STORAGE RESEARCH INFRASTRUCTURE ECO-SYSTEM

RI Information sheet 2022

University of Palermo, LCA and eco-design laboratory

Technology(ies) of Energy Storage (that can be assign to the facility, e.g. electrochemical, chemical, thermal, cross-cutting, ….)

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Project Acronym	StoRIES
Call	H2020-LC-GD-2020
Grant Agreement No.	101036910
Project Start Date	01-11-2021
Project End Date	31-10-2025
Duration	48 months

1. Photo

2. Geographical coordinates (˚, “, … N/S, E/W)

38.103826483515974, 13.345789512639833

3. Description of the research infrastructure for the webpage

The LCA and eco-design laboratory develop activities for supporting local authorities, research centres, SMEs and clusters of SMEs in the implementation of sustainable production and consumption strategies:

• Life Cycle Assessment studies, for assessing the energy and environmental performances of products and services; application of the European Directive on the Energy related Products;
• definition of eco-design criteria for productive processes, with particular attention to the energy transition processes, in order to improve the energy and environmental footprint of products and services and to address towards low-environmental impacts solutions. ecc.;
• definition of industrial symbiosis mechanisms, in particular for SMEs;
• definition of Green Public Procurement strategies for Public Administrations;
• environmental product certifications;
• decarbonization strategies for systems and processes;
• circular economy strategies;

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• implementation of environmental and energy management systems.

Main scientific activities:
• Life Cycle Assessment of different storage systems: sodium-nickel chloride batteries, graphene vanadium redox batteries, lithium ion batteries, iron-air batteries;
• Life Cycle Assessment of electricity from wastes;
• development of LCA dataset compliant with the ILCD standard and included in the European reference Life Cycle Database (ELCD);
• development of innovative platforms for the calculation of embodied energy in buildings.

Main tools: Simapro Software for LCA; Gabi Software for LCA.

4. Availability of the research infrastructure

(Please indicate time periods in which infrastructure will not be available for StoRIES in the next 2 years – if already known)

Not known

5. Special considerations (confidentiality / NDA agreements, insurance requirement, special training, HSE training)
None

6. Energy storage technology that can be analysed/studied by using the research infrastructure

- Electrochemical ☐
- Chemical ☐
- Thermal ☐
- Mechanical ☐
- Superconducting Magnetic ☐
- Cross-cutting ☒ (Specifically: Life Cycle Assessment and eco-design of the above technologies)

7. Key words for the webpage
Life Cycle Assessment, eco-design, environmental impacts

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8. TRL level (if applicable): NA

- 1-3 ☐
- 4-6 ☐
- Above ☐

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