

Energy Storage REDOX flow batteries @ EDP



June 2025

It is more pressing than ever to address climate change...



EDP at a glance

27 GW operating assets

Of which **24 GW** RES

95% Renewable generation
in 2024

€5b EBITDA

Sustainability dimension

- Coal-free by 2025
- 100% Renewable Energy by 2030
- Net-zero by 2040

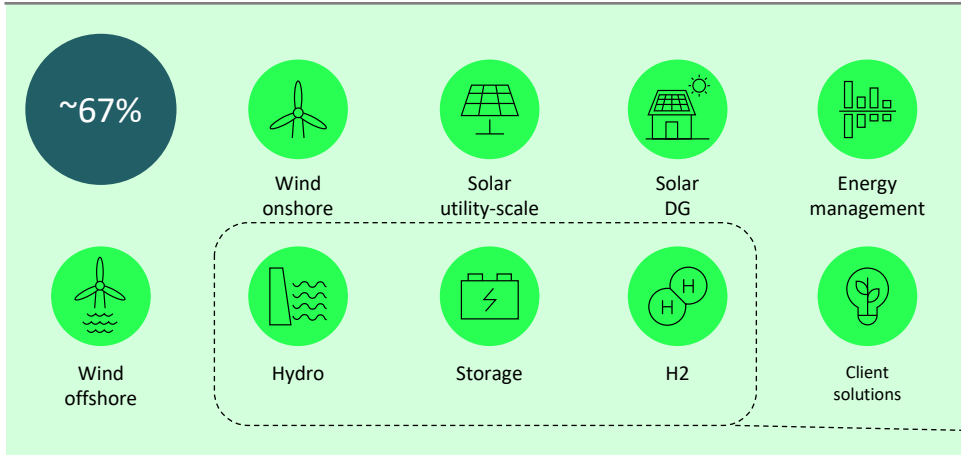
World's most sustainable electric utility

- S&P Global CSA (3rd time)
- Dow Jones Sustainability Index

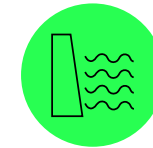
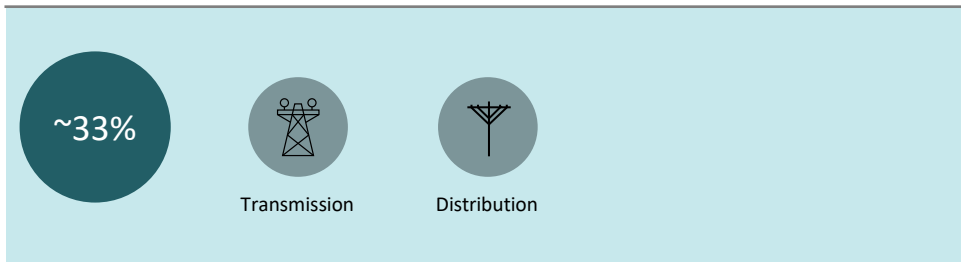


We are a global company, leader in the energy sector, present in 5 regional hubs throughout different stages of the value chain

Renewables, Clients & EM



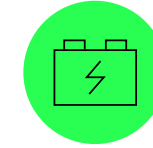
Electricity Networks



Hydro

+ 2
GW

Pumped Hydro



Storage

Li-Ion

+200
MW

500
MW

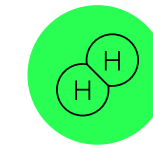
By 2026

Other

< 1
MW

2 pilot VRFB

Thermal for C&I¹



H2

1.25
MW

1 pilot plant

1.Under development

EDP has carried out 3 pilot Vanadium REDOX Flow Projects, 2 of them are currently under operation



2015 – REDOX2015 Avilés (Spain)

Standalone

27 kW VRFB (6 stacks of 4.5 kW)

3 h

Technology provider:



1

2023 - Pulau Ubin (Singapore)

Green Microgrid combined with

328 kWdc PV plant

200 kW VRFB

5 hours (1000 kWh)

Technology provider:



2

2025 – REDOX2025 Soto de Ribera (Spain)

Standalone

250 kW VRFB (16 stacks of 17.5 kW)

4.2 hours (1.05 MWh)

Technology provider:



The whole REDOX FLOW BESS value chain would benefit from an orientation towards operations

