

EOX WS²⁺™ for Energy Independence



Distributed Energy Resources Take Control of Your Energy Bill

Distributed Energy Resources (DERs) include generation, storage or controllable loads connected to the distribution grid – in front of or behind the meter.

Distributed renewables offer more benefits when combined with **BESS – Battery Energy Storage Systems**, especially in today's rapidly evolving energy landscape and recent BESS cost reduction where:



Demand for electricity and rates are **rapidly increasing**



New generation (gas, nuclear, etc.) is **delayed** and **more expensive**



Grids are **congested**

Why DER Matters Now

While small in scale, DERs collectively make a major impact.

In Europe alone, the total installed DER capacity in 2024 was **230 GW**, representing **18%** of the total installed capacity.

It is forecasted that total DER installed capacity will **double by 2030**, representing **22%** of the total installed capacity by that time.



Solar Dominates, but Misaligned with Demand

Distributed Solar (DS) is the most common DER worldwide, but its generation is highly concentrated¹:

- ✓ Around 75 % in summer months.
- ✓ Around 75 % between 10:00 and 15:00.

This creates major challenges:

Poor alignment with consumption patterns increasing curtailment, negative pricing, and forced shutdowns.

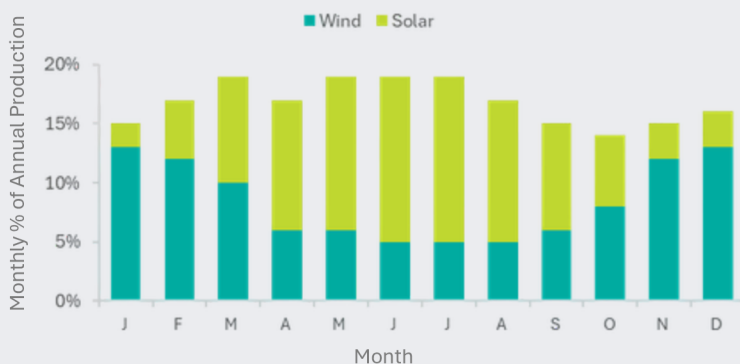


Figure 1 – Monthly Wind/Solar Distribution (%)

Wind generation dominates in winter months, balancing solar's excessive summer production.

Wind Complements Solar – Better Match Demand

Distributed Wind (DW) remains underutilized, yet more effective than solar¹:

- ✓ About 65 % of annual production occurs in winter.
- ✓ Generation is spread evenly throughout the day.
- ✓ Stronger correlation with consumption patterns.

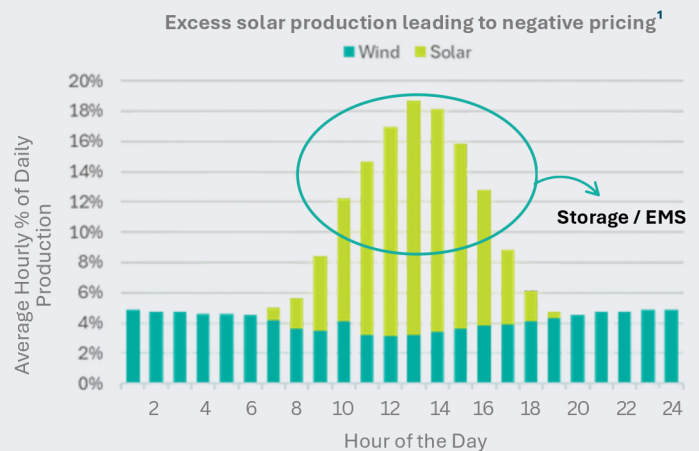


Figure 2 – Hourly Wind/Solar Distribution (%)

Wind generation remains steady throughout the day, better matching demand peaks.

¹ In northern Belgium, which is representative of most of Europe.



Benefits of combining Distributed Wind (DW) + Distributed Solar (DS): Wind+Solar (WS)

- ✓ Energy independence and IRR improvement
- ✓ Curtailment and penalties decrease
- ✓ System resilience increases – ideal for constrained grids

DW Advantages:

- ✓ Uses 50 × less space than solar
- ✓ Suitable where roof bearing capacity or land area is limited
- ✓ Adds resilience to DS during the evening, at night, cloudy periods, winter.
- ✓ Requires less BESS capacity
- ✓ Increases returns when paired with EMS – Energy Management System

BESS – Battery Energy Storage Systems: Storage Unlocks DER Potential

Low-cost **BESS** resolves the intermittency issue of renewables.

However, sizing and seasonal mismatch – especially for solar – can impact IRR.



- ✔ Less storage is required with **DW** than **DS**
- ✔ Combining **DW + DS + Storage** creates **WS²**
- ✔ **WS²** provides better 24/7 balance and autonomy



EMS: Smart Control for Maximum Value

- ✔ Controls loads to align with **WS** production and electricity pricing
- ✔ Increases autonomy and savings for better IRR
- ✔ Enables flexibility and revenue generation for better IRR
- ✔ Combining **WS² + EMS** creates **EOX WS^{2+™}**

Flexibility is the New Currency

Eocycle's AI-driven **EMS** optimizes **DW**, **DS**, and **BESS** by:

- ✔ Forecasting to match load and production, anticipating market pricing, and making smart real-time decisions
- ✔ Charge batteries at low or negative prices
- ✔ Peak shaving reduces demand charges
- ✔ Sell when prices are high, and trade excess capacity on imbalance markets

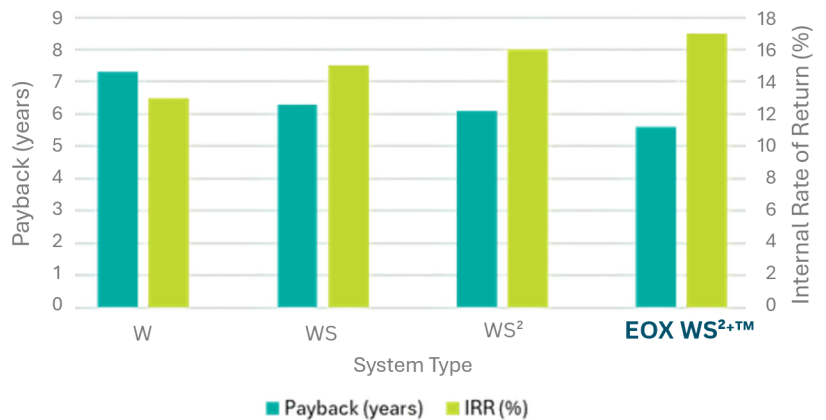


Figure 3 – Financial Return by System Type (Payback & IRR)
Generic case illustrating contribution of EOX WS^{2+™} components

Eocycle electrifies agriculture and C&I sustainably across Europe / UK and North America, providing bumper to bumper – seamless distributed energy solutions, for optimal financial return and energy independence.

Contact us for a free evaluation

Be part of the energy revolution. Contact us to find out if a wind turbine or **EOX WS^{2+™}** is right for you!

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