FORTUM DEVELOPS NEW NUCLEAR POWER

as an option to meet future customer demand

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Agenda

1. CLEAN TRANSITION IN THE NORDICS
2. NUCLEAR ENERGY OUTLOOK
3. FORTUM NEW NUCLEAR FEASIBILITY STUDY
4. Q&A

CLEAN TRANSITION IN THE NORDICS

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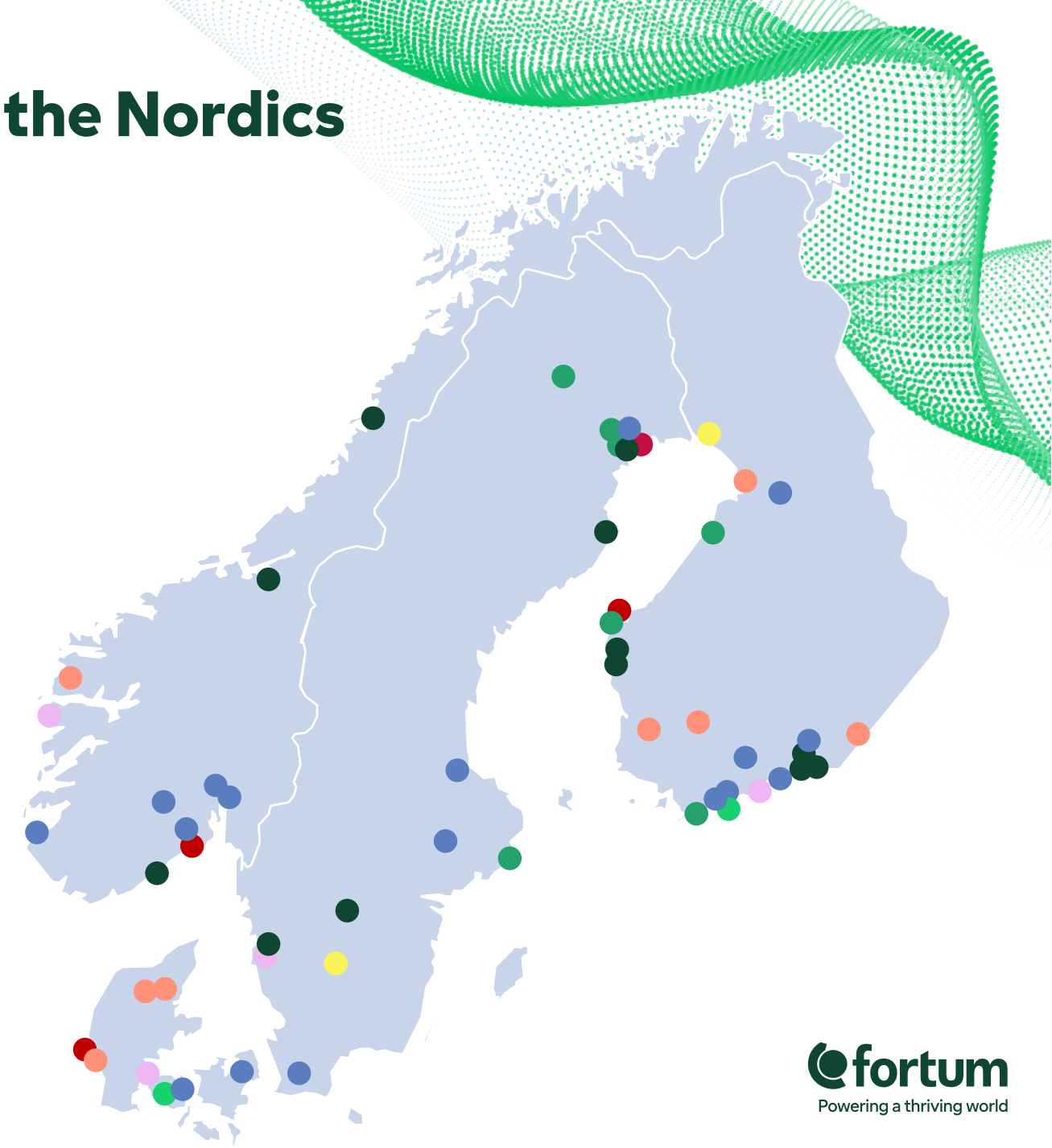
Customer demand to grow in the Nordics

- Green metals
- Battery manufacturing
- Electrified district heating
- Ammonia and fertilisers
- Existing refineries
- P2X for industry and transport
- Pulp and paper
- Data centers



