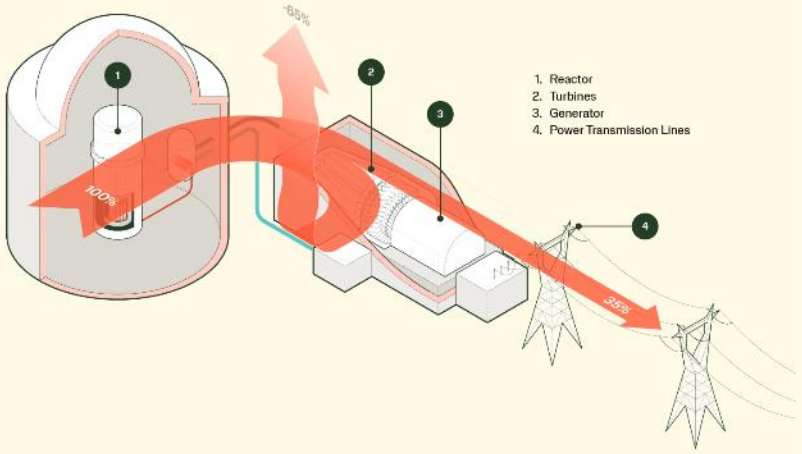
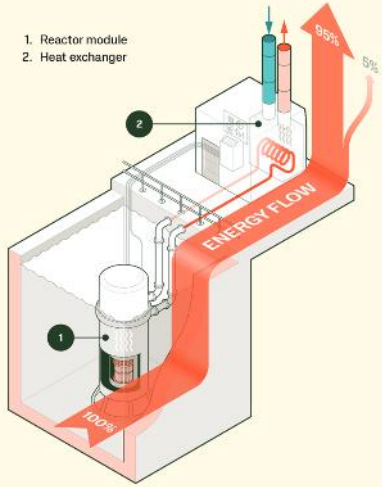
Welcoming the new era of heating

Steady Energy

✓12-16% of Global GHG from heating water, steam or air <150 °C
✓17-22% of EU27 GHG
It’s an unsteady planet !

The most impactful market-fit for nuclear is heating

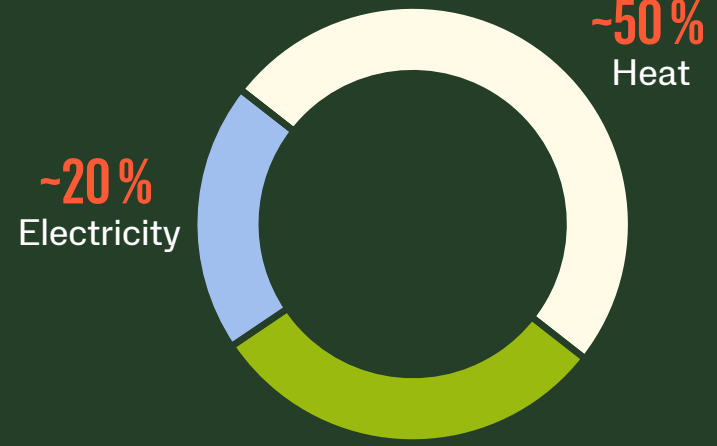




Conventional nuclear (electricity)	
Share of final energy demand	25%
Process efficiency	35%
Volatility of market	HIGH

Steady Energy nuclear (heat)	
Share of final energy demand	<50%
Process efficiency	95%+
Volatility of market	LOW

Share of final energy consumption (global)



IRENA (2023)
IEA (2023)

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Why now?

01

Resilience and energy security

02

EU climate target

03

Political support

Steady Energy

01

Nuclear heat could eliminate the 3 biggest district heating risks

A

Physical vulnerability

- Resilient to natural and external threats.
- Passive safety designed into the physics.
- Built to operate through crisis.

B

Fuel dependency

- Two years of heat from one fuel load.
- Less expose to fuel price fluctuation and market disturbances.
- Stable, predictable cost base.

