

Calogena

Carbon-free district heating

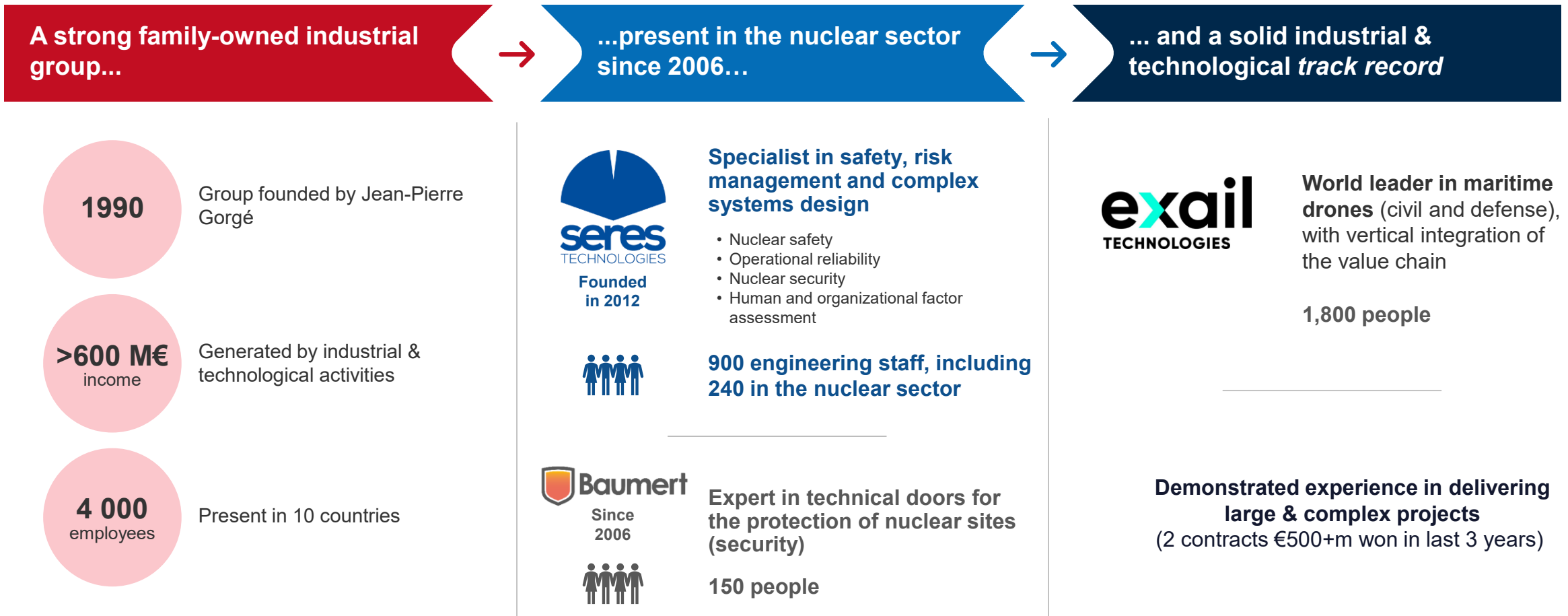
2025



Winner



Calogena is backed by Gorgé group, which has a solid *track record* in developing industrial companies