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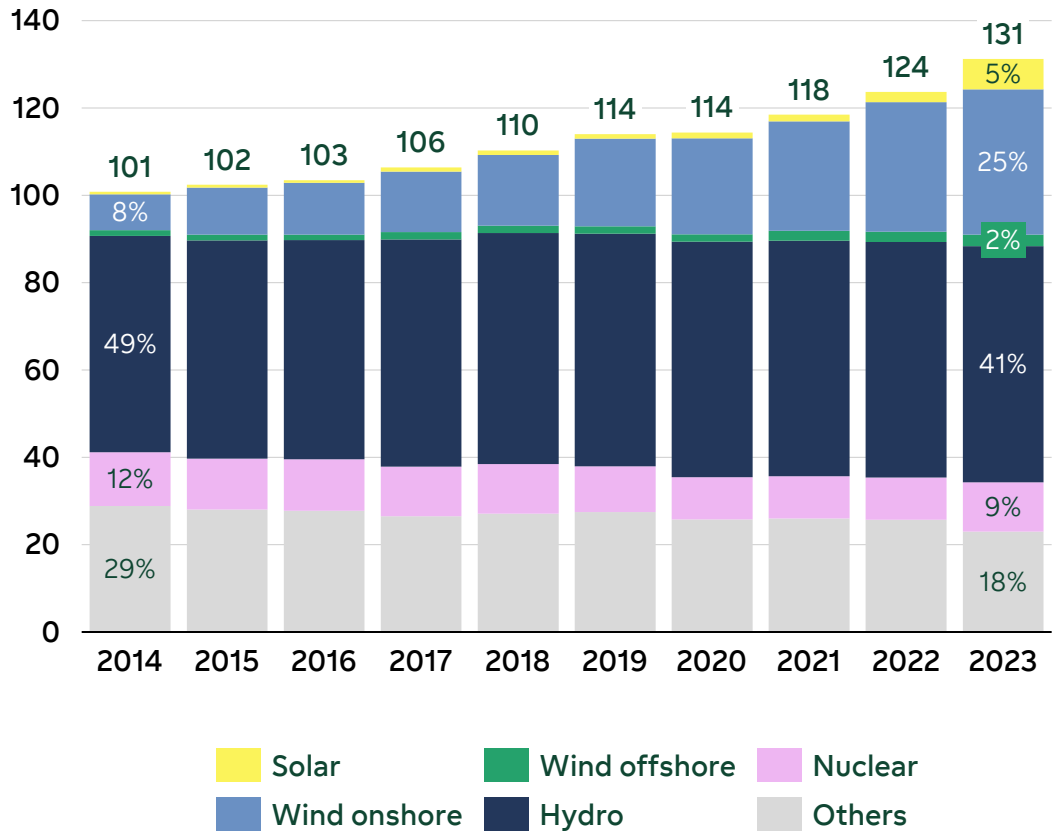
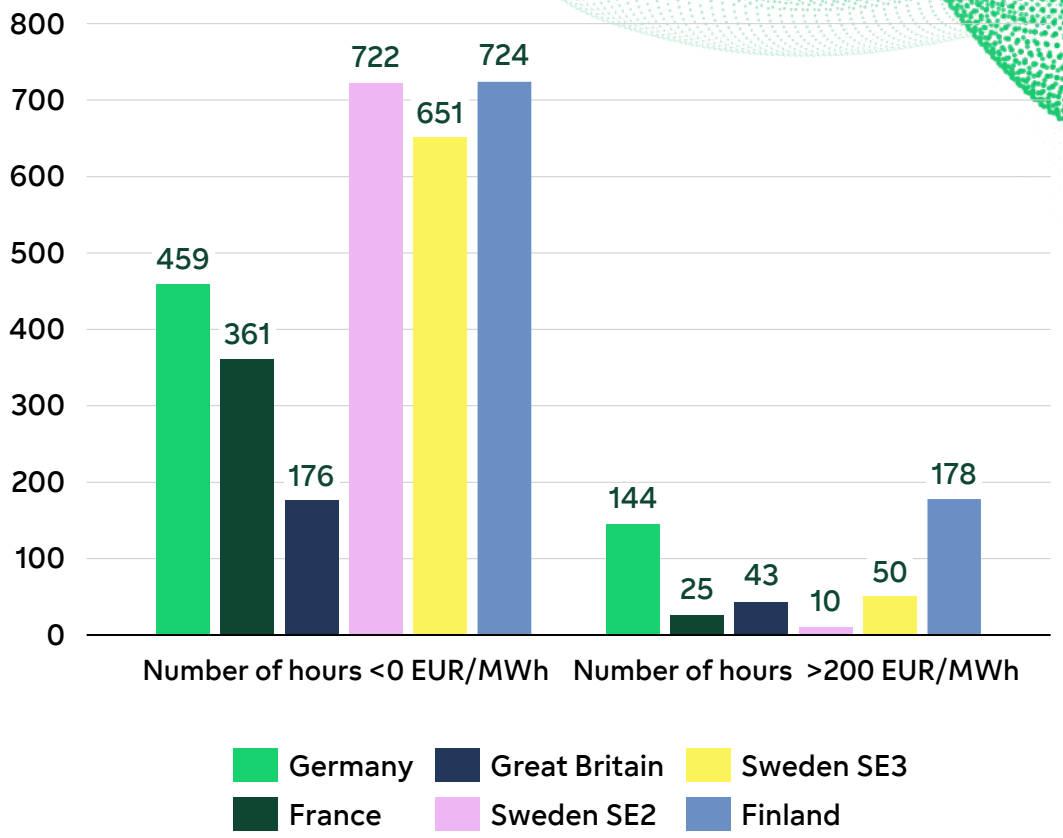
Note: Illustrative and not exhaustive.

