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Equity Research on EDP Renewables – Navigating a Shifting Market

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Abstract

This master's thesis focuses on equity research, using EDP Renováveis (EDPR) examine the energy sector's contribution to the transition toward a cleaner economy. The research focus into the financial and strategic challenges of the renewable energy industry. The major challenges involved calculating the Weighted-Average Cost of Capital (WACC) for EDPR's different segments, including the asset base, pipeline projects, and the privately held joint venture, Ocean Winds. This process required a careful selection of peer companies to ensure accurate and reliable estimations, considering industry risks and market trends. The impact of regulatory frameworks on renewable energy development and incorporated sensitivity and scenario analyses helped to evaluate the resilience of the valuation under different assumptions, providing a clear perspective on the uncertainties and opportunities within the renewable energy landscape.

Keywords: Renewables, Valuation, WACC, Regulation

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This report is part of the Equity Research on EDPR: Powering a Green Future report, developed by Daniel Valadas and Inês Estácio should be read has an integral part of it.

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Introduction

This thesis is constructed to provide valuable insights into the valuation of EDPR and provide a recommendation on the share price. The foundation lies in studying the market, company, and regulatory environment to understand the challenges and opportunities in the renewables sector. A financial analysis was conducted by reformulating financial statements to understand EDPR's position and forecast growth. The valuation followed a Sum-of-the-Parts (SoP) approach, focusing on the asset base, the pipeline for 2024-2026 and 2027-2035, as well as Ocean Winds, a joint venture in which EDPR participates. This individual thesis focuses on those points with emphases on Regulatory and Market Overview, Weighted Average Cost of Capital (WACC), Peer Analysis, Sensitivity and Scenario Analysis and ESG, showing a strong buy opportunity of EDPR.

Regulatory Environment

Europe

European Union (EU) has developed legal frameworks to develop clean energy adoption. **Renewable Energy Directive** sets renewables consumption target of at least 42,5% across the different sectors of the economy. **European Green Deal** aims the continent to be climate-neutral by 2050, reducing by 55% net greenhouse gas emissions, defining a clear goal of a entire continent, heavily relying on renewables companies.**EU Emission Trading Systems (EU ETS),** a carbon market, that places a cost on carbon emissions, enables a competitive advantage for renewables compared to fossil fuels.

Governments directly promote renewables projects, using mechanisms such as Contracts for Difference (CfDs), available in countries such as Italy, Spain, Portugal, or Poland, that offer price stability over the contract period, reducing exposure to market volatility and providing predictability on income streams. Several EU countries where EDPR is present provide tax incentives for investments and permit accelerated depreciation of assets, reducing tax burdens and enhancing after-tax cash flow. In Portugal, renewable energy incentives include Feed-in-Tariffs (fixed payments for energy producers to ensure stable revenue) for older wind farms and competitive auctions for newer solar and floating PV projects. Spain supports renewable projects through regulated returns, premiums, and competitive auctions, with frameworks updated since 2014 to promote expansion. On other hand, EDPR is facing some trouble in Romania and Poland with clawback taxes, that are negatively impacting results by taxing unrealized profits and ignoring financial hedges that are part of the company risk management strategy. (Appendix 2)

North America

The U.S. regulatory landscape for renewables combines federal oversight and state mandates, with significant influence from the Federal Energy Regulatory Commission (FERC) in markets with RTOs and ISOs, and varying state regulations elsewhere. Renewable Portfolio Standards (RPS) across 30+ states set minimum clean energy targets, with over 15 states aiming for 50% renewable power by 2030, and 10 states targeting 100% by 2050. The Inflation Reduction Act (IRA) of 2022 extended key incentives like the Production Tax Credit (PTC), set at $26 per MWh for wind, and the Investment Tax Credit (ITC), which offers a base rate of 6% plus potential bonuses up to 40% for projects meeting domestic and labor criteria. EDPR leverages these credits along with the Modified Accelerated Cost Recovery System (MACRS), which allows full depreciation over five years, boosting early cash flow on new projects.

In Canada, renewable energy regulation is handled provincially, with programs like Ontario's renewable procurements and Alberta's competitive market structure. Some provinces also use carbon pricing to promote clean energy. In Mexico, renewable policies are managed by the Energy Regulatory Commission (CRE) and CENACE, with support through Clean Energy Certificates (CELs), though recent shifts favor state utility CFE over private renewables.

Macroeconomic Overview

Demand

The global energy landscape has been shaped by disruptive events such as the Covid-19 pandemic, the Russian-Ukrainian war, and the Israeli-Palestinian conflict. In 2020, global energy demand fell driven by industrial slowdowns and reduced transportation fuel use during lockdowns, while supply chain disruptions delayed renewable energy projects. As economies reopened, energy prices surged, further exacerbated by the Russian-Ukrainian war, which highlighted Europe's reliance on Russian natural gas. The recent Israeli-Palestinian conflict has added to concerns about Middle Eastern stability, briefly pushing oil prices higher.

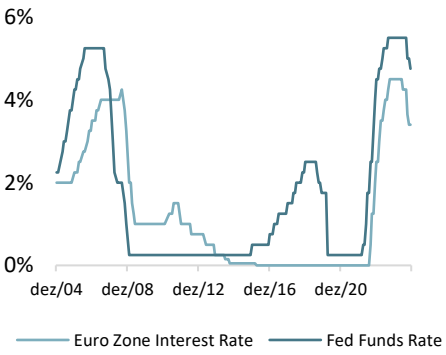
These events have accelerated the push for renewables, particularly in Europe, as nations seek greater energy security and independence from foreign fossil fuels. In the U.S., Donald Trump's second term and pro-oil stance could challenge the renewables sector by reducing federal incentives, though states like California and Texas are expected to sustain localized growth through ambitious renewable energy policies.