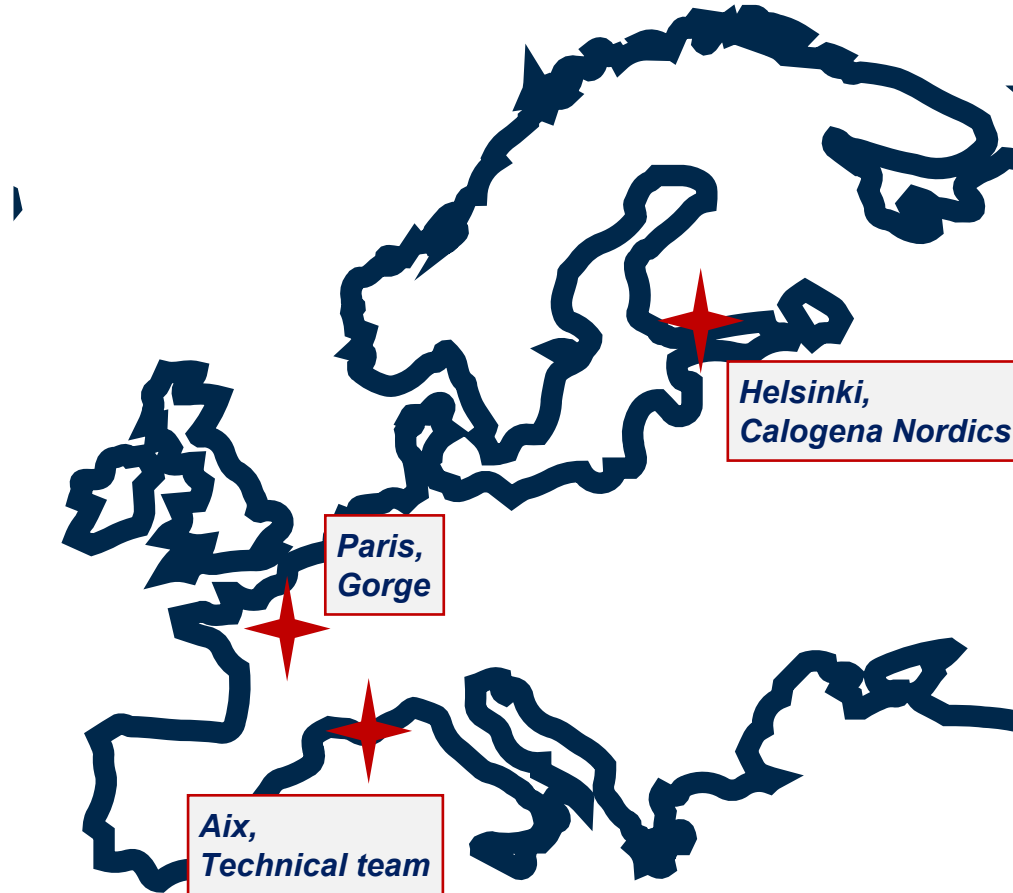
Calogena develops a cost effective small modular reactor specifically designed for district heating to reach '*net-zero*'



Calogena is recognized as a key SMR player in Europe



Our presence in Europe



Milestones & status on licensing process



The French High Commission for Atomic Energy (HCEA) has identified Calogena as the most advanced SMR



First site approved in France on an active nuclear location with a heating network



One of the 9 projects chosen by the European Commission (CityHeat)



Safety option file submitted to the ASNR in October 2024



Pre-licensing process ongoing with STUK



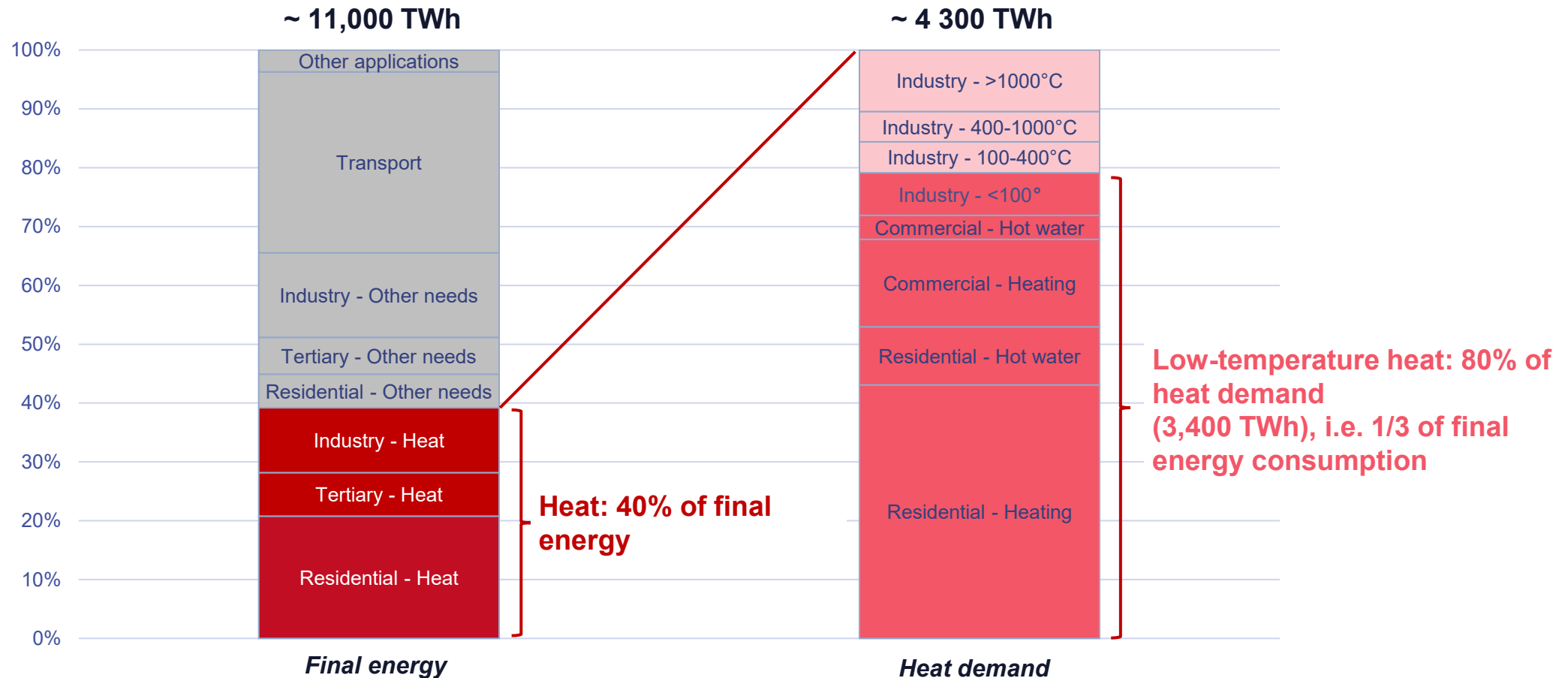
Letter of intent received from a municipality in France