Nordic power system is increasingly weather-dependent, resulting in highest price volatility in Europe

Installed power generation capacity in Nordics (GW)



Number of extreme prices in selected price areas (h)



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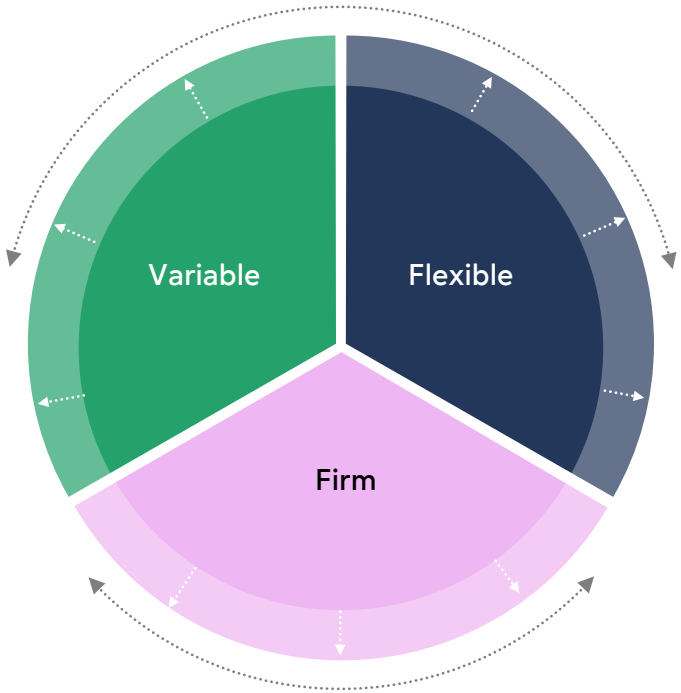
Sources: ENTSO-E, Nordpool. Price data covering 1.1.-31.12.2024.

Fortum is developing a fit-for-future clean power portfolio

The future clean power system needs to balance variable, flexible and firm generation



Fortum's development addresses the capabilities required by customers and a balanced power system

- Onshore wind and solar
- Flexibility and batteries
- Pumped hydropower
- Nuclear generation

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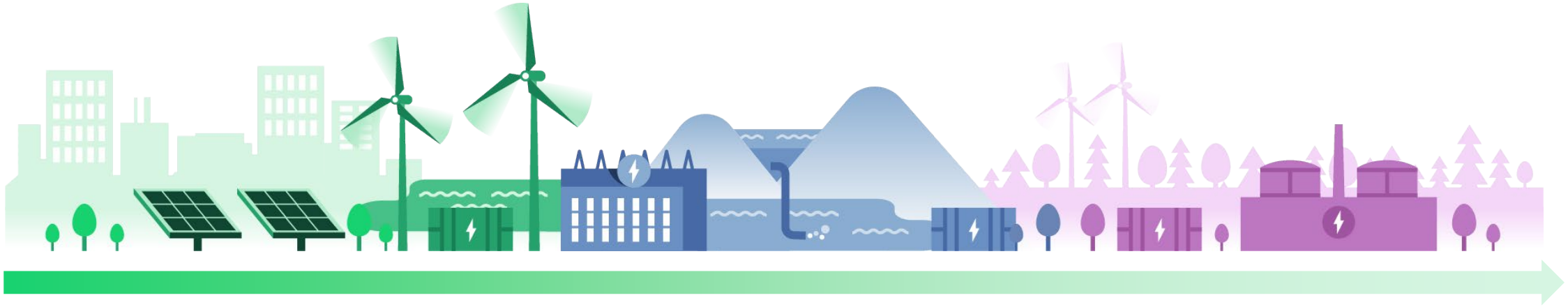
Our ambition is to deliver clean power needed for Nordic decarbonisation and growth



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NUCLEAR ENERGY OUTLOOK

Fortum's nuclear capabilities and operating environment in Europe

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Building prosperity and growth through electrification in the Nordics requires that we dare rethink the existing

OPTIMISE EXISTING ASSETS

&

CREATE CONDITIONS ENABLING DEVELOPMENT OF NEW ASSETS

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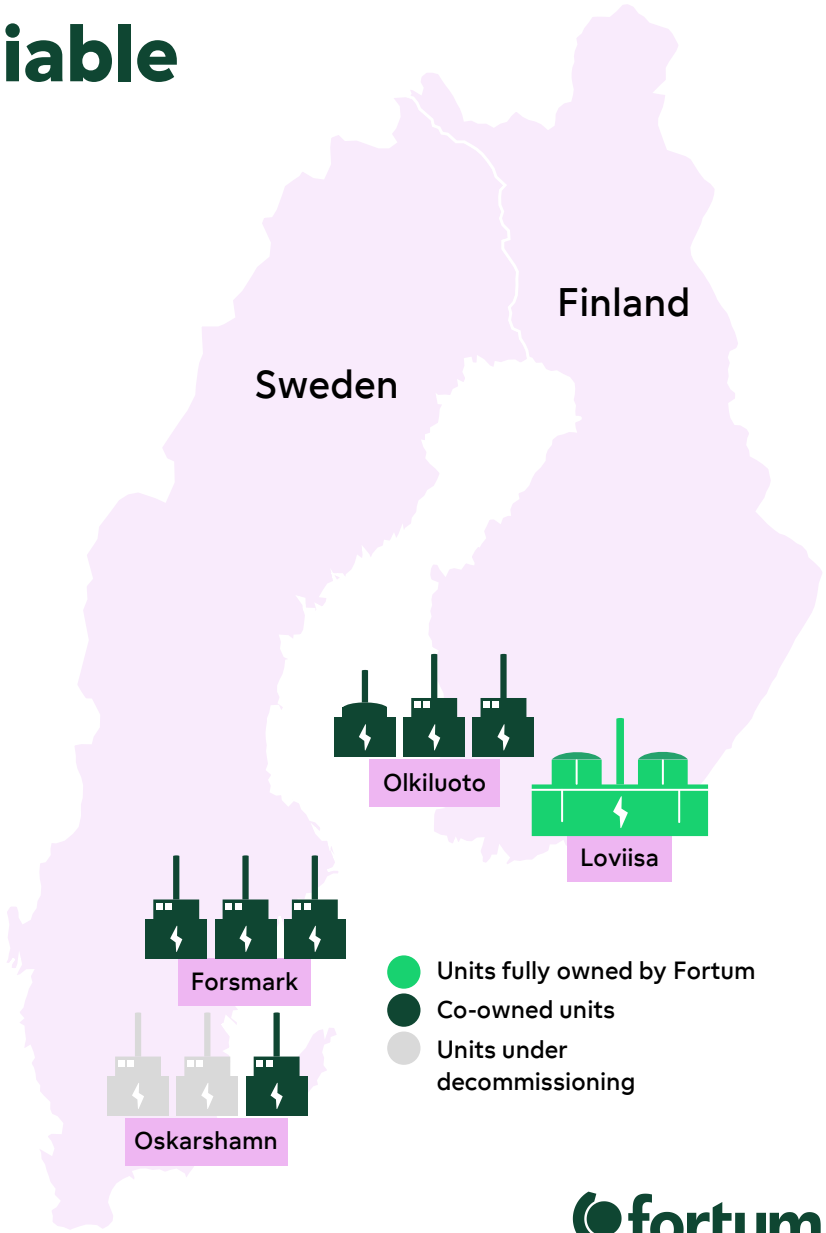
Fortum has a 45-years track record of reliable nuclear operations