Inflation & interest rates

The pandemic affected supply chains, production declined and lead many businesses to shutter, such that when economies reopened, governments introduced economic and fiscal stimulus, however with costs increase and a raise interest rates around 10 consecutive times reaching to 5.5%, and 4.5%, respectively, to fight inflation. Historically, interest rates had been low and close to zero in the last decade and these values were registered for the last time in the 2008 crisis (Figure 1).

The renewables sector did not benefit from higher borrowing costs, due to its capital-intensive projects such as wind and solar plants. Also, with inflation, prices of raw materials essential to renewables technologies rose such as lithium, steel, and cooper. However, the pressures of higher borrowing costs prompted companies to innovate and streamline operations, which can lead to advancements in technology and efficiency. Until the end of 2025, the market prices three rate cuts from the Fed and six from ECB (Figure 2), which can improve

Figure 1: Central Banks Interest Rates - 20/12/2004 – 20/11/2024.



Source: Bloomberg

Figure 2: Expected rate cuts

Fed		ECB	
Meeting	#Cuts	Meeting	#Cuts
12/18/2024	0.67	12/12/2024	1.25
01/29/2025	0.91	01/30/2025	2.55
03/19/2025	1.45	03/06/2025	3.85
05/07/2025	1.75	04/17/2025	4.83
06/18/2025	2.19	06/05/2025	5.63
07/30/2025	2.42	07/24/2025	6.01
09/17/2025	2.72	09/11/2025	6.21
10/29/2025	2.94	10/30/2025	6.27
12/10/2025	3.15		

Source: Bloomberg - 02/12/2024

the feasibility and returns of new and existing projects, attract more investment and boosting asset valuations through lower discount rates.

Competitive Positioning

The renewable energy market is highly competitive, with companies employing different strategies to secure their positions. Iberdrola and Orsted focus on retaining assets for stable cash flows, while others, such as EDPR, prioritize asset rotation, selling operational projects to finance new developments. Additionally, companies like NextEra Energy rely more on spot market exposure, while others including EDPR emphasizing contracted energy to ensure predictable revenues, influencing how they compete across technologies.

In onshore wind, Iberdrola and NextEra Energy stand out. Iberdrola leads in Europe and Latin America through its vertically integrated approach, while NextEra dominates North America by combining wind power with advanced grid and storage technologies. In offshore wind, Orsted maintains a leading position thanks to its scale and expertise in fixed-bottom installations, particularly in Europe and North America. It is also advancing floating wind technology, which is key for future growth in emerging APAC markets. In solar, NextEra Energy is a top competitor, excelling in large-scale projects in the U.S., while Iberdrola is rapidly expanding in Europe and Latin America, leveraging its broad portfolio to drive growth in these regions.

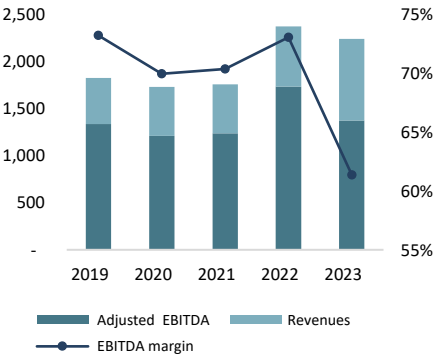
FINANCIAL ANALYSIS & PROJECTIONS

Overview

In 2023, EDP Renewables (EDPR) reported revenues of €2.2 billion, achieving a steady revenue growth with a 5.3% CAGR from 2019 to 2023, slightly below the peer average of 5.9%. However, profitability has come under pressure, with the EBITDA margin declining from 73% in 2019 to 61% in 2023 (Figure 3) and the net profit margin falling from 24.5% to 14.0%. This decline is attributed to costs outpacing revenue growth, with COGS and personnel expenses increasing by 11.3% and 16.9%, respectively. Earnings per share (EPS) dropped to €0.31 in 2023, compared to an average of €0.63 over the previous four years.

Recurring EBITDA decreased to €1,845 million from €2,157 million in 2022 (Figure 10), reflecting challenging market conditions, including price volatility, rising interest rates, supply chain pressures, and regulatory uncertainties. Despite this, organic cash flow grew by 14% year-over-year to €897 million, highlighting operational efficiency. The company significantly increased CAPEX to €4,556

Figure 3: Historical Data: Revenues, EBITDA*, and EBITDA Margin



Source: EDPR

*Adjusted EBITDA, we adjusted the reported EBITDA to exclude gains from asset rotation, so we can have a clearer view of the company's core operating performance.

million from €3,446 million in 2022, driving its pipeline expansion. Net debt rose to €5.7 billion from €4.9 billion, reflecting these investments. EDPR's asset rotation strategy generated €460 million in 2023, compared to €424 million the prior year, reinforcing its approach to monetizing mature assets for reinvestment in growth projects.

Solvency metrics reveal a growing reliance on debt, with the debt-to-equity ratio rising from 0.41x to 0.57x over the period, which we see as part of the growing challenges, namely the expansion to APAC, and not a concern when comparing to the peer's metric, even though their average D/E has been decreasing over the 5 years, their leverage values continue to be significantly higher. The Capex Intensity ratio shows the same trend, more than tripling in the last 5 years, from 0.6 in 2019 to 2.0 in 2023. On the other hand, interest coverage stands up at 2.8x against 3.1x in 2019. Operational efficiency has weakened in the last 5 years, with asset turnover and inventory turnover both trending downward, though accounts receivable turnover impr oved. Liquidity ratios haven been stable in the last 5 years, with cash and current ratio increasing when comparing to 2019, putting EDPR in a strong position to meet short-term obligations.