2 on-going nuclear programs for district heating in Finland

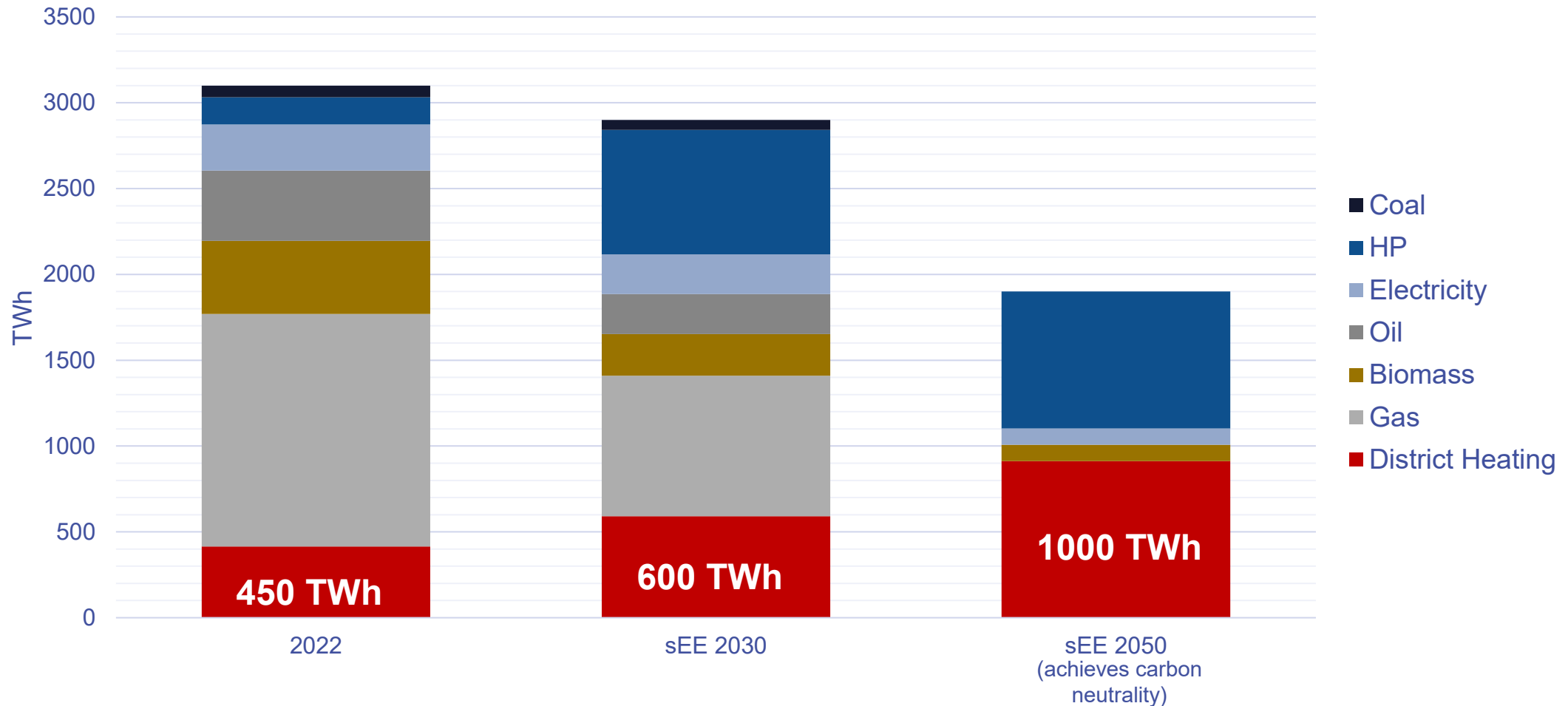
Low-temperature heating accounts for a third of final energy demand in Europe