- Fully-owned nuclear power plant in Loviisa, Finland and ongoing life-time extension.
- Co-owned nuclear power plants in Finland and Sweden, investigating extension of long-term operation.
- Forerunner in responsible waste management.
- Extensive in-house engineering and project competences.
- International service business and networks.
- Expertise from newbuild to decommissioning and final disposal of nuclear waste.

24.3 TWh	3.2 GW	52%	800
Nuclear generation	Nuclear capacity	Share of Fortum's total power generation	Nuclear professionals



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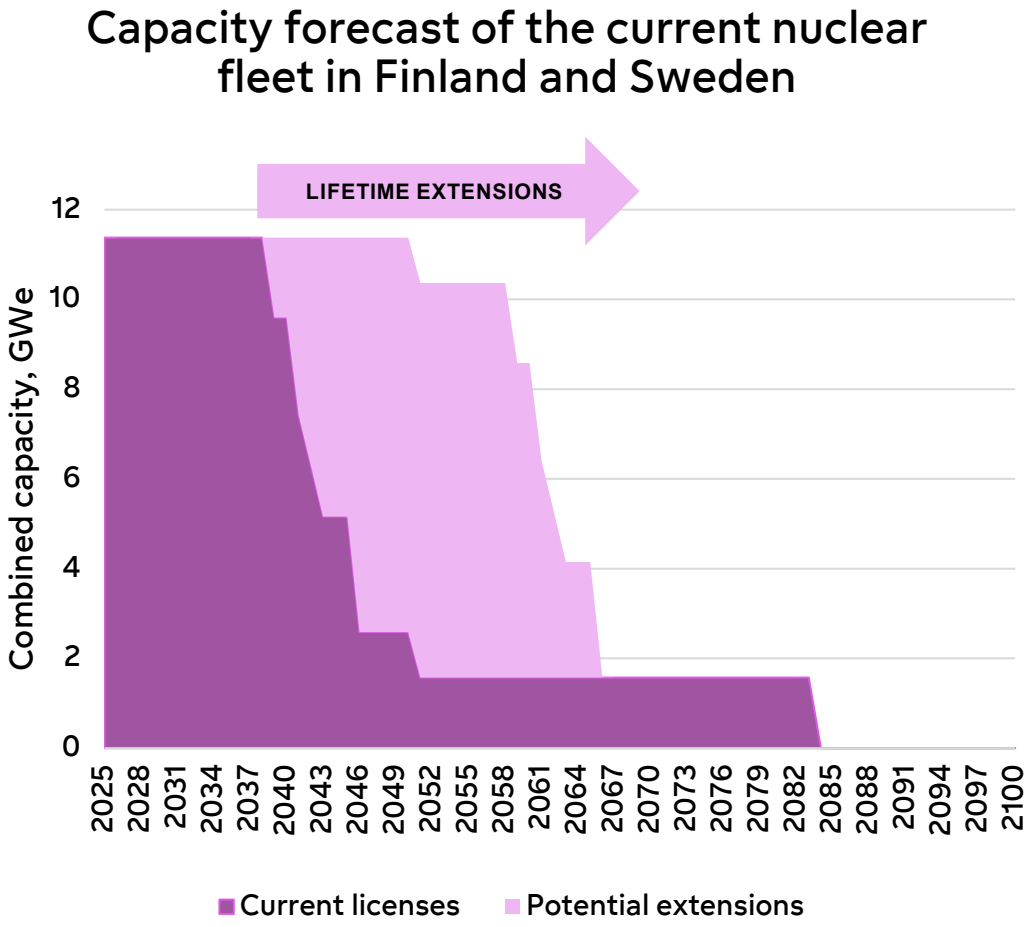
Our perspective to nuclear power spans a century – lifetime extension of the current fleet are a priority



- Nuclear power has been essential for industrialization and prosperity in the Nordics.
- Large part of the existing fleet will reach end of life cycle in 20 years, or a bit later if their lifetime is extended.
- Fortum wants to keep new nuclear as a future option, but it requires very long-term planning and ensuring that existing plants can be operated profitably.