TAXES

We used the effective tax rate of 17.62% in our valuations. This was the rate registered in 2023 and, even though it is the highest rate from the last 5 years, we decided to maintain it due to the recent expansion to APAC, a region characterized by higher tax rates. This decision reflects our estimation that the tax rate will not converge to the lower historical values. We assumed the 17.62% rate across all regions, as it represents an average of the percentage paid and accounts for the geographical diversification of the company's operations.

To compute operating cash taxes, deferred tax assets were separated between operating and non-operating, using the Operating Deferred Tax Liabilities (DTLs) net of Operating Deferred Tax Assets (DTAs) to obtain the Operating Cash Tax Rate, 16.2% in 2023, that was assumed to be held constant. This adjustment ensures that the valuation reflects the cash tax impact on operations, improving the accuracy of projected cash flows.

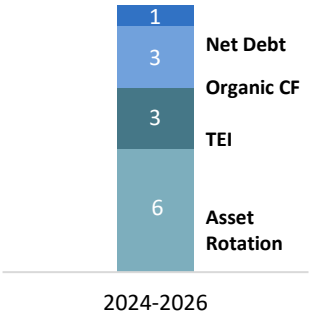
NWC

Net Working Capital (NWC) was computed by subtracting current liabilities to current assets. To forecast key items as accounts receivables, accounts payable and inventories we used ratios such as Days Sales Outstanding, Days Payable Outstanding and Days Inventory Outstanding. Additionally, we included Working Cash and Provisions. Provisions were acknowledged as NWC due to their current operational nature, mainly related to dismantle and decommissioning its assets as

well as to restore sites where they were located. Afterwards, the NWC was allocate to the three valuation models, according to the revenue weight.

Financing Structure

Figure 4: Net Investment 2024-2026 (€bn)



Source: EDPR - Investors Presentation August 2024

EDPR's financial structure consists of 36% debt and 64% equity, showing a balanced funding approach. The company's shareholder composition is dominated by EDP, which holds a majority stake of 71.3%. Other significant shareholders include GIC with 4.3% and BlackRock with 3.1%. EDPR fundings strategies include banks loans, asset rotation, tax equity investors and corporate debt, namely through EDP (Figure 4). Tax equity financing is used in the United States allowing the company to monetize incentives received by the government such as PTC's and ITC's. Entities with taxable income can partner with EDPR, providing upfront capital to finance projects in exchange of tax benefits and cash distributions during the 1st ten years the plants operate if applicable. Asset rotation plays a different but very important role in financing efforts, by selling minority stakes in under construction or operational assets and recycle the resulting capital for upcoming projects. It has resulted in average proceeds of 1.7B€ per year from 2021 to 2023 and it's expected to continue this same path until 2026, generating gains of 0.3B€ on average per year. On a more conventional way, EDPR also receives loans from EDP taking advantage of their stronger credit profile, getting more favourable rates. Average maturity of the loans is approximately 5 years and bears an average interest rate of 3.85% for euro loans and 4% for dollar. This capital is used to finance acquisitions of projects, mainly in Europe and to develop EDPR pipeline. EDPR also gets funds from bank loans, in several currencies diversifying risk away from the group.

WACC

Figure 5: Key drives for WACC of Europe and NA, Asset Base.

	Europe	NA
Risk Free Rate	3.0%	4.2%
Equity Risk Pre.	6.7%	5.0%
Beta (unlevered)	0.48	0.51
Tax rate	18%	18%
Beta Debt	0.06	0.10
Relevered Beta	0.75	0.78
Target D/E	0.66	0.66
Cost of equity	8.1%	8.1%
Cost of debt	3.5%	4.7%
D/V ratio	0.39	0.39
E/V ratio	0.61	0.61
WACC	**6.0%**	**6.5%**

Sources: EDPR 2023 Annual Report, Bloomberg Terminal and NYU Stern

To calculate the intrinsic value of EDP Renewables (EDPR) based on its forecasted cash flows, we determined the appropriate discount rate (WACC), reflecting the company's cost of financing, which combines both equity and debt (values correspond to 22/10/2024 data). We computed separate WACCs for the American and European regions, yielding values of **6.0%** and **6.5%**, respectively (Figure 5). For the asset base valuation, we used the average of these two WACC values, resulting in a WACC of **6.3%**. To account for the varying risk profiles of different segments, we found different peer companies, that could represent the pipeline additional uncertainty, resulting in a WACC of **6.8%** for the pipeline under construction (2024-2026), and **7.3%** for the pipeline 2027-2035 (Figure 6).

To compute **Cost of Debt** and since most of the debt comes from EDP loans, that can finance itself at a more favorable spread, due to a better credit rating, we obtained the diverse outstanding bonds of EDP. We picked the bond with the

Figure 6: Key drives for WACC of Pipeline Segments.