C

Regulatory & emissions pressure

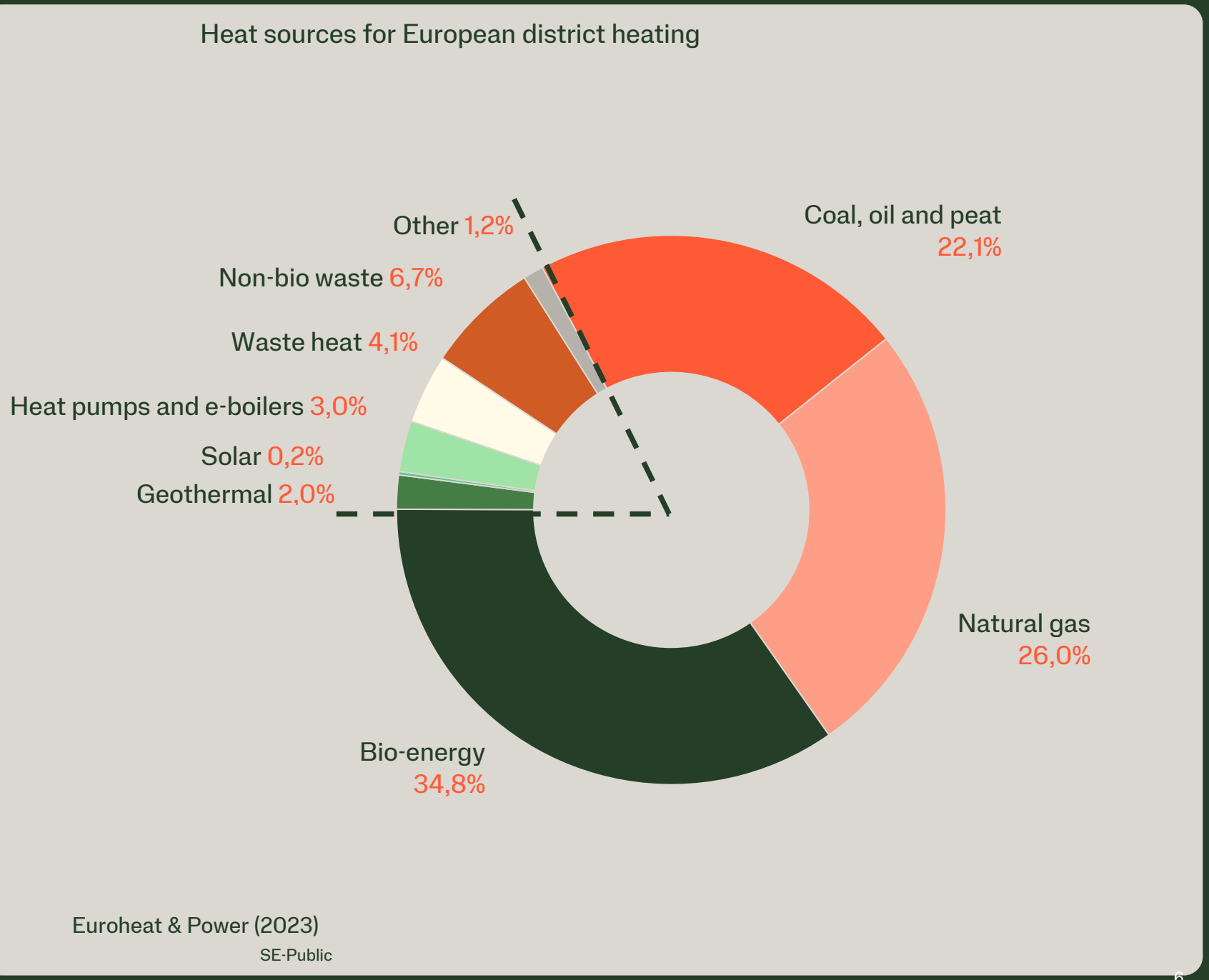
- Future-proof against tightening EU regulation.
- Ultra-low lifecycle CO2-emissions.

Steady Energy

02

Security meets sustainability

- Most systems rely on combustion
- Cumulative emission reduction potential of nuclear heat ~**60 Mtn of CO_2** (~800 LDR-50 reactors)
- Contributes directly to the EU climate targets