Potential capacity increases are not included in graph.
Capacity data is based on publicly available information from IAEA Power Reactor Information System (PRIS): https://pris.iaea.org/PRIS/home.aspx . Information derived 6.2.2025.
The information on potential lifetime extensions are estimations based on public information on existing assets' owners' websites. Not all extensions are necessarily yet decided. Information derived 6.2.2025.

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New nuclear is gaining traction across Europe

The EU is heading toward **150 GW of installed nuclear capacity by 2050**[1], European policymakers must support this by:

- **Ensuring access to stable, low-carbon electricity for industry** requires full recognition of nuclear as a low-carbon energy source, especially for clean hydrogen production.
- **Streamlining and accelerating the State Aid process.** Public financing significantly lowers financing costs of new nuclear, benefitting the European consumer.
- **Mobilising the international financial institutions** like the European Investment Bank would speed up the construction of the new European nuclear fleet.
- **Guaranteeing equal access to EU funds and financing mechanisms.** Existing EU funds[2] must guarantee a level-playing field for all net-zero technologies.

1) Based on the National Energy and Climate Plans of member states.
2) E.g. the Just Transition Fund and InvestEU

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Fortum’s feasibility study on new nuclear

Our goal was to explore the preconditions for growth in new nuclear in active dialogue with different stakeholders

During the two-year study, we explored:

- commercial, technological, and societal, including political, legal, and regulatory conditions
- both for SMRs and large reactors (11 designs)

Also, as part of the study we:

- studied numerous past and ongoing projects, sites and technologies
- conducted site feasibility evaluations
- had active pre-licensing discussions

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FORTUM NEW NUCLEAR FEASIBILITY STUDY

Key conclusions and next steps

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Key conclusions from the Feasibility Study phase

- **The business case:** New nuclear capacity will not be built on merchant basis in the Nordics in a near future due to moderate power price and increasing volatility.
- **The technologies:** Large reactors are mature whereas most of the SMR technologies are still under development. Designs cannot be country-specific to be competitive.
- **Fortum's strength:** Fortum has a competitive advantage in nuclear competence and operational experience but will need strong partners for future projects.
- Not all conditions are currently met for investing in a new nuclear project. However, **Fortum will continue to develop these opportunities.**

We will continue developing a long-term nuclear growth option for Fortum, cost-efficiently and creating value step by step to be ready when the conditions are right

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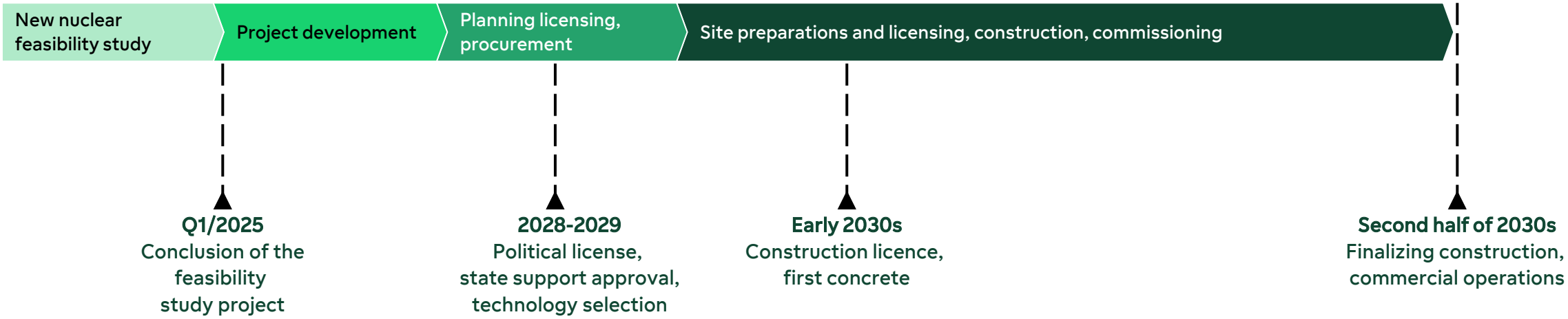
Developing new nuclear takes 10+ years including an extensive preparatory phase

- Several gates must be passed before a final investment decision could be considered
- Fortum will now focus on identified key conditions of the New Nuclear Feasibility Study
- The development phase starts now and will take around two years

Illustrative timeline of a potential project[1]



1) No decisions beyond immediate next steps in project development phase (2025-27) have been made