	Pipeline 24-26	Pipeline 27-35
Risk Free Rate	3.6%	3.6%
Equity Risk Pre.	5.9%	5.9%
Unlevered Beta	0.57	0.66
Tax rate	18%	18%
Beta Debt	0.19	0.19
Relevered Beta	0.85	0.99
Target D/E	0.72	0.72
Cost of equity	8.6%	9.4%
Cost of debt	4.7%	4.7%
D/V ratio	0.39	0.39
E/V ratio	0.61	0.61
WACC	**6.8%**	**7.3%**

Sources: EDPR 2023 Annual Report, Bloomberg Terminal and NYU Stern

Figure 7: Pipeline peers: operating and under construction assets

2023 (MW)	Oper. Assets	Pipeline	Under Constr.
Neoen	5000	3000	38%
Grenergy	712	901	56%
Solaría	1658	1530	48%

Sources: Neoen, Grenergy and Solaría Energia 2023 Annual Reports

Figure 8: Peers Operating Margins

	EBITDA Margin	EBIT Margin	Cash Flow Margin
Boralex	51%	22%	40%
Acciona	37%	24%	0.29
Encavis	72%	37%	47%
ERG	72%	42%	60%
Terna Energy	55%	38%	35%
TransAlta	50%	31%	41%
EDPR	**56%**	**27%**	**57%**

Sources: Refintiv Workspace

longer maturity (8 years), for Europe and added a 0.25% spread to the yield (3.28% + 0.25%) to account for EDPR cost of finance through EDP. We did the same for NA but instead using one of the bonds issued in dollars (4.56% + 0.25%). Then, we considered a probability of default of 0.3% (base case for BBB bonds) and a loss given default of 21,7%, an average of the utilities sector. Taking this into consideration and recognizing that the cost of debt is determined as the yield to maturity adjusted for the probability of default multiplied by the loss given default, we calculated a cost of debt of 3.5% and 4.7%, for Europe and NA, respectively, using an average of both for the pipeline segments.

Cost of equity was computed through CAPM model and was defined at **8.1%** both for Europe and NA in asset base and **9.4%** for the pipeline. In computations we used as the risk-free rate the YTM of USA 10-year Treasury Bonds and Spanish 10-year Treasury Bonds, and a market risk premium of 5.0% and 6.3%, respectively, an average between Damodaran and Bloomberg's risk premium. Europe market risk premium was computed through the average of European countries weighted on installed capacity. Additionally, the levered beta was determined by regressing monthly stock returns against a benchmark index, that we considered to be STOXX Europe 600 for European equities and S&P 500 for American equities, for a period of 5 years. We set different unlevered betas for the various segments to reflect the specific risks associated with each region and project type. These differentiated betas align with the risk profiles of each segment, ensuring the valuation reflects the corresponding uncertainties For the Asset Base, we calculated the unlevered betas by averaging those of peer companies, using European peers to determine the WACC for Europe and North American peers (Figure 7) for the WACC in North America, being 0.46 and 0.51, respectively. For the 2027-2035 pipeline, we used companies which businesses rely more extensively on projects in development, using Neoen, Grenergy Renovables and Solaría Energia y Medio Ambiente to reflect the uncertainty of the pipeline (Figure 8), with levered betas of 0.98, 1.10 and 1.1 and unlevered betas of 0.68, 0.65 and 0.64, respectively. For the 2024-2026 Pipeline we made an average of the unlevered betas of the Asset Base and Pipeline 2027-20235.

Afterwards, we relevered the betas, by comparing to the capital structures of the peer group, opting to define the target levered ratio at 0.66, the average of the peer group, and similar to the EDPR value in 2023 (0.60) that has been increasing in the last 5 years. For the pipeline we applied the same procedure, with the pipeline peer group, getting a target levered ratio of 0.7. We subtracted to cost of debt the risk-free rate and divided the result for the market risk premium to get the debt betas. After getting all the main figures we used the WACC formula to get the final values indicated above.

Figure 9: Key drives for WACC of Ocean Winds

	Ocean Winds
Risk Free Rate	3.6%
Equity Risk Pre.	5.9%
Unlevered Beta	1.35
Tax rate	18%
Beta Debt	0.22
Relevered Beta	2.92
Target D/E	1.41
Cost of equity	20.8%
Cost of debt	5.0%
D/V ratio	0.80
E/V ratio	0.20
WACC	**7.4%**

Sources: EDPR 2023 Annual Report, Bloomberg Terminal and NYU Stern

For Ocean Winds WACC, the same principles were used, with the exception of levered and unlevered betas. We applied the average of market risk premium and risk-free rate of Europe and North America also adopted in the pipeline segments. Cost of debt was computed through EDP and Engie bonds and respective YTM, since Ocean Winds is a 50:50 venture between both companies. We used and average of the YTM of bonds maturing between 2032 and 2053 to reflect the longevity of the assets, reaching to a **5%** cost of debt. For cost of equity, we implemented Damodaran betas research for private companies which defines an average unlevered and levered betas of 0.56 and 1.11, respectively, for the Green and Renewables sector. To account for the additional risk associated with offshore wind projects relative to the broader sector, we calculated an average between the total unlevered beta, 2.13, and the total levered beta, 4.24, of the sector. These values are used to estimate the cost of equity for private businesses with undiversified owners. This resulted in an unlevered beta of 1.35, which was subsequently relevered using a target debt-to-equity (D/E) ratio of 1.41, reflecting the sector average. The resulting levered beta of 2.92 was used to derive a cost of equity of 20.8%, and the computed WACC was 7.4% (Figure 9).

Relative Valuation

To assess EDPR's relative valuation, a group of six comparable companies was selected: Boralex, Terna Energy, ERG, Transalta, Encavis, and Corporacion Acciona Energias Renovables from a wide set of firms (Appendix 3). These companies were identified as having the most similar core business models and and financial characteristics closely aligned with EDPR. The selection process considered key metrics such as EBIT, EBITDA and Cash Flow Margins (Figure 34), Debt-to-Equity Ratios, and Equity Betas (Appendix 3). This ensures that the chosen peers share similar operational and risk profiles, providing a solid basis for comparison. The peer group was carefully chosen to reflect a mix of geographical presence and strategic focus that complements EDPR's market positioning. As an example, Boralex was included due to its concentration on wind and solar projects in North America, which parallels EDPR's diversified asset base, having close similarities to almost every metric indicated. Also, Encavis was selected for its strong presence in the European solar market, making it a relevant benchmark within that region and the same characteristics are observable.