Final energy and heat demand EU-27, 2019

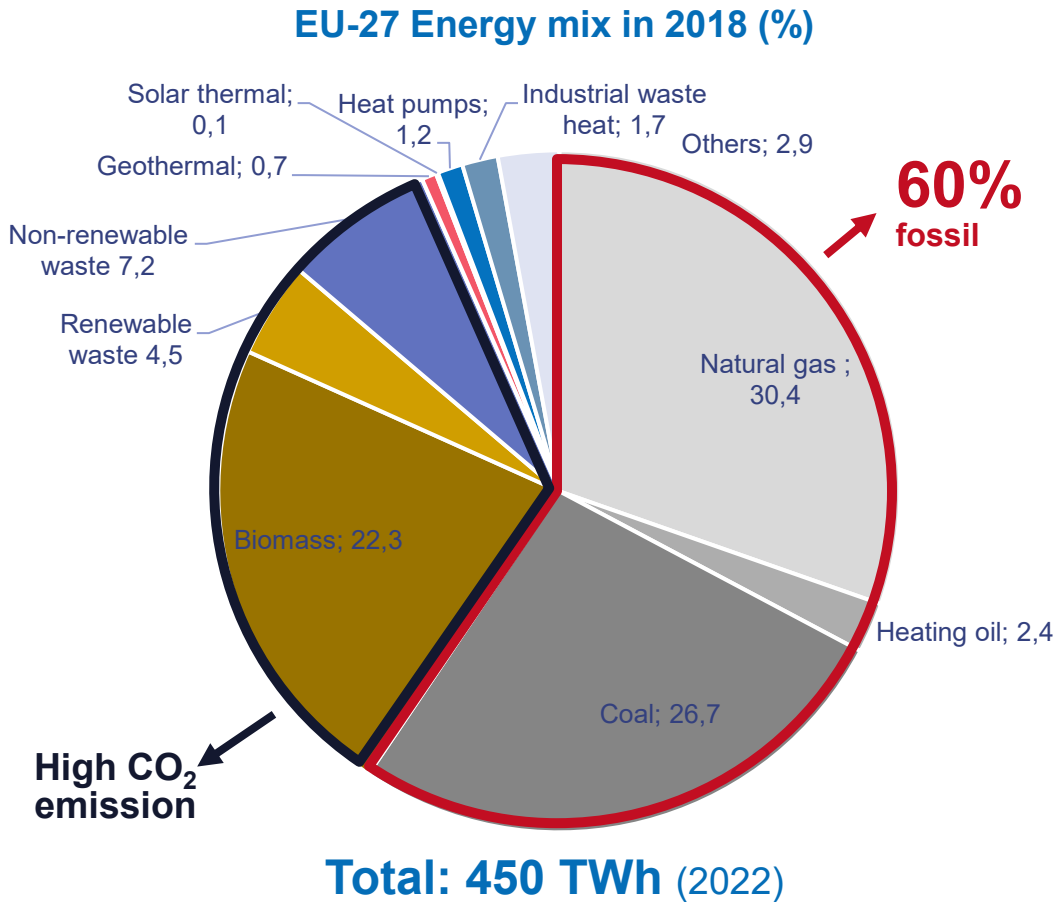


The share of heating networks will increase strongly

Energy mix for heating and hot water demand, EU28



Nuclear power is critical to decarbonize district heating



Potential of **geothermal energy** is constrained due to **limited access** to the resource: EU plans to triple it, but it can not cover more than 5-10% of the mix