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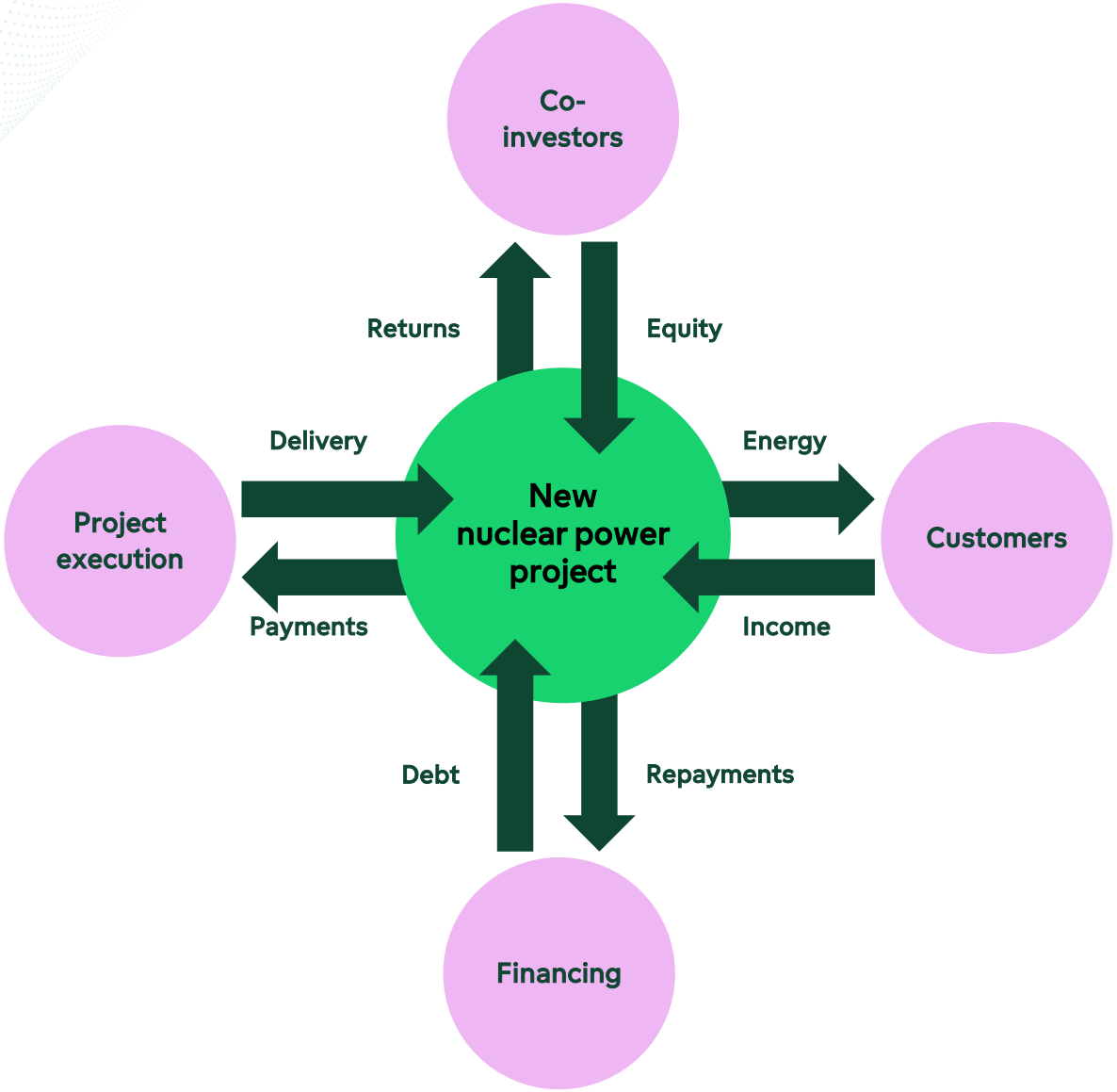
Development will focus on four preconditions, which all must be filled



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New nuclear requires income visibility and demand growth

Customers

Financing

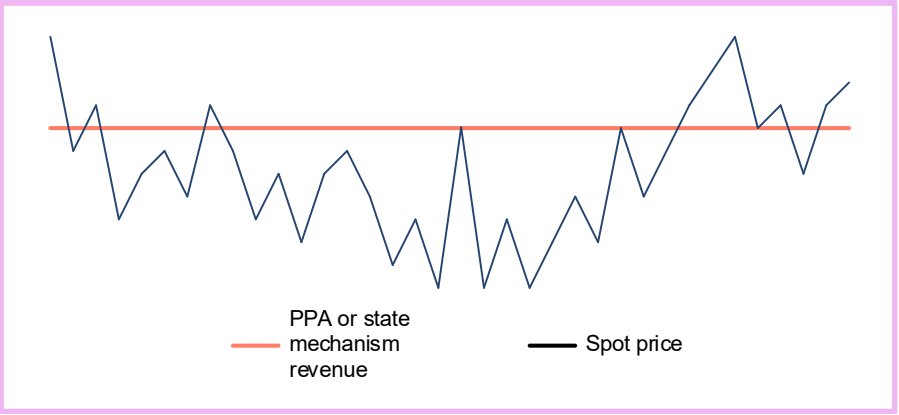
Co-investors

Project execution

Building new nuclear power in the Nordics on a merchant basis only will be very challenging

A solid risk-sharing framework, connected with demand growth, is needed to provide visibility

Fortum will continue the dialogue on risk-sharing with potential customers and both the Swedish and Finnish states



i The proposed risk-sharing framework in Sweden includes a contract-for-difference mechanism that would provide the required price stability and revenue visibility for a new nuclear project.

