



## *ENERGY S.p.A.: leader in Italy in integrated energy storage systems*

**Energy S.p.A.**, founded in 2013 by Davide Tinazzi, Andrea Taffurelli and Massimiliano Ghirlanda is a successful Italian company offering **energy storage systems** (ESS, Energy Storage System), for residential and, to a greater extent, commercial and industrial uses.

These are **complex systems that store energy from renewable sources and release it when needed**. These systems require a combination of interacting hardware and software components –such as lithium battery modules, their management systems (Battery Management System, BMS), hybrid inverters and energy conversion systems (Power Conversion System, PCS) and, in some cases, a sophisticated Energy Management System (EMS)– connected to a cloud platform.

Over the years, **the Company's business has progressed** going from the design and sale of ESS for residential, commercial and industrial use to the **production of larger systems** based on proprietary EMS. This technology is developed in-house and enables efficient integration of the power converters and batteries, and the use of cutting-edge services, including *peak shaving* (being able to respond to momentary electricity peaks without over-sizing the system), connection to energy communities, network services, energy trading.

**Nowadays, Energy is one of the global players of reference for ESS solutions;** with consolidated relations and technological partnerships with leading international companies that guarantee important continuity in the supply of components and materials. The systems developed and traded by the Company are integrated with a **proprietary software** that enables intelligent management, in a cloud platform, of monitoring, storage and use of energy, consumption and traffic, the state of health of batteries and other special services, consistent with how complex the system used is.

Energy operates mainly through **two product categories**:

- *"Small&Large ESS"*, launched in 2014 with energy storage systems of less than 50 kW for small and medium-sized residential, commercial and industrial users;
- *"Extra Large ESS"*, with energy storage systems exceeding 50 kW, for larger industrial and commercial users, needing to store higher quantities of energy.

From being a cutting-edge system integrator, **in recent years the Company has become a full system integrator**, progressively insourcing a large part of the hardware and software production (it is setting up a new facility to produce lithium-iron-phosphate batteries) and aims to grow with targeted acquisitions. This will enable it to operate and have a strong presence in the entire advanced energy storage systems chain. In line with that approach, the new Energy facilities became operational in April 2022, and will enable large-scale production.

Energy gets its components from leading international suppliers. They are combined and integrated using its proprietary software in **systems that comply with European Union standards** and are traded on the Italian and foreign markets with its own brand **zeroCO<sub>2</sub>**.

Expanding and consolidating its offer have enabled Energy to **achieve triple-digit growth in 2021**, in both revenue (reaching 52 million euros compared to 20 million in 2020 and expected to reach the 120-140 million range at the end of this year), and profitability terms. Of the **35,000 plants operational**, in 2021 alone more than 9,000 systems were sold, for a total power of 56 MW, dedicated to the residential, commercial and industrial market, to utilities and electric mobility.

The **Research and Development** area is one of the Energy strong points, for design, development and analysis of the specific techniques and regulatory requirements; so that systems are always compatible with the reference market and have enough functionalities to guarantee security. The research and development activity continually updates the software and firmware for the Energy Storage Systems, to ensure correct operations; and for activities to provide them with special functionalities, for example, management of alarms with any malfunctioning, monitoring the state of batteries, a *user friendly* display.

**The most important projects implemented** include: the large facilities in Comiso, Sicily, with an ESS optimising the energy of an agri-voltaic field and a photovoltaic one; the one dedicated to the CAAB in Bologna; Smart Grids in numerous municipalities in Sardinia and Lombardy, a Condominium Energy Community in Switzerland where the single nodes exchange energy based on need.

The Energy **sales channels** include specialised distributors and general ones, photovoltaic specialists and large European EPC contractors. The proximity of Energy logistics to the headquarters of the main Italian distributors has given the company a solid partnership with the main market players. Italy (87% in 2021) and Europe (11% in 2021) currently representing the main geographical revenue areas. The company also has a remarkable niche presence on the North American market where it earned 2% of its revenue in 2021. Moreover, the export share only dropped in 2021 and is now expected to expand continuously.

**The Company operates as a *first mover* and is one of the Italian market pioneers** growing rapidly since it was set up in 2013. It is now at the centre of the most important trends linked to energy transition. Based on the most recent estimates\*, the global storage market is growing at an unprecedented rate and will reach a total of 358 GW/1028 GWh by 2030, more than twenty times the capacity installed at end of 2020 (17 GW/34 GWh), attracting 262 billion dollars in investment between 2021 and 2030. (\*Data source - BloombergNEF – Global Energy Storage Outlook 2021).