

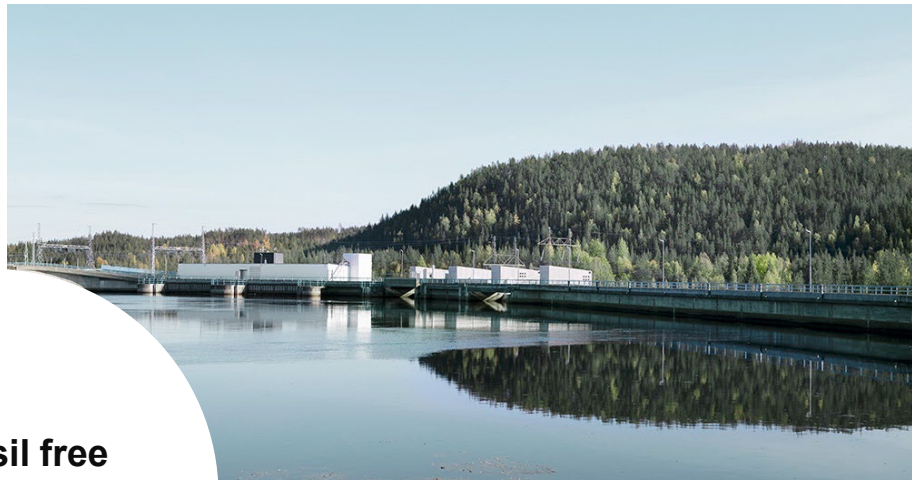
Nucelerate West

Vattenfall's feasibility study
on SMRs at Ringhals.
Autumn 2023.



Vattenfall foresee a doubling of electricity demand by 2045





**All fossil free
power sources are
needed**



New nuclear is considered necessary for a stable and sufficient electricity supply



An ongoing project for new nuclear regards SMRs at Ringhals/the Värö peninsula

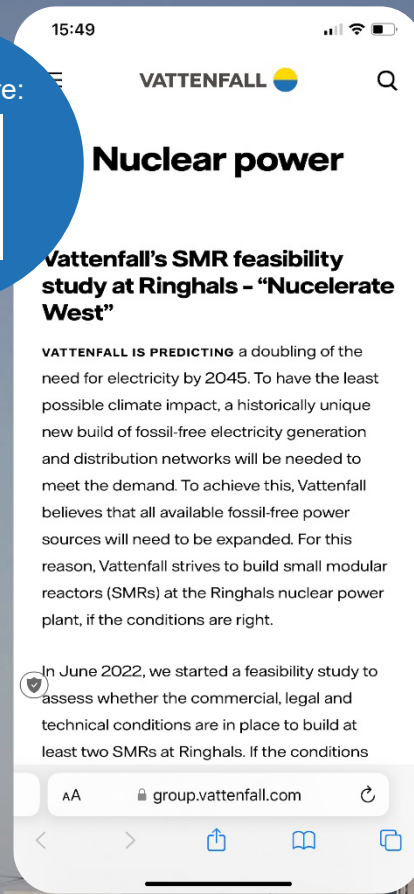


Conventional reactors are not excluded

Vattenfall wants to build new nuclear

- Since the summer of 2022 a feasibility study regarding SMRs at Ringhals/the Värö peninsula is conducted. Technical, legal and commercial conditions are analyzed
- Concrete activities have started, for example a request for a planning decision of the area, acquisition of property and inventories of natural and cultural environment

Follow us here:



At Ringhals/the Värö peninsula!

- Big electricity demand in the south of Sweden
- The Värö peninsula is since decades pointed out by authorities as a national interest for energy production
- There are infrastructure and competence available in the area



Conditions for SMRs to become an attractive alternative for Vattenfall



Conditions



**Broad
acceptance for
SMR in society**



**Highly
standardized**



**Meets authorities'
safety requirements**



**Predictable and
efficient licensing
processes**



**Financially
competitive
alternative**



Expected advantages of SMRs



Commercial: modularity, high degree of standardization and serial production



Electricity supply: put together, SMRs can provide a large electricity supply, and if one reactor is disconnected for a period the other reactors continues to be in operation



Flexibility: easier to integrate in the electricity system and to add new reactors when needed



Safety: less reliance on external factors for e.g. cooling



SMRs of interest to Vattenfall

170–470 MW per reactor.

