



Smart integration Of local energy sources and innovative storage for flexible, secure and cost-efficient eNergy Supply ON industrialized islands

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CONCEPT

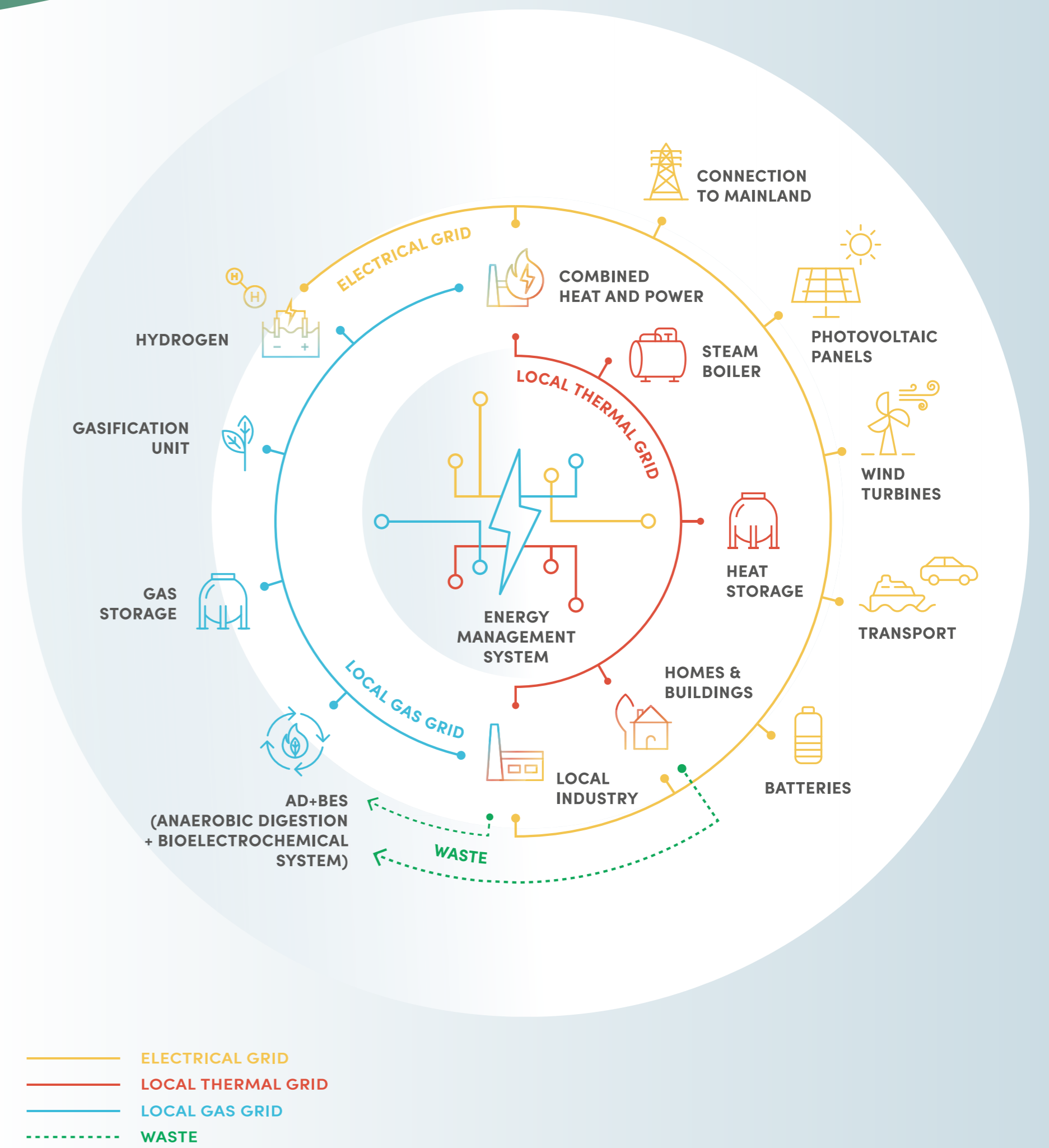
ROBINSON aims to help decarbonise islands through a smart modular Energy Management System (EMS), as well as innovative storage and energy technologies.

The ROBINSON's EMS will ensure an efficient and smart integration of all distributed energy resources (DER), coupling locally available energy sources, electrical and thermal networks.

ROBINSON's integrated system will ensure a reliable, cost-efficient and resilient energy supply contributing to the decarbonisation of the European islands by helping to decrease CO₂ emissions.