Figure 10: Peers Multiples

	EV/Sales	EV/EBITDA	EV/EBIT
Boralex	7.56	12.04	30.82
Terna Energy	8.27	15.65	22.52
ERG	6.68	10.01	19.06
TransAlta	3.08	7.61	7.87
Acciona	3.58	11.95	16.47
Encavis	10.42	12.62	24.55
Median	6.68	11.95	19.29
Share price	**12.5**	**15.5**	**10.6**

Sources: Refintiv Workspace

We choose to use three valuation multiples to estimate EDPR's share price: EV/Sales, EV/EBITDA, and EV/EBIT. The EV/Sales multiple produced a share price estimate of €13.7, EV/EBITDA resulted in €15.5, and EV/EBIT indicated a value of €11.9. These multiples were selected to ensure consistency and reliability, as they reduce distortions caused by differences in accounting practices, leverage among the peer group and traditionally higher P/E multiples in NA. EV/Sales

focuses on revenue generation, while EV/EBITDA and EV/EBIT capture operational profitability (Figure 10).

Sensitivity and scenario Analysis

We performed a sensitivity analysis on WACC, cash tax rate, and load factors (for the first year) for both the Asset Base Valuation and the Pipeline segments. Following the SoP approach, we carried out individual sensitivity analyses using the respective core value drivers and combined the results to gain a comprehensive understanding of the share price variations. Identical adjustments were applied to each valuation to ensure consistency in the analysis.

WACC was a key focus due to its significant impact on valuation and its reliance on variables such as the cost of equity and debt. Given its critical role, this analysis helped us assess the risks associated with changes in financing conditions. Additionally, the cash tax rate was important to study due to changes in incentives or regulatory benefits that characterize this sector. The analysis showed a major impact of variations in WACC, as well as a less intense negative variation (-4.1%) when compared to the most favorable outcome (+5.1%) (Figure 11). For the load factor analysis, we adjusted the load factor for the first year while maintaining the growth rate unchanged, capturing the impact in the long-term, where even the worst settings, 14.6 and 13.7 for NA and Europe, respectively, showed the share price upside potential. (Figure 12 and 13)

We also conducted a scenario analysis to evaluate both the best and worst-case outcomes for EDPR, focusing on factors that shape its operational and financial performance. The analysis studied variations in production capacity influenced by changes in annual installations of solar and wind plants, alongside with elements such as load factor growth, price growth rate, asset deterioration, and cost metrics like Capex (€/MW) and Opex (€/MW) . This approach allowed us to capture a range of uncertainties, including shifts in energy efficiency, market dynamics and feasibility of expansion and operations. The worst-case scenario is not concerning, showing a 30% downside from the share price at 25/11/2024, 11.21€, while the best-case scenario highlights an even greater potential valuation that strongly supports our buy recommendation. (Figure 14)

Figure 11: Sensity Analysis: WACC (y-axis) and Tax Rate (x-axis)

	12.0%	14.0%	16.2%	18.0%	20.0%
-1.0%	20.9	20.3	19.6	19.0	18.4
-0.5%	18.7	18.1	17.5	17.0	16.4
0.0%	16.9	16.3	15.7	15.2	14.7
0.5%	15.1	14.6	14.0	13.5	13.0
1.0%	13.5	13.1	12.5	12.1	11.6

Figure 12: Sensity Analysis: Solar (y-axis) and Wind (x-axis) Load Factor NA

	-2.0%	-1.0%	0.0%	1.0%	2.0%
-2.0%	14.6	15.0	15.3	15.6	15.9
-1.0%	14.9	15.2	15.5	15.8	16.2
0.0%	15.1	15.4	15.7	16.1	16.4
1.0%	15.3	15.6	16.0	16.3	16.6
2.0%	15.5	15.9	16.2	16.5	16.8

Figure 13: Sensity Analysis: Solar (y-axis) and Wind (x-axis) Load Factor Europe

	-2.0%	-1.0%	0.0%	1.0%	2.0%
-2.0%	13.7	14.2	14.7	15.2	15.7
-1.0%	14.3	14.7	15.2	15.7	16.2
0.0%	14.8	15.2	15.7	16.2	16.7
1.0%	15.3	15.8	16.2	16.7	17.2
2.0%	15.8	16.3	16.8	17.2	17.7

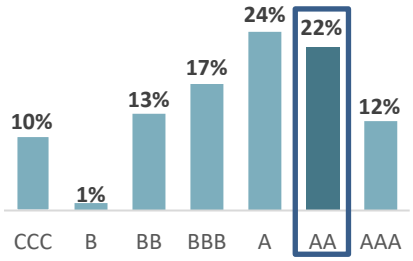
Figure 14: Scenario Analysis

Worst	Base	Best
7.8	15.7	26.0

ESG

ESG factors are central to EDPR's analysis, as its renewable energy focus aligns with global decarbonization goals, regulatory support, and investor demand for sustainability. Strong ESG performance positions EDPR to drive long-term value and benefit from the shift toward sustainable investments, being distinguished with

Figure 15: ESG Rating Distribution and EDPR Rating



Source: Retrieved MSCI One

an AA Rating when compared to the utilities sector companies (Figure 15).

