi Energia target
is to supply to Baltic
large customers
2,4TWh of electricity
starting **price**
55€/MWh with 15
year Power
Purchasing
Agreements.

500GWh MOUs
signed&committed

Industries, public
insitutions **NEED** price
stability in order to have
satisfactory budgeting
and investment



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SMRs in Europe with Fermi: NL, FI, SWE, SUI, UKR, NOR, ITA, IRL





Bottom line

- Need to have 20-30 NPP/SMR site specific deployment projects (50GW) by 2025 in EU.
- Now ca 8 units of projects + 5 feasibility studies/preps (inc FE).
- Annual NPP/SMR deployment of 10GWe by 2030.
- Finland HAS to deploy first SMRs by 2030 and NPP by 2033 for any carbon neutral 2035 credibility. NO excuses!

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TEEME ÄRA!
LET'S DO IT!

FERMI.