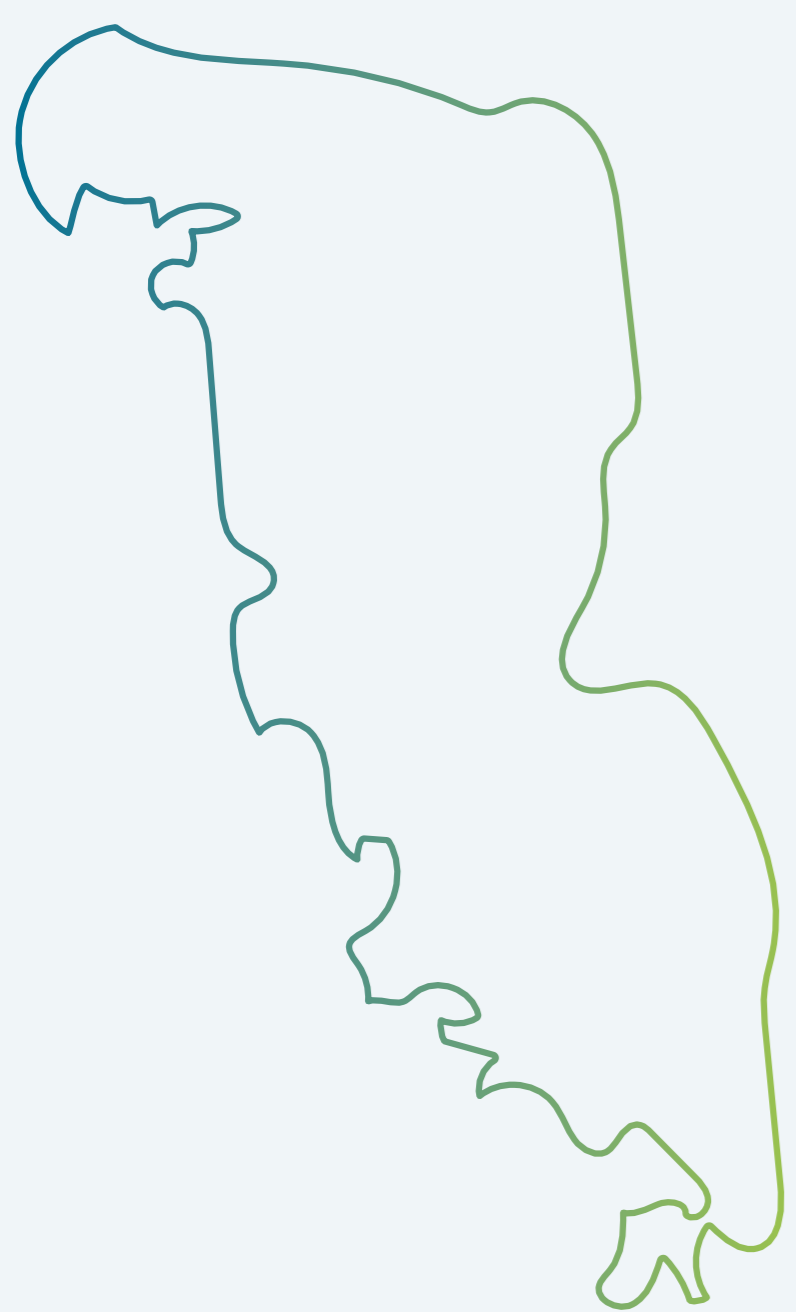
EXPECTED IMPACTS

- DECARBONIZATION**
 Faster decarbonization enabled by reduction of fossil fuel consumption, increased efficiency, better RES integration, and waste valorisation.
- ENHANCED STABILITY OF THE GRID**
 Increased network stability & security of energy supply thanks to long-term storage, smart integration of energy sources across different energy vectors, and reduction of energy waste.
- LARGE -SCALE UPTAKE**
 The high flexibility and modularity of the system and the integration of several technologies will facilitate the replicability on energy islands with similar needs.



DEMO ISLAND

EIGERØY - Norway



FOLLOWER ISLANDS

CRETE - Greece



WESTERN ISLES - United Kingdom



TECHNOLOGIES

Technological innovation is deeply rooted into the ROBINSON concept. The innovative ROBINSON's Energy Management System will couple energy sources available on the island with other specifically developed and/or adapted technologies:

- Small gas turbine based CHP (Combined Heat and Power)
- Mobile innovative wind turbine
- Anaerobic Digestion and Bio Electrochemical System (AD+BES)
- Gasifier to convert bio-waste
- Energy Management System
- PEM electrolyser and hydrogen storage system