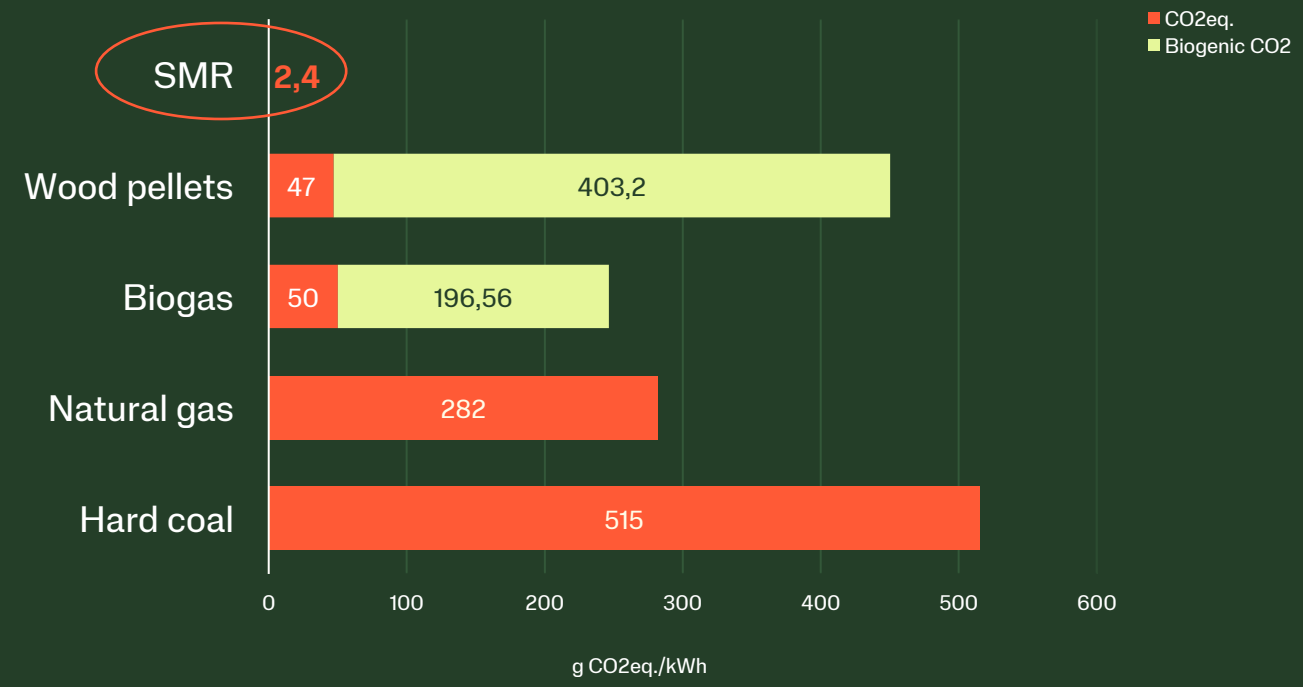


SE-Public

Steady Energy

02

Nuclear energy has ultra-low CO2 emissions



SE-Public

VTT, Ecoinvent database

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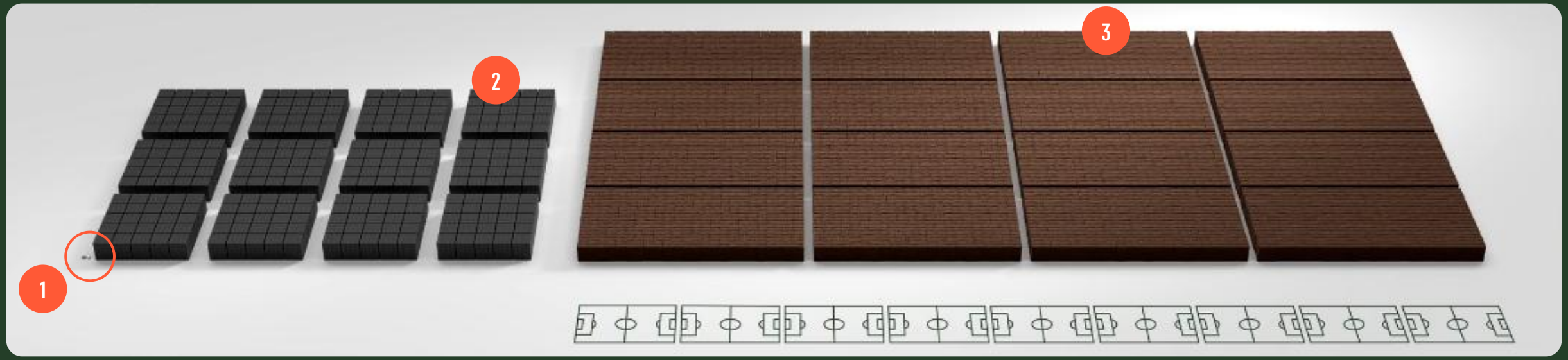
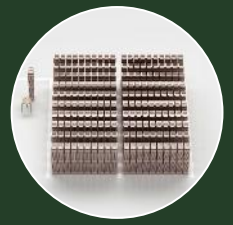
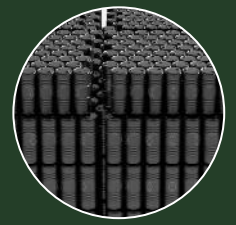
02