Environmental

EDPR's strong commitment to sustainability, exemplified by its goal of achieving net-zero emissions and significant reductions in greenhouse gas emissions intensity, positions the company favourably in the evolving energy landscape. In 2023, EDPR activities avoided the emission of 20 million tons of CO2 not only reflecting compliance with regulatory frameworks but also enhancing its appeal to environmentally conscious investors. When comparing to the industry average, the company gets a perfect score of 10 (MSCI ESG Rating), with 100% of operations being less carbon-intense relative to its peers (Figure 16). Furthermore, the waste recovery rate of 72% and 92% of hazardous waste generated demonstrates a robust approach to minimizing environmental impact while optimizing resource management. These strategic initiatives not only fulfil EDPR's corporate responsibility but also foster resilience and long-term growth, ensuring the company remains competitive in a market increasingly focused on sustainability and renewable energy solutions.

Figure 16: Environmental Score

	Industry Score	EDPR Score
Opportunities in Renewables	6.1	9.2
Carbon Emissions	7.3	10
Environment	6.5	9.5

Source: MSCI One

Social

EDPR emphasizes community engagement and commitment to diversity and inclusion, counting with a total of 3043 employees across 57 nationalities with a woman global representation of 34%. In 2023 EDPR was for the fourth consecutive year in Bloomberg Gender – Equality Index, among other awards highlighting the promotion of equal opportunities. EDPR is dedicated to fostering sustainable community development, allocating €2.4 million in 2023 for fair energy transition initiatives, cultural projects, and various social programs. The focus is particularly on enhancing energy access and protecting biodiversity, aligning with the broader social investment goals of the EDP Group. In terms of community impact, the company's voluntary investments total €1.9 million, positively affecting over 21,000 people through programs like "Keep it Local," which provides renewable energy skills training for young individuals, and "Safe4Sure," which aids local emergency response efforts. However, the company staff turnover rate, approximately 13%, its below average when compared to the industry rate, 9%, having a negative impact on the ESG Rating, that is reflected in the human capital development pillar (Figure 17).

Figure 17: Social Score

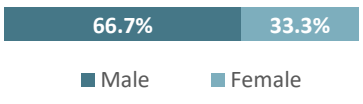
	Industry Score	EDPR Score
Human Capital Development	5.2	5.4
Social	5.5	5.4

Source: MSCI One

Governance

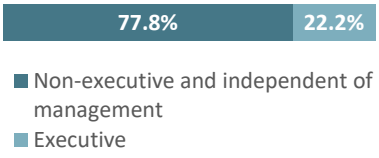
The Board of Directors is constituted by nine members with two executive directors: Miguel Stilwell d'Andrade (CEO), Rui Teixeira (CFO) (Figure 18 and 19). After some forced changes in the board due to judicial procedures around

Figure 18: Board Gender



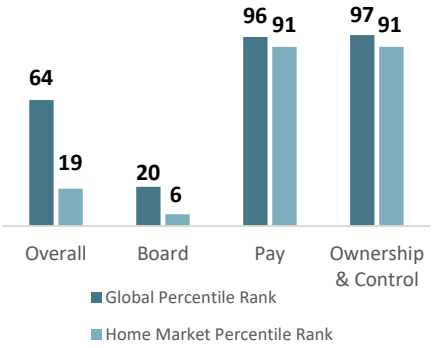
Source: MSCI One

Figure 19: Board independence



Source: MSCI One

Figure 20: Governance Themes and Rankings



Source: MSCI One

corruption, with investigations still ongoing, we believe this team has found stability, even though it is the major area of concern according to the ESG ratings when compared to industry competitors (Figure 20). According to IPCG Corporate Governance Code, EDPR has three Committees of the Board of Directors: Appointments and Remuneration; Audit Control and Related Party Transactions; Environmental Social and Governance, all composed by independent members. In 2022, 63% of total revenue was involved in related-party transactions with its controlling shareholder EDP, reinforcing the importance of the Audit Control and Related Party Transactions Committee to provide independent monitoring of risk management and financial reporting processes. Additionally, we believe that the company's remuneration policy aligns executive compensation with long-term performance and sustainability objectives, defining variable pay based on 6 established clusters (Shareholders, People, Environment and Communities, Assets and Operations, Innovation and Partners, and Clients) with 13 different KPI's, that can represent until 80% of the fixed component in annual variables, and 120% in multi-annual variables. (Appendix 4)

Investment Risks

Key Risks and Risk Management

EDPR is exposed to various risks across its operations, including energy price volatility in regions with merchant exposure or green certificate schemes, such as Romania, Poland, Belgium, and the US. Energy production is subject to risks stemming from weather dependency, curtailment events, and variations in production profiles across its renewable energy plants. These factors directly affect operational performance and efficiency. Additionally, liquidity risks arise from fluctuations in energy prices, interest rates, and credit markets, potentially impacting cash flow stability. The company also faces challenges related to interest rate risk, especially during refinancing, and exchange rate risk due to its exposure to multiple currencies across its global portfolio. Operational risks, such as construction delays or equipment performance issues further add complexity to its risk management landscape.

To mitigate these exposures, EDPR implements hedging and risk management strategies. Energy price risks are minimized through long-term Power Purchase Agreements (PPAs) and feed-in tariff structures in most regions. The company also utilizes commodity-hedging instruments, including futures and over-the-counter (OTC) contracts, to protect against fluctuations in material costs for key components like steel, copper, and solar panels. In the US, bundled electricity and Renewable Energy Certificates (RECs) contracts are leveraged, alongside

financial swaps to hedge basis risks and forward sales to stabilize REC price volatility. Interest rate risk is managed using interest rate swaps, which convert variable rates into fixed ones, while maintaining a balanced debt maturity profile to reduce refinancing risk. Currency risk is addressed by aligning financing with project revenues in the same currency and deploying cross-currency swaps and forward contracts for specific transactions.