Several buildings can be placed side by side.

In some concepts several reactors can be placed in the same building.

The buildings will probably be of 30-50 meters high.

Modern design that aims for minimal impact on the natural environment.



SMRs are serial produced reactors, with large modules. When put together, the reactors provide a large and robust electricity supply



Activities in the feasibility study autumn 2023 1/2

Inventory of natural environment

Inventories of land, flora, and fauna is ongoing since summer and continues at least during 2024.

Inventory of cultural environment

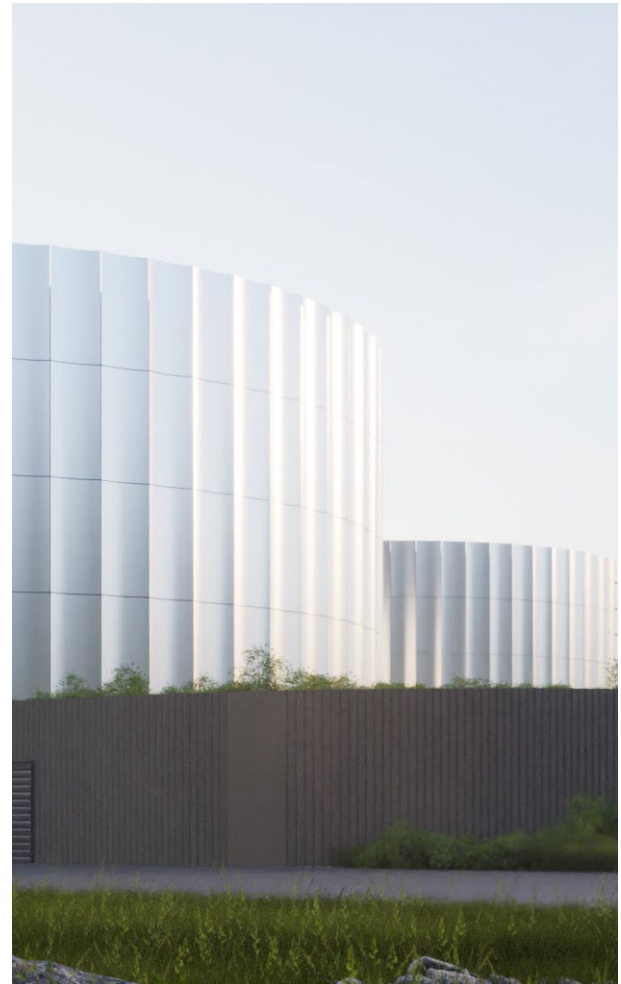
Inventories of cultural environment above ground has been conducted. Application for the next step, archaeological inventory (under ground), has been submitted.

Detailed development plan

Request for a planning decision, i.e. a change in the detailed development plan for parts of the Värö peninsula, is submitted to the municipality of Varberg.

Access to land

Acquisition of properties and dissolution of leases has been initiated with the objective to reach agreements with the residents.



Activities autumn 2023 2/2

Commercial and technical activities

Evaluation and dialogue with pre-qualified SMR suppliers. The aim is to downselect a few suppliers for the next step.

Public consultation on environmental matters

Preparations before the upcoming public consultation is ongoing. The public consultation provides a basis for an environmental assessment.

Delivery of the feasibility study

By the end of the year the feasibility study will be finalized. A comprehensive basis is then delivered to the Vattenfall management for further assessment.



Concept images of SMR buildings



Sloping green roofs

The buildings are designed as large simple volumes with sloping green roofs that blend into the landscape. Two SMRs per building.



Rounded corners

The buildings are parallel simple volumes with rounded corners. Light and dark areas makes some parts catch the light of the sky while others are barely visible from a distance. One SMR per building.



A hill in the landscape

The large curved building volume with an elongated green roof appears as a hill in the landscape, integrated with the natural area. Several SMRs per building.

Concept image. The building is designed for two reactors.



Concept image. The building is designed for one reactor.



Concept image. The building is designed for several reactors.



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