



PRESS RELEASE

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ENEL LAUNCHES INNOVATIVE “SECOND LIFE” STORAGE SYSTEM FOR USED ELECTRIC CAR BATTERIES IN MELILLA, SPAIN

- *The Enel Group's Second Life project, based on circular economy principles, is aimed at enhancing grid stability in Melilla thanks to the energy stored in disused batteries from Nissan electric vehicles*
- *This innovative, sustainable project received the 2020 BASF – Sustainability Excellence Club Award for Best Circular Economy Practice among large businesses in Spain, alongside being selected as a “member initiative” by the World Economic Forum*

Rome/Melilla, March 18th, 2022 – Enel today started operating its innovative “Second Life” project, which combines 78 Nissan electric vehicle batteries, of which 48 are disused and 30 are brand new for performance comparison, at a conventional power plant in Melilla operated by Enel’s Spanish subsidiary Endesa.

The Second Life project is a pioneering initiative in Europe, based on circular economy principles, and selected as a “member initiative” by the World Economic Forum (WEF). The project uses electric vehicle batteries as a source of energy, interconnecting and storing them at Endesa’s Melilla facility. The Second Life project has a capacity of 4 MW and can produce up to 1.7 MWh. Should the power plant be disconnected from the system, the storage facility can inject energy into Melilla’s electricity grid for 15 minutes, which is enough time to reset the system and restart the power supply.

Salvatore Bernabei, CEO of Enel Green Power, said: *“The development of storage technology is key if we want to foster greater renewable penetration in our energy systems, so we can truly shape the power generation of the future. Furthermore, in the Enel Group, we are strongly committed to using technology that complies with the principles of sustainability and circularity. Specifically, this project demonstrates that, in line with the Open Innovation principles, we can find solutions for the management of the end of life of essential equipment such as batteries, a topic which is at the core of the sustainable energy issue.”*

Ernesto Ciorra, Enel Group’s Chief Innovability® Officer, said: *“This is a project we have strongly believed in since day one. We involved important partners alongside counting on the relentless dedication of our colleagues and on a real, operating plant where we could implement storage solutions through second life batteries. And what would have been called impossible only a few years ago became possible, became real.”*

The Second Life project was developed by Enel in collaboration with Nissan, which provided the batteries, and Loccioni, a system integrator, which secured proper integration between batteries. The project leverages on advanced technology based on a simple idea: once the useful life of a battery within an electric vehicle has come to an end, these batteries are recycled and assembled in a large stationary storage system. This system is integrated with Endesa’s Melilla facility in order to avoid load shedding



events, improve the reliability of the grid and secure the continuity of network service to the local population.

This project also represents a breakthrough in the life extension of electric vehicle batteries. Furthermore, it has an added innovative component: when each battery pack is removed from an electric vehicle, it is then placed directly in the overall storage system exactly as it was placed in the vehicle, without the need for disassembling each pack down to the single cell level, making the whole process simpler, safer and cheaper.

Melilla is a Spanish city with almost 90,000 inhabitants served by a local electricity network, which is powered by Endesa's plant and is isolated from the national distribution grid. The Second Life project is aimed at meeting the same needs of an isolated network that Enel had previously met for the island of Ventotene in Italy through a 300 kW storage system integrated with the local power plant.

The Second Life project has already received major recognition in 2020 through the BASF – Sustainability Excellence Club (Club de Excelencia en Sostenibilidad) award in the category of Best Circular Economy Practice among large businesses. The award recognizes the best Circular Economy practices in Spain, rewarding projects that address the challenges of limited natural resources through different circular business models.

Another project leveraging on the second life of electric car batteries is being deployed by Enel X Global Retail, the Enel Group advanced energy solutions business line, in Italy. Thanks to a partnership between Enel X Global Retail and ADR (*Aeroporti di Roma*, Airports of Rome), second-life batteries from electric vehicles will be integrated into a 30 MW solar park being built at Rome Fiumicino Airport, which is set to help drastically reduce emissions at the airport. The project, called **Pioneer – airPort sustainability secONd lifE battEry stoRage**, has been awarded a grant of more than 3 million euros from the EU's Innovation Fund, and involves the construction of an innovative 10 MWh storage system based on electric vehicle batteries from multiple car manufacturers in their second-life cycle, with a strong focus on interoperability, overall system cost optimization and advanced software operation. The batteries will be used to store the excess energy produced by the solar plant and cover any evening energy demand peaks at the airport, while also providing services to the grid.

About Enel

Enel is a multinational power company and a leading integrated player in the global power and renewables markets. It is the largest European utility by ordinary EBITDA, and is present in over 30 countries worldwide, producing energy with over 90 GW of installed capacity. Enel distributes electricity through a network of over 2.2 million kilometers, and with more than 75 million end users is the first network operator globally¹. Enel's renewables arm, Enel Green Power, is the world's largest renewable private player, with a managed capacity of around 54 GW of wind, solar, geothermal and hydropower plants, also including around 300 MW of storage facilities, in Europe, the Americas, Africa, Asia, and Oceania. Enel X Global Retail, Enel's global advanced energy services business line, is the worldwide demand response leader, with a total capacity of around 7.7 GW managed globally; the company has installed 80 MW of behind-the-meter storage capacity. In addition, Enel X Way is the Group's new global platform for electric mobility managing around 319,000 EV charging points² around the globe.

¹Publicly owned operators not included.

²Public and private charging points, including interoperability points.