APENDIX

APENDIX 1

Reformulated Balance Sheet

Additional assumptions about the Balance Sheet:

Goodwill: classified as operating asset since it arises from acquisitions of businesses or portfolios, expanding operational capacity of the company. An average growth rate of the last 5 years was computed to estimate future growth.

Accounts payable, accounts receivable and Inventory: estimated through and average of the last 5 years accounts payable turnover ratio, accounts receivable turnover ratio and inventory turnover, respectively.

Investments in Joint Ventures, Institutional Partnerships and Equity Instruments: allows the company to explore related business segments through partnerships, as offshore wind, and so classified as operating asset or operating liability, accordingly to its nature.

Current Tax Assets: included in operating assets since majority is recovered in tax credits, as it happened in 2023 due to abnormal high prices registered in 2022, expanding the tax base and leading to overpayments. An average growth rate of the last 5 years was computed to estimate future growth.

Other liabilities and other payables: mainly include rents from lease contracts and derivative financial instruments used for hedging strategies mainly to manage fluctuations in energy prices, and so considered as operating liabilities. Assumed to be held constant.

Operating Cash: assumed to be 2% of each year revenues and excess was registered as a negative financial liability.

Growth rates over the last 5 year financial historic were computed for each remaining balance sheet element, and an average of those growth rates was used to forecast the upcoming years.

Reformulated Balance Sheet

€m	2024E	2025F	2026F	2027F	2028F	2029F	2030F
Operating Assets	**29,305**	**30,734**	**31,907**	**32,404**	**33,059**	**33,819**	**34,609**
Working cash (2% of Sales)	52	61	66	68	71	75	80
Trade accounts receivable - Current	35	42	45	47	49	52	55
Trade accounts receivable - Non-Current	582	614	669	687	721	765	811
Inventories	192	86	74	74	74	73	72
Property, plant and equipment	22,796	23,776	24,756	25,057	25,357	25,657	25,958
Equity Instruments at fair value	25	26	26	27	27	28	28
Investment in joint ventures and associates	1,223	1,265	1,248	1,283	1,346	1,428	1,514
Right-of-use assets	978	1,129	1,179	1,211	1,271	1,348	1,430
Other intangible assets	401	471	513	528	554	587	623
Goodwill	2,179	2,403	2,474	2,542	2,667	2,829	3,000
Current Tax Assets	249	292	318	327	343	364	386
Deferred Tax Assets	593	571	537	552	579	615	652
Operating Liabilities	**9,784**	**10,137**	**10,511**	**11,076**	**11,640**	**12,343**	**12,766**
Institutional Partnership in North America	2,240	2,250	2,289	2,279	2,233	2,162	1,631
Accounts payable Current	613	475	524	526	520	514	509
Accounts payable Non-Current	2,409	2,559	2,464	2,584	2,630	2,698	2,775
Provisions	334	349	365	382	399	417	436
Deferred Tax Liabilities	1,075	1,348	1,690	2,118	2,655	3,328	4,172
Current Tax Liabilities	238	279	304	313	328	348	369
Other liabilities and other payables	2,601	2,601	2,601	2,601	2,601	2,601	2,601
Liabilities held for sale	274	274	274	274	274	274	274
Invested Capital	**19,520**	**20,598**	**21,395**	**21,328**	**21,419**	**21,477**	**21,843**
Non-Core Assets	**1,986**	**1,986**	**1,986**	**1,986**	**1,986**	**1,986**	**1,986**
Other debt and assets	1,402	1,402	1,402	1,402	1,402	1,402	1,402
Collateral deposits associated to financial debt	67	67	67	67	67	67	67
Assets Held for Sale	517	517	517	517	517	517	517
Total Funds Invested	**21,506**	**22,583**	**23,381**	**23,314**	**23,405**	**23,462**	**23,828**
Debt and Debt Equivalents	**7,741**	**7,964**	**8,019**	**7,575**	**6,966**	**6,147**	**5,889**
Excess Cash	1,914	1,968	1,982	1,872	1,722	1,519	1,455
Short-term Debt	1,805	1,745	1,813	1,686	1,563	1,374	1,318
Long-term Debt	7,850	8,188	8,188	7,761	7,125	6,293	6,026
Equity	**13,765**	**14,619**	**15,362**	**15,738**	**16,439**	**17,315**	**17,940**
Share Capital	6,410	6,807	7,153	7,329	7,655	8,063	8,354
Share Premium	2,314	2,757	3,142	3,199	3,368	3,597	3,731
Reserves	- 782	- 831	- 873	- 895	- 934	- 984	- 1,020
Other reserves and Retained Earnings	3,669	3,896	4,094	4,195	4,381	4,615	4,781
Consolidated net profit attributable to equity holder:	519	519	363	407	429	442	1,618
Non-controlling interests	1,637	1,470	1,483	1,504	1,540	1,582	475
Debt + Equity	**21,506**	**22,583**	**23,381**	**23,314**	**23,405**	**23,462**	**23,828**

APPENDIX 2: Regulatory Framework (Source: EDPR Annual Report 2023)

