



Climate, environment and circular economy

Energy storage



**ENERGY STORAGE**

## **OUR STRENGTHS**

Expertise throughout the **R&I chain**:

- Optimization, data sciences, computer engineering:
  - Cloud platform for battery management and control in the context of self-consumption, electricity grid services: planning according to price criteria, behavior monitoring during aging, etc.
  - Dimensioning tools incorporating technical and economic aspects and adjusted according to usage scenarios (power, energy, production and consumption profiles, services delivered to the network)
  - Real-time data management, optimization
- Mechanics, fluid mechanics, Electrochemistry and processes:
  - testing and characterization resources dedicated to Thermal Energy Storage (TES)
  - Mechanical resistance, aging, thermal effect of TES
  - Modeling in fluid and thermomechanics
- LCA and technical and economic analysis

## A demonstrator at our Lyon site

A building equipped for self-consumption, with photovoltaic panels on the roof, stationary Li-ion batteries and inverters. The system has been piloted for over 3 years by EMS@ifpen in different configurations, enabling us to test our algorithms in real operating conditions.

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## CONTACT



**Yannick Peysson**

Program manager

[yannick.peysson@ifpen.fr](mailto:yannick.peysson@ifpen.fr)

Energy storage : Our strengths

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