



EnergyVille Battery Testing Laboratory

Storage can smoothen the intermittent electricity production and improve demand supply matching. Electrical energy storage technologies are vital in making transport and industrial activities more sustainable.

The actual performance and lifetime of a specific application can only be determined by testing.

Batteries and ultra-capacitors exist in many types. Selecting the optimal one for an application is a complex matter, moreover since within each chemistry type (Lithium-Ion, Nickel-metal hydride...) exist several subtypes.

EnergyVille can perform tests according to **any customer specified profile**. We have elaborate experience in developing custom efficiency test procedures that are equivalent to actual application cycles (electric vehicles, solar batteries...).

EnergyVille offers **performance and lifetime tests according to international standards**:

- Static capacity tests at various discharge currents
- Constant power discharge tests
- Hybrid pulse power characterisation tests
- Self-discharge tests
- Cold cranking tests
- Thermal performance tests
- Energy-efficiency tests
- Charge sustaining cycle life tests
- Charge depleting cycle life tests
- Calendar life tests



EnergyVille uses its infrastructure to evaluate ultra-capacitors, battery cells, battery components and materials. Also, systems using batteries or battery management systems can be evaluated.

The EnergyVille Battery Testing Lab can provide various temperature profiles for each test, as well as **several current ripple profiles**.

EnergyVille's staff of **highly skilled engineers and technicians** helps you to translate the evaluation results into advice for a specific product or business. If needed, EnergyVille supports the product development and integration of technologies from a few hours of consultancy to a full development project to customer specification.



EnergyVille has extensive experience in evaluating products objectively, according to external standards.

Equipment:

EnergyVille has one of the most extensive battery testing labs in Flanders, consisting of multiple battery and cell testers and a flexible setup.

The EnergyVille testing equipment:

2 PEC SBT8050 battery testers (36kW)

- 24 channels in total
- maximum voltage: 80V per channel
- maximum current: 600A, max. 12 channels of 50A each

2 PEC SBT0550 cell testers (6kW)

- 48 channels in total
- maximum voltage: 5V per channel
- maximum current: 600A, max 12 channels of 50A each

1 PEC ACT0550 cell tester (16kW)

- 40 channels in total
- Maximum voltage: 5V per channel
- Maximum current: 250A, max. 5 channels of 50A each

Triphase 75kW inverter

- maximum voltage: 700V
- maximum current: 160A nominal, 200A peak

Triphase 30kW inverter

- maximum voltage: 700V
- maximum current: 96A nominal, 144A peak

1 VMP3 from Biologic with 8 independent potentiostat/galvanostat channels including electrochemical impedance spectroscopy (EIS) measurement.

- Current ranging from 10 μ A up to 5A with a resolution of 0.0033% of FSR
- Voltage ranging from 0 to 10V with a resolution of 0.0033% of FSR
- Frequency range 1 MHz to 10 μ Hz (accuracy: 1%, 1°)
 - Amplitude potentio: 1 mVpp to 1 Vpp
 - galvano: 0.1% to 50% of the current range

Associated temperature chambers

- temperature range: -20°C - +55°C



www.energyville.be
info@energyville.be

*EnergyVille is an association of the Flemish research institutes KU Leuven, VITO and imec in the field of **sustainable energy and intelligent energy systems**. Our researchers provide expertise to industry and public authorities on energy-efficient buildings and intelligent networks in an urban environment. This includes, for example, smart grids and advanced district heating and cooling.*

This EnergyVille lab functions according to the international quality, environment and safety standards: ISO 9001, ISO 14001 and OHSAS 18001.