Industrial heat pumps are not a primary energy source: they can contribute to decarbonization, provided they **use carbon-free, affordable and readily available electricity**, and are installed next to scalable cold sources

Biomass faces major headwinds:

- Limited resources
- Significant competition for other needs (biofuel, high-temperature industrial heat, etc.).
- Significant price volatility

Calogena's solution is mature, safe and competitive



Mature

- **Proven pool-type technology**, with over 200 similar reactors already built
- **Standard nuclear fuel**, identical to that used in conventional reactors (e.g. EPR)
- **5x less equipment** than a conventional nuclear power plant
- Construction can start **before 2030**



Safe

- Low temperature (120°), low pressure (6 bars), low power (30 MW) and high water reserve: **core meltdown physically impossible**
- EPZ within the perimeter of the site, **allowing it to be located close to towns**
- **Semi-buried design** for high safety and security standards



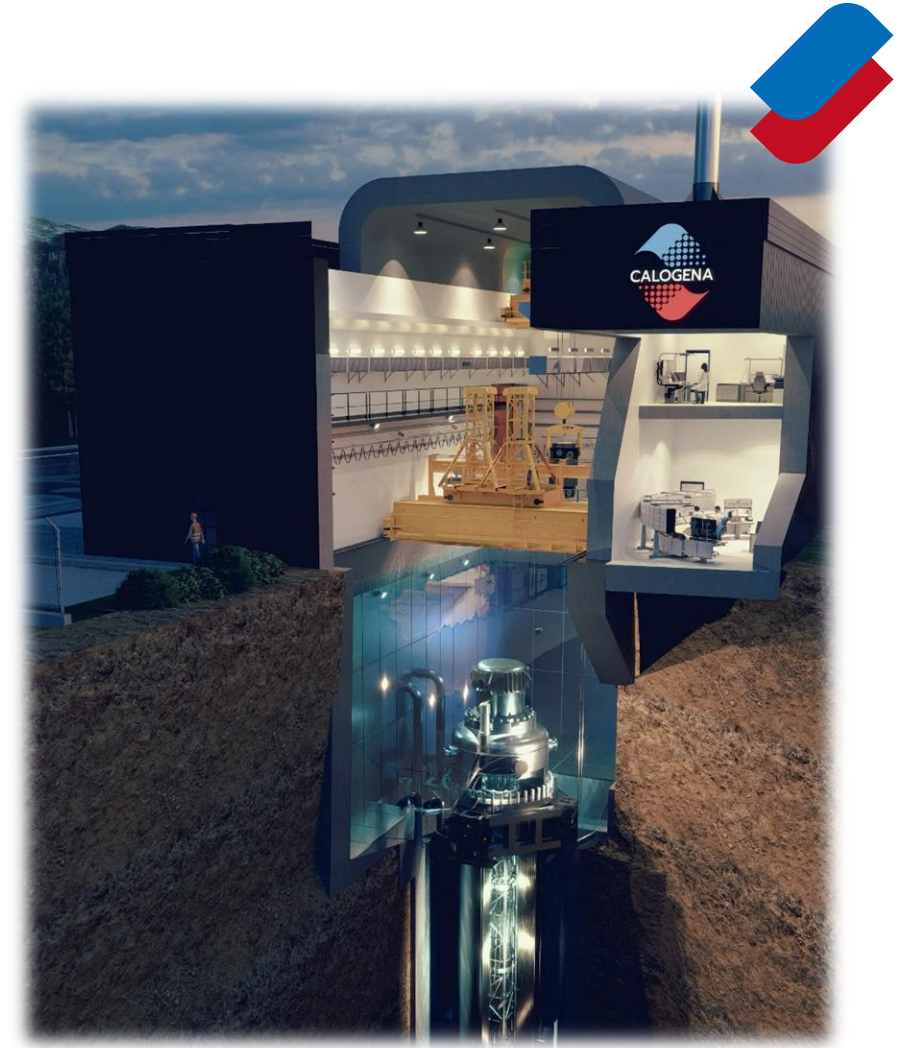
Competitive

- **Modular concept**, offering flexible layout options
- **Limited initial investment** reducing financial and construction risks: around €100 million for the 30 MWth plant
- Energy costs of **€40 to €60/MWh**

Note: (1) Specific intervention plan; (2) Depending on the load factor and the expected IRR (internal rate of return) of the module.