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New nuclear requires competitive cost of capital

Customers

Financing

Co-investors

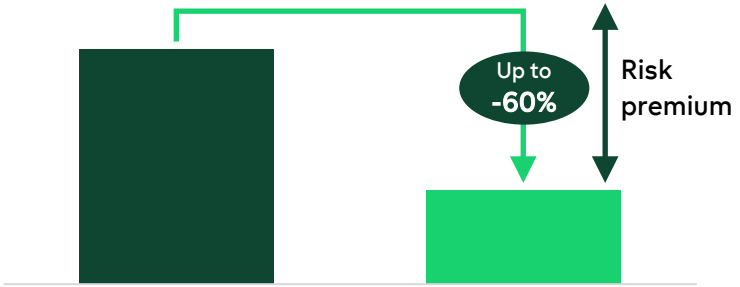
Project execution

Cost of capital is a key driver for production costs

Securing a cost-efficient financing is a key condition for making new nuclear competitive in the Nordics

Fortum will continue the dialogue on financing mechanisms with both the Swedish and Finnish states

Fortum will investigate further other options such as investment banks (e.g. EIB) and export banks



State construction loan or loan guarantees reduce cost of capital of the project and thus, lower the production costs. The proposed risk-sharing framework in Sweden includes state construction loan.

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Fortum needs to partner with co-investors to build a strong owner's organization

Customer

Financing

Co-investors

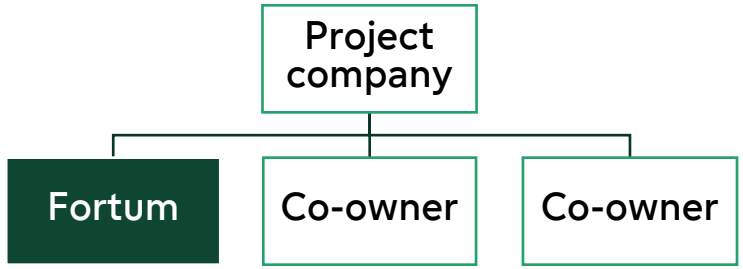
Project execution

New nuclear projects are substantial investments and cannot be carried out by Fortum alone

Strong co-investors are needed to build a competent owner's organization

Fortum seeks potential partners to co-develop new nuclear in Finland and Sweden

Illustrative ownership structure



i There is an interest from certain industries and other utilities to co-develop new nuclear. The Swedish state is also considering co-investment in new nuclear projects in Sweden.

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Recipe for a good project execution

Customers

Financing

Co-investors

Project execution

Do not start the construction too early

Select a proven technology and limit country specific changes

Verify thoroughly the contractor(s) capabilities

Building more than one reactor

Ensure the supply chain is mobilized

Rely on competent owners with nuclear experience

i Project implementation and technical risks are the ones that project developers can mitigate the best, together with the technology vendors.

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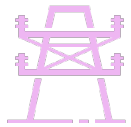
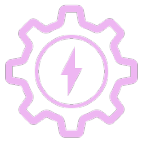
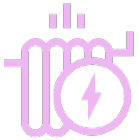
Nuclear energy serves many purposes – both conventional reactors and SMRs can play a role



GRID ELECTRICITY	ON-SITE CONNECTIONS	INDUSTRIAL HEAT PRODUCTION	URBAN HEAT PRODUCTION
• **Large reactors** are most competitive for large baseload generation due to their intrinsic economy of scale. • **SMRs** can provide baseload electricity but the cost of production per unit is higher unless a large fleet is built.	• **SMRs** have an advantage for direct connections to critical infrastructure because they have potential for being located closer to industrial areas. • **Large reactors** can provide direct connections, but their remote locations might reduce the potential for such setups.	• **Gen IV reactors (not in scope)** are better suited for industrial heat production as they can reach a higher level of temperature. • (Light water) **large reactors** and **SMRs** are limited in temperature but could be used to improve e.g. hydrogen production in the future.	• **SMRs** or **Heat Only Boilers (not in scope)** can decarbonize district heat production if they can be built in proximity to the consumer. **SMRs** would benefit economically from combined heat and power supply (CHP). • **Large reactors** can also provide urban heat but require longer heat pipes due to their remote locations.

We plan to deepen collaboration with three technology providers

AP1000

- Six units in commercial operation in US (Vogtle 3&4) and China
- Twelve units under construction in China by SPIC, CNNC and CGN
- Several projects in planning phase, including three units in Poland and two units in Bulgaria.
- Compact design based on passive safety features and modularity

Courtesy: Westinghouse

EPR

- Three units in commercial operation in Finland (Olkiluoto 3) and China. Flamanville 3 (France) connected to the grid in 2024
- Two units under construction at Hinkley Point C in the UK
- Several projects in planning phase, including two units in Sizewell C (UK)
- Design already built in Europe according to European codes and standards

Courtesy: EDF

BWRX-300

- First units in Darlington, Canada planned to be commercially operational in 2029. Construction license expected in 2025
- Several projects in planning phase
- Design based on existing BWR experience, closest to actual deployment of all western SMRs

