Is there a future for Small Modular Nuclear Reactors?

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Why?
Understanding the unique need for small-scale nuclear
This is Estonia
Estonia’s generation is CO2-intense
Generation deficit is imminent

2025: Disconnection from Russian grid
2030: Electricity production from oil shale terminated
2030: Nordic’s annual energy consumption to increase +100 TWh
Coal and nuclear power plants in Europe are being closed down

-68 TWh
-33 TWh
-72 TWh
-35 TWh
-13 TWh
-5 TWh
-10 TWh
-4 TWh
-30 TWh
At 59°N, large-scale solar is not realistic
The landscape is too flat for hydro
Biomass (5 - 10%) cannot solve the problem
Wind (12%) is too unpredictable

Electricity production from wind turbines in Estonia.

Area between the lines corresponds to one year.
SMRs will provide the right capacity...
... at a favourable cost
Because of high energy density
What is needed for a successful SMR project?
Select suitable technology

Reliable operating experience in reliable regions

Boiling water reactors are a proven technology with a strong knowledge base in our region and in regions with which we want to further promote good relationships.

Reliable licensing case

BWRX-300 relies on passive safety systems, uses standard BWR fuel and has a FOAK in the making in Canada.

Reliable vendor with reliable experience

Vendor has 70 years of experience with development, construction and operation of reactors. Vendor can provide supply chain solutions to BWRX-300.
Rethink regulator and licensing

A predicable licensing process makes for a:
- cost-efficient business case
- time-efficient implementation

Standard designs     Efficient regulations

A competent and experienced regulator is a good partner
Choose a good site

There are multiple areas in Estonia where it is possible to build SMRs, based on conducted studies and as indicated by the state.

Two priority sites are identified.
Build up a unique market position

• Well connected Baltic market
  • Annual demand 27 TWh
  • Last year’s deficit ~11 TWh

• Firm power delivery at competitive price
Build up a resilient organisation

TEAM

Albert Kopjev M.Sc. constructional engineer
Albert Rice nuclear engineer
Allan Vrager M.Sc. thermal engineer
Andrei Goronovski M.Sc. neutronics engineer
Andres Ingerman communications specialist
Anet Mari Paunets technical coordinator
Anu Koppel M.Sc. supply chain engineer
Diana Revjako M.Sc. member of board, environmental manager
Gerli Toomet office manager
Kalev Sädeme communication coordinator
Liis Krigul Virumaa communications manager
Helen Cook Ph.D. nuclear law counsel
Ivar Kurvits Ph.D. general counsel
Mihkel Loide M.A. head of communications
Peter Treiatt M.B.A. CFO
Rainer Küngas Ph.D. hydrogen expert
Teet Nurmeooja M.Sc. program director
Urmas Voit key account manager

FOUNDERS

Sandor Liive M.B.A. chairman of the supervisory board
Kalev Kallemets Ph.D. CEO
Henri Ormus M.Sc. member of board
Martti Jeltsov Ph.D. CTO

Kaspar Kööp Ph.D. safety manager
Merja Pukari Ph.D. fuel cycle manager
Mait Müntel Ph.D. member of the supervisory board

SHAREHOLDERS


VATTENFALL

1.5 mln. euro

1 281 investors


PARTNERS

GE

Latvenergo

Laurentis

energy partners

SUPervisory board

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)
Small nuclear has future

- Nuclear energy is a mature technology providing reliable firm capacity in our region and around the world
- Choose the right capacity balance
- SMRs fit Estonia (and private capital)
- Implement in collaboration