Decoupling production from the use of natural resources





1 Fuel consumed by a single reactor over it's entire lifetime **would sit inside two parking spaces**.

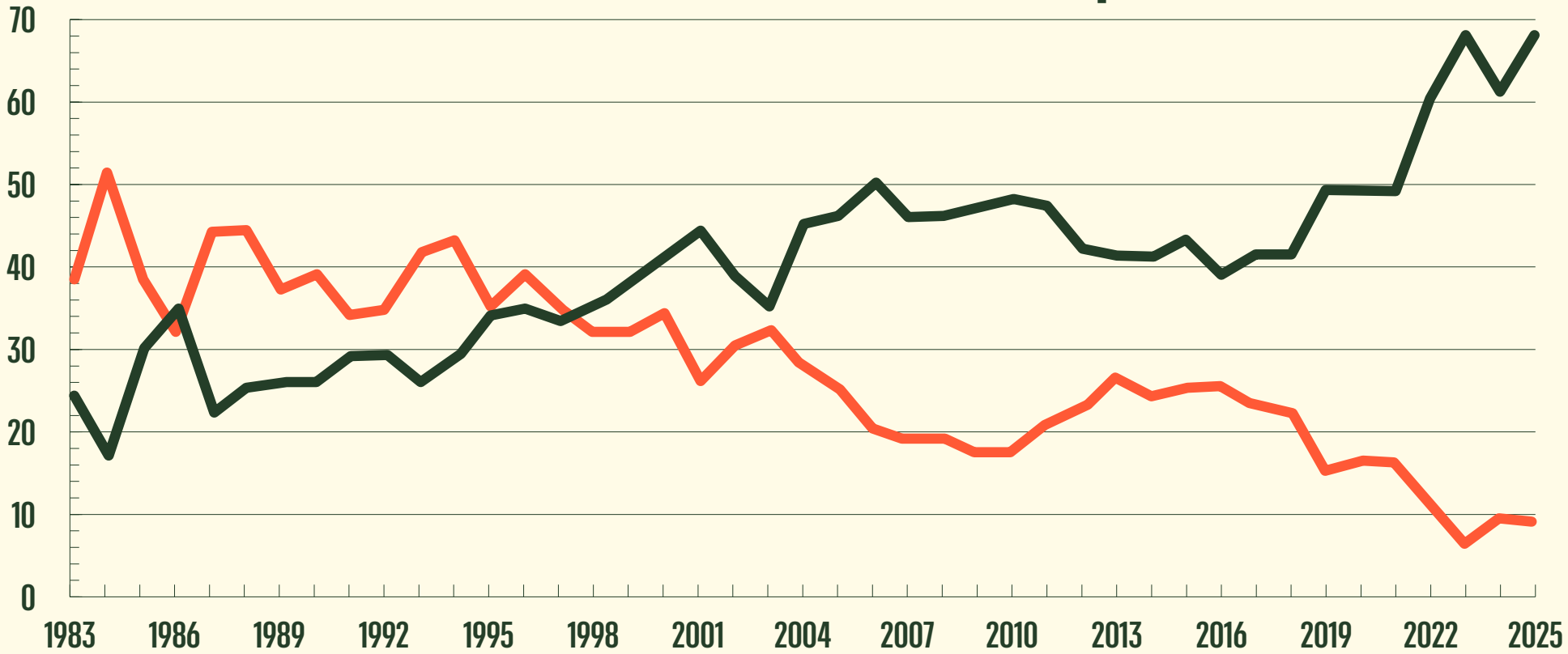


2 It would take **12 million barrels of oil** to produce the same amount of energy.

3 It would take **10 million cubic meters of wood** to produce the same amount of energy.

03

% General attitude towards nuclear power - Finland



68

Fully or mainly **positive**

Fully or mainly **negative**

9

Source: Finnish Energy, “Opinions on nuclear power 2025”

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We make
nuclear simple.
Steady
Energy

Simple means cost-effective

Levelized cost of heat, LCOH €/MWh

*Cost estimate for a 4-reactor reference heat plant.

