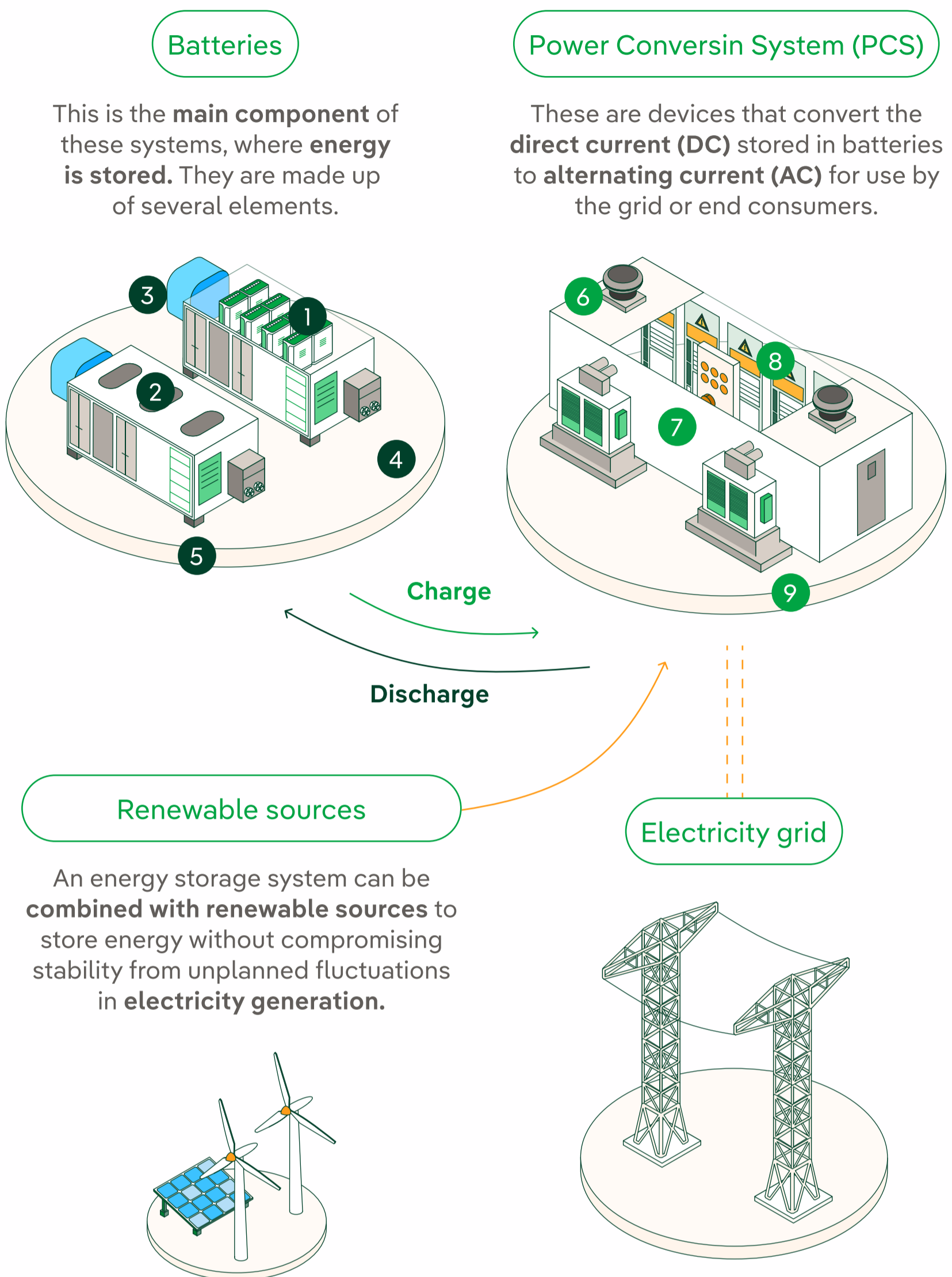


A BESS: what it is and it's made of

A **Battery Energy Storage System (BESS)** plays a crucial role in stabilising electricity grids, helping to include renewable energies and improving energy efficiency. These are its main parts.



- 1 Battery modules.** Made up of individual cells that store energy. They are usually lithium-ion, with a high energy density and a long life cycle, or flow cells, which offer a longer life and are usually more suitable for large installations.
- 2 Container.** The battery modules are seriously connected inside a cabinet that forms a rack. They are installed inside a container.
- 3 Battery Management System (BMS).** Controls the state of charge and discharge, monitors the temperature and ensures safe and efficient system operation.
- 4 Air conditioning system.** Heating, ventilation and air conditioning keep the batteries at an optimum temperature to prevent overheating and maximise service life.
- 5 Fire extinguishing system.** A key safety component designed to mitigate and control the risk of fire.
- 6 Air conditioning system.** Heating, ventilation and air conditioning keep the batteries at an optimum temperature to prevent overheating and maximise service life.
- 7 Control unit.** Manages the charge and discharge cycles of the batteries according to grid needs.
- 8 Investors.** They convert the direct current (DC) energy stored in the battery to alternating current (AC).
- 9 Transformers.** Electrical devices that convert the voltage of electrical power to be compatible with the different parts of the system. They also provide electrical isolation, ensure grid compatibility and reduce energy losses.



Energy Management System (EMS)

The **core of the system**, responsible for **monitoring and managing the power flow** between the equipment and the batteries. It coordinates the work between the different **BMS, PCS and other auxiliary components**.