Belgium	Green certificates (GC) awarded per MWh produced. Price revised yearly, with 2023 rate at €65/GC.
Brazil	Old projects supported by PROINFA program. Since 2008, competitive auctions award 20-year Power Purchase Agreements (PPAs) to new projects.
Chile	Technology-neutral auctions provide 15-year PPAs for renewable and non-renewable projects. Large clients may also enter direct PPAs with generators.
Colombia	15-year contracts through competitive auctions. Additional "reliability charge" contracts provide payments for maintaining grid reliability during supply shortages.
France	15-year Feed-in Tariff (FiT) for old wind farms. From 2017, eligible wind projects can apply for a 20-year CfD based on turbine specifications.
Greece	20-year CfD awarded through auctions. New auction system (2022) includes technology-specific capacity reserves for wind and solar.
Hungary	Pre-2016: KÁT FiT system; post-2016: METÁR 15-year CfD system awarded via technology-neutral auctions.
Italy	Pre-2012: 15-year feed-in premium for wind; post-2013: 20-year CfD schemes awarded via competitive auctions.
Poland	Pre-2018 wind farms supported by a 15-year GC scheme; post-2018, supported by 15-year Contracts-for-Difference (CfD) awarded via auctions. **Clawback tax** of 100% on non-CfD1 revenues above 345 PLN/MWh, for wind projects under GC system.
Portugal	Pre-2006: Feed-in tariff indexed to CPI for 20 years. Post-2006: Auction-based Feed-in Tariff (FiT) system with a 20-year duration.
Romania	Wind assets installed pre-2013 supported by GC system (15 years). **Clawback tax**: A 100% tax applies to revenues above 450 RON/MWh, affecting who hedge prices and do not benefit from high spot prices.
Singapore	No support for large-scale renewables; solar development incentivized via SolarNova and JTC government tenders targeting public agencies.
Spain	Wind projects earn regulated premiums per MW based on Target Return Factor (TRF) rates of 7.398% (pre-2013) and 7.09% (post-2013) to secure returns.
UK	15-year CfDs awarded through auctions, gradually replacing the Green Certificate scheme. Mature and less mature technologies have separate auction budgets.
Vietnam	Formerly supported by 20-year PPAs and feed-in tariffs (FiTs) for wind and solar, now shifting to competitive auctions for new projects.

DIX 3: Potential Peers (Source: Refinitiv)

Company Name	Equity Beta	Market Cap	Debt to Equity	EBITDA Margin %	EBIT Margin %	Cash Flow Margin %	EBITDA Margin 3 Yr Avg %	EBIT Margin 3 Yr Avg %	Cash Flow Margin 3 Yr Avg %
Ecoener	0.81	247,995,231	1.76	52%	30%	40%	54%	35%	41%
Endesa	0.77	20,597,947,055	1.91	26%	19%	10%	24%	16%	12%
Fortum	0.91	12,373,110,816	0.71	28%	23%	28%	76%	22%	109%
Grenergy Renovables	1.10	892,942,645	2.19	58%	48%	39%	49%	42%	28%
Iberdrola	0.75	84,746,633,241	0.83	28%	18%	20%	28%	17%	21%
Neoen	0.98	6,029,884,134	1.40	79%	73%	62%	82%	48%	50%
Nextera Energy	0.37	147,678,182,610	1.28	55%	33%	44%	49%	25%	42%
Oersted	0.71	21,523,561,721	1.13	30%	17%	-12%	26%	14%	12%
Redeia Corporacion	0.62	8,966,761,766	0.90	71%	45%	61%	72%	46%	61%
Romande Energie Holding	0.15	1,344,015,609	0.09	21%	10%	34%	19%	8%	24%
Scatec	2.08	1,094,478,155	2.49	67%	40%	60%	67%	38%	33%
Solaria Energia	1.15	1,221,752,893	2.02	104%	88%	73%	103%	85%	76%
Acciona	**0.74**	**6,319,765,424**	**0.79**	**37%**	**24%**	**29%**	**37%**	**25%**	**29%**
Boralex	**0.43**	**2,290,188,011**	**1.79**	**51%**	**22%**	**40%**	**58%**	**24%**	**41%**
Encavis	**1.01**	**2,760,603,485**	**1.70**	**72%**	**37%**	**47%**	**77%**	**41%**	**52%**
ERG	**0.82**	**3,060,838,908**	**1.09**	**72%**	**42%**	**60%**	**77%**	**42%**	**53%**
Terna Energy	**0.57**	**2,352,698,022**	**2.37**	**55%**	**38%**	**35%**	**53%**	**35%**	**34%**
TransAlta	**0.86**	**2,873,544,010**	**2.53**	**50%**	**31%**	**41%**	**44%**	**22%**	**28%**
EDP Renováveis	**0.58**	**11,352,040,754**	**0.64**	**61%**	**25%**	**57%**	**66%**	**32%**	**66%**

APPENDIX 4: Board Key Performance Indicators (Source: EDPR Annual Report 2023)

Cluster		Key Performance Indicator (KPI)
Shareholders	60%	Operating Cash Flow (€ million)
		Asset Rotation + Tax Equity (€ million)
		EBITDA Including Sell-down Gains (€ million)
		Net Profit (€ million)
		Adjusted Core Operating Expense (€ thousand/MW)
		Projects Reaching FID (% of 2019–2022 plan additions)
Clients	10%	New Renewable Capacity Added (MW)
Assets & Operations	5%	Technical Availability of Energy Assets (%)
		Capital Expenditure per MW (€ thousand)
Environment & Communities	5%	Certified Renewable Capacity (%)
Innovation & Partners	5%	Health & Safety Frequency Rate (employees + contractors)
People Management	10%	Talent and Workforce Management
Remuneration Committee	5%	Appreeciation Remuneration Committee

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