Steady Energy unit economics

<100 M€

Target investment per reactor unit

40€/MWh

Target for levelized cost of heat

60 years

Plant lifetime

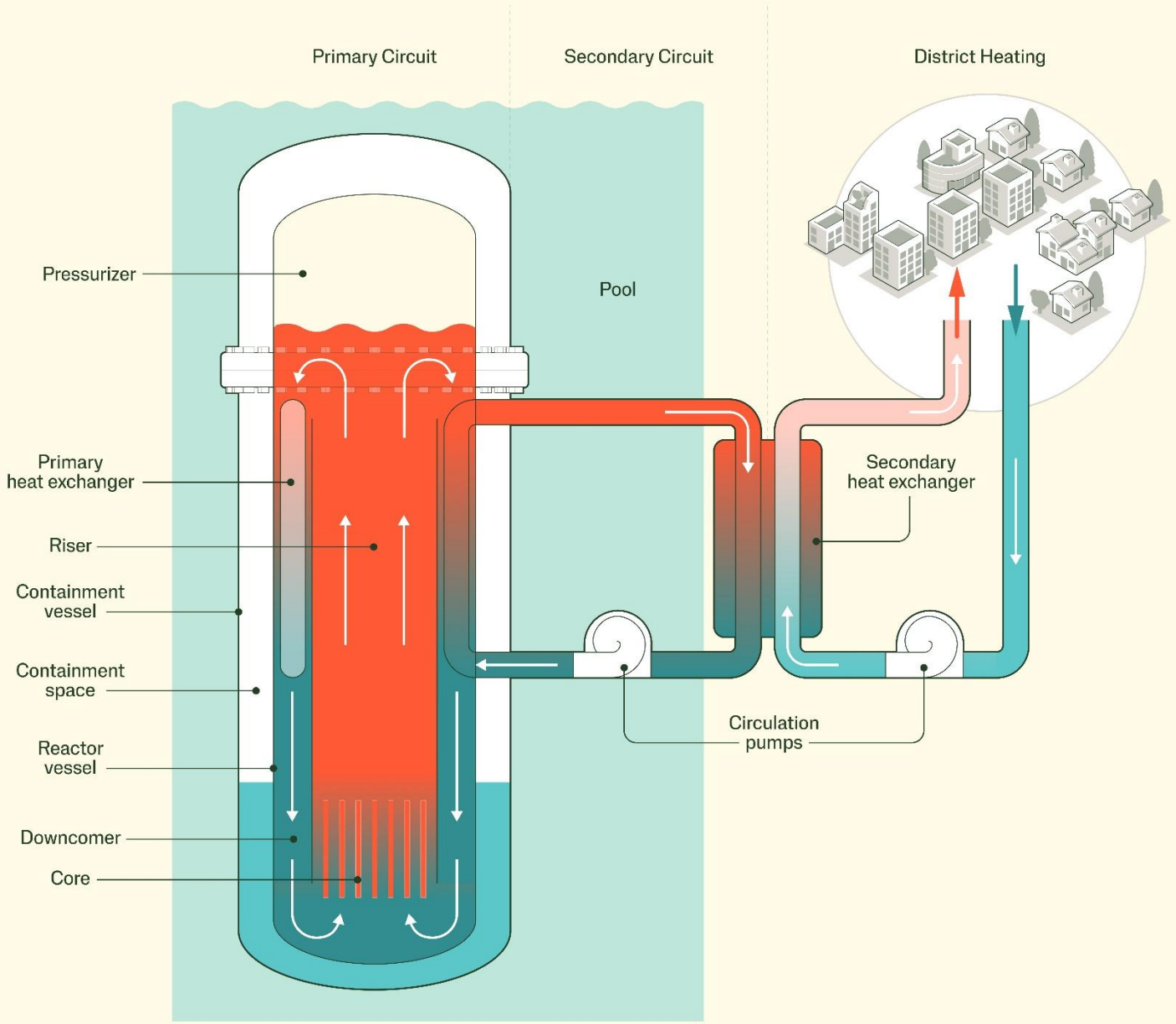
~97%

Thermal efficiency

Steady Energy

Proven, then improved LDR

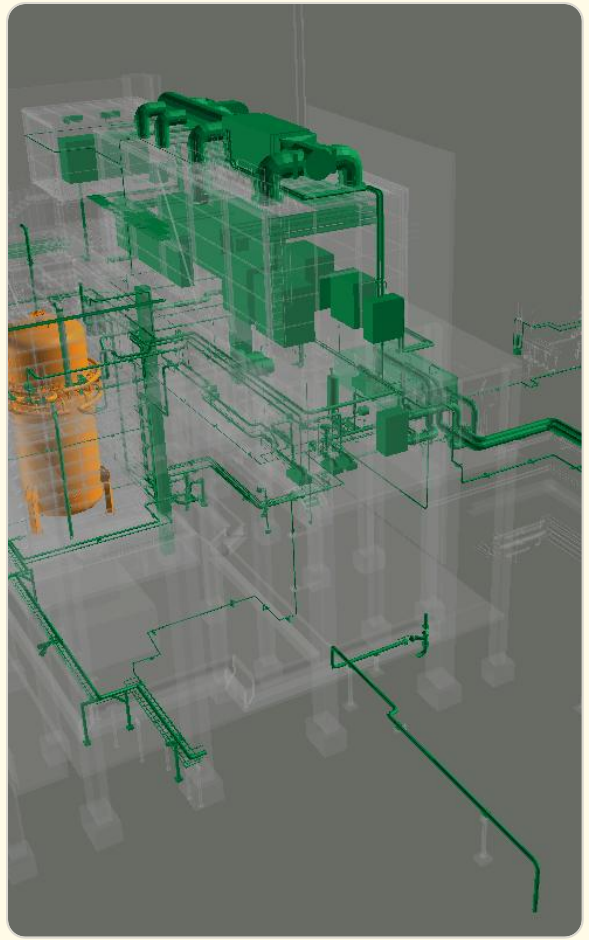
- Based on proven Light Water Reactor technology
- Thermal power 50 MW per reactor
- Low operating temperatures and pressures
- Patented passive heat removal system
- The reactor is the size of a shipping container
- The reactor operates for 2-3 years in one loading
- Reactor hall to be built underground



LDRe pilot plant – Helsinki, Salmisaari

Project Purpose: The pilot will generate critical data on thermal-hydraulic behavior, with a focus on natural circulation in the primary circuit.

- **Test Module:**
  Height: 10 m
  Diameter: 4 m
  Reactor pool volume: 400 m^3
- **Instrumentation & Monitoring:**
  Over 300 sensors in the reactor module and the pool
- **Heat Transfer System:**
  Heat transferred to the district heating (DH) network
- **Residual Heat Simulation**
  A 6 MW electrical core is used to simulate reactor residual heat following shutdown.



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Steady Energy in short

Company Technology company with broad international network