Calogena's module is specially designed for 3rd and 4th generation district heating networks

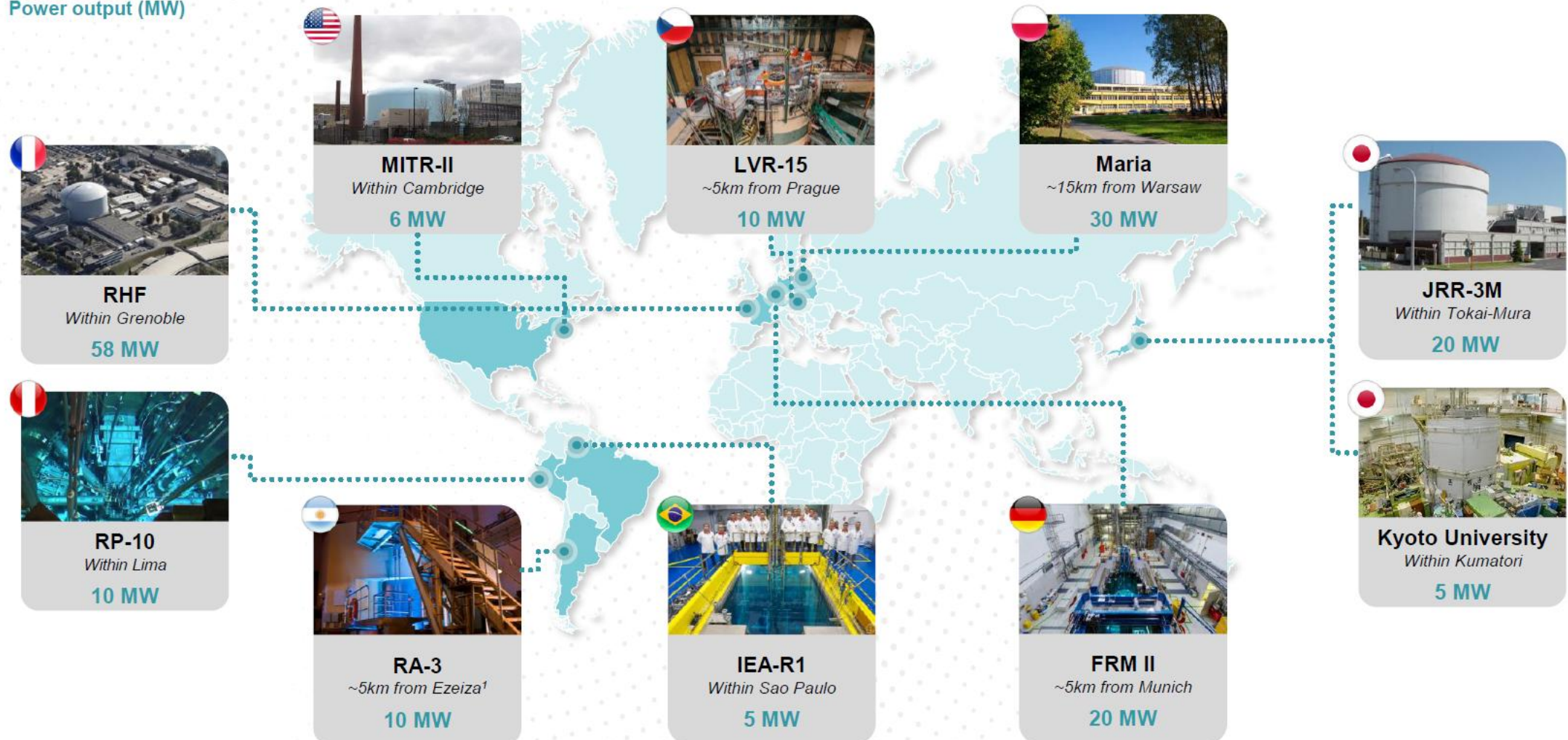
Power	30 MWth
Temperature adaptable to network requirements	70-110°C
Module lifetime	> 60 years
Ability for load-following	20-100% P _{nom}
Refuelling frequency	2 years
Land requirement	3000 m ²
Electricity requirement	3000 kVA
Water requirement	5 m ³ / day
Fuel	UO ₂ 3.4%
Installation	Suburban



