



# USES4HEAT

## Underground Large Scale Seasonal Energy Storage for Decarbonised and Reliable Heat

The heating sector is on its way to climate neutrality! Thermal energy storages are key solutions that can be integrated in district heating networks and reduce energy losses, accumulate different sources of heat, and guarantee a reliable, decarbonised heating supply.

***Store heat, cut emissions – the future of decarbonised heating is underground!***

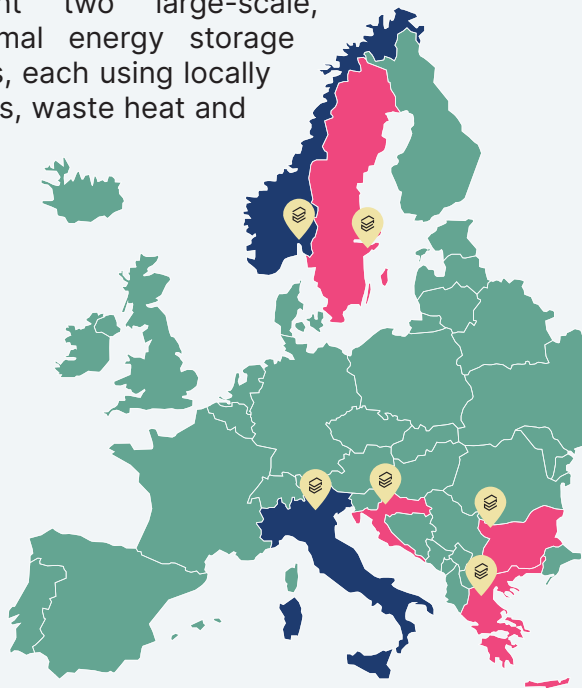
**USES4HEAT** will implement two large-scale, cost-effective underground thermal energy storage systems and four replication cases, each using locally available renewable energy sources, waste heat and a range of innovative technologies.

### 2 demonstration sites

- Riva del Garda (Italy)
- Furuset (Oslo, Norway)

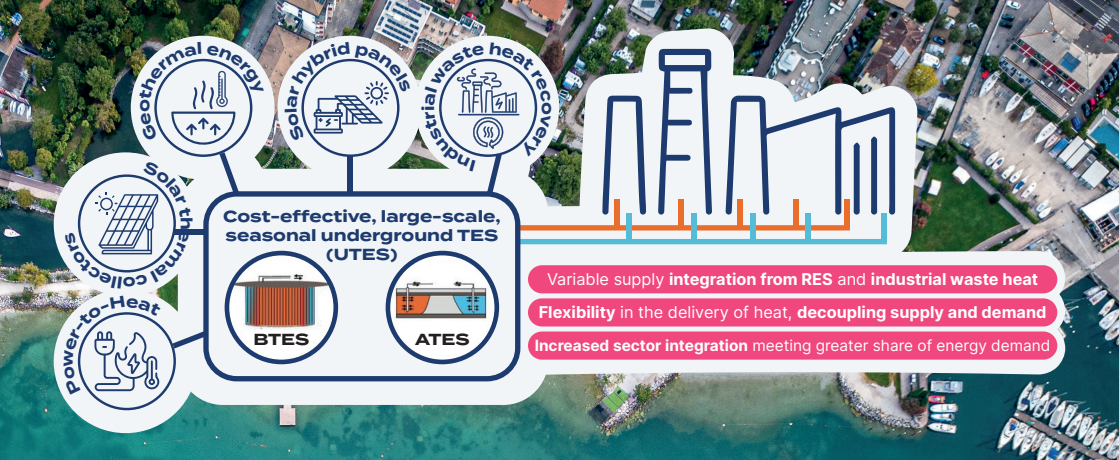
### 4 replication sites

- Zagreb (Croatia)
- Lom (Bulgaria)
- Kozani (Greece)
- Kvarnholmen (Sweden)



Co-funded by  
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor CINEA can be held responsible for them.



## Groundbreaking outputs for clean and accessible heat

- **Two large-scale underground thermal energy storage** units - aquifer TES and borehole TES - to decarbonise heat supply
- **Intelligent energy management systems** based on AI, big-data analytics and predictive operation & maintenance (O&M)
- Social, economic, financial and circular **performance** and **sustainability** evaluation of solutions
- **Market uptake**, wide-spread commercialisation and replication of the solutions across EU and beyond
- Key **enabling technologies** for increased flexibility, availability and robustness of the heating sector:



a drilling solution for geothermal applications



high-temperature ground-water heat pump



highly efficient hybrid photovoltaic thermal panels



collector piping materials and solutions



highly efficient solar thermal collectors



AI driven and big data analytics based predictive energy software

**Follow us:**



[www.uses4heat.eu](http://www.uses4heat.eu)