Origin Est. 2023, Finnish roots at VTT (Research Center of Finland)

70+ Team of 70+ nuclear & energy experts

~€200 M Solid funding towards FOAK

LDRe Pilot project in Helsinki

EPC EPC partner selection ongoing

ISO ISO 9001 certified, next ISO 19443 compliance

Clients FOAK in Finland followed by NOAK's in Sweden, Poland, Chechia, EE/CE, US and Korea

Partnered with

fortum · SWECO · Westinghouse · LUT University · NORDMAG · QUALIFINN · TRACTEBEL ENGIE · cea · FS DYNAMICS Optimises your technology · framatome · RECION · tvons · Kärnfull Next

Non-Public

Steady Energy

Towards first commercial plant.

2024

Commercialization and Industrialization

Decision on R&D pilot plant investment

2025

Technology licensing

Construction start of the pilot plant

2026

Customer commitment

Commercial agreements early investment decisions

2027

Decision-in-Principle

Safety demonstration experiments with pilot plant

2028

Ready to Build

Investment decision on the first commercial plant

2029

Construction

Construction and building starting

2030's

Commissioning

First commercial plant in operation

✓Our biggest challenge is procrastination
✓"Do-nothing" is also a decision, with consequences
And in the meanwhile, it still is an unsteady planet !

Steady Energy

Tack - Kiitos!

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