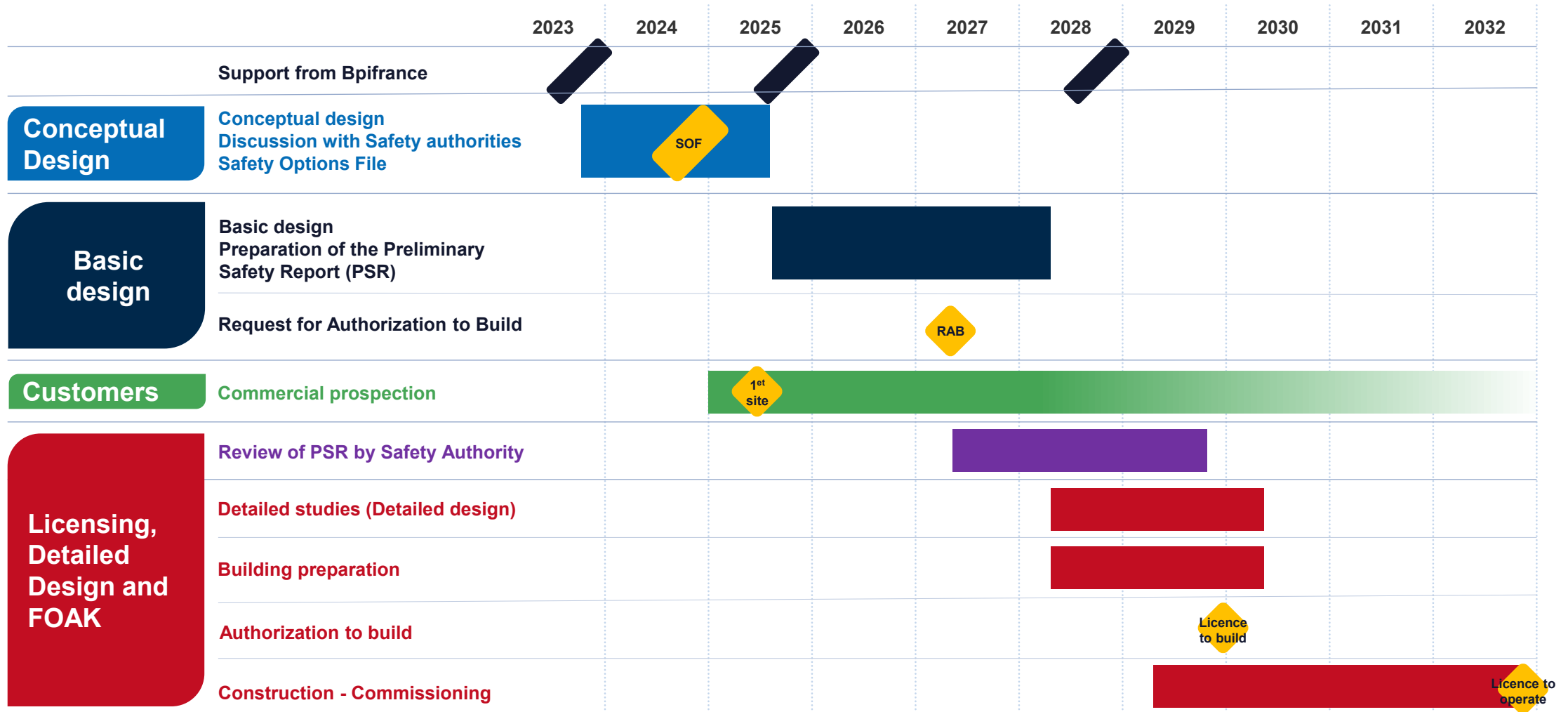
Pool-type reactors have already been built near cities across the world

Research reactors – deployment experience of nuclear facilities in urban or peri-urban areas

Power output (MW)



A realistic development schedule





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