Courtesy: GE Hitachi

A suitable site is a prerequisite for new nuclear

SWEDEN

Fortum will continue screening for potential sites in Sweden

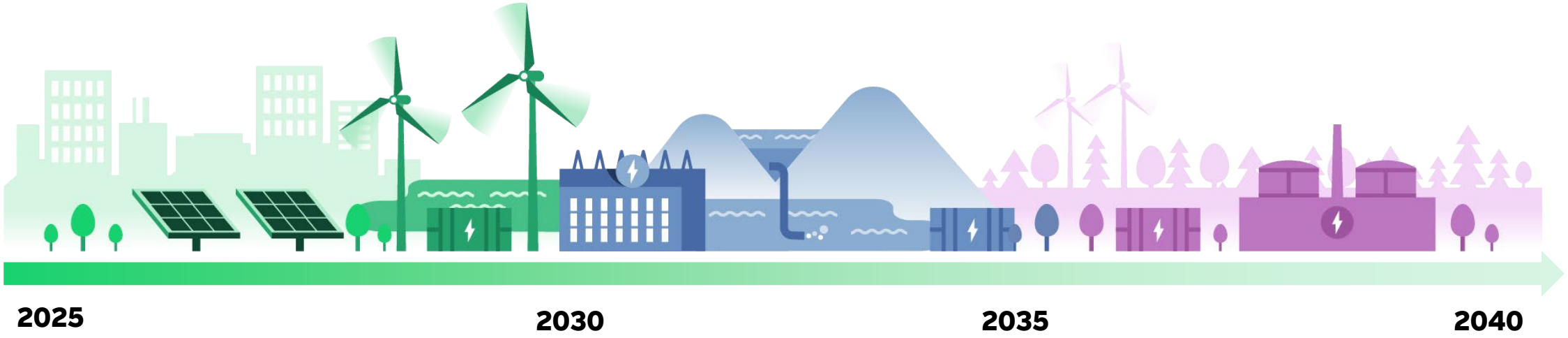
A site must be flexible on plant configuration, both large reactors and SMRs

FINLAND

Fortum is collaborating with the city of Loviisa acquiring more land close to Loviisa nuclear power plant

This area has strategic benefits with existing infrastructures, that could host new nuclear or a possible other clean industrial projects with a significant impact on local and regional employment.

We want to make new nuclear a viable option to meet future customer demand and replace existing units at end of lifetime



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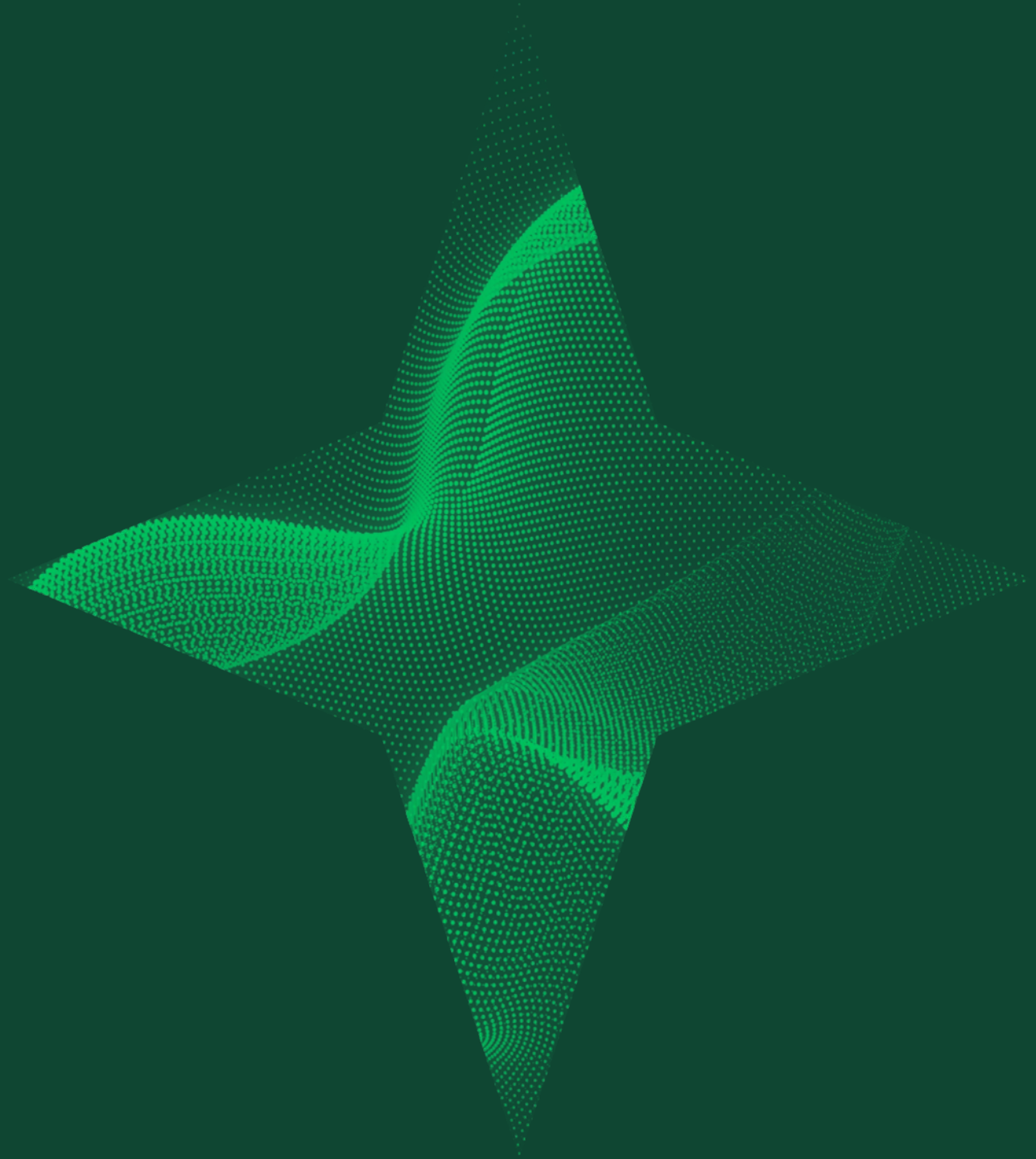

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