Lisbon School of Economics & Management
Universidade de Lisboa

MASTER OF SCIENCE IN FINANCE

MASTER'S FINAL WORK PROJECT

EQUITY RESEARCH EDP RENOVÁVEIS S.A.:

AUSTRALIA: SUCCESSFUL (OVER)DIVERSIFICATION

ALEXANDRE DANIEL FIALHO SILVA

JUNE 2022

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Abstract

The present document consists of an Equity Research report on EDP Renováveis, S.A. (EDPR). EDPR is a leading global renewable energy company that develops, constructs, and operates onshore wind farms, solar energy plants, and offshore wind projects to deliver clean energy to its customers, in over 20 countries.

The company was valued with a Sum-of-the-Parts approach, where a discounted cash flow approach was developed for all segments, reflecting all its characteristics. The valuation generated a buy recommendation with a price target of 24.7€ per share for 2022YE, comprising an upside potential of 24% from the January 12th, 2022 closing price of 19.9€, with medium-low risk. Other methods were also used to support our conclusion.

To complement the original valuation, Australia was thoroughly assessed to verify if it had the right characteristics for EDPR to invest in. This was done by conducting an extensive market research and an extra valuation (discounted cash flow approach). As a developed country, the Australian government gives renewable companies, such as EDPR, the right incentives and support to thrive in.

Nevertheless, questions rise. Does the extra cash flow coming from EDPR being present in other regions compensate the risk of the expansion? Should they focus on fewer regions and, thus, lower the risk of not being able to manage hundreds of projects at the same time? Using Australia as an example, there is no reason for EDPR to not invest in a promising market. With such a strong financial position and flexibility, there are no reasons not to diversify geographically.

This report was completed on January 16th, 2022. However, to include latest information that reflected the impacts of the military invasion of Ukraine, we included an updated snapshot.

JEL Classification: G10, G32, G34

Keywords: Equity Research, Valuation, Mergers & Acquisitions, Renewables

Resumo

O presente documento consiste num relatório de Equity Research sobre a EDP Renováveis, S.A. (EDPR). A EDPR é uma empresa líder global de energia renovável que desenvolve, constrói e opera parques eólicos onshore e offshore, parques de energia solar para fornecer energia limpa aos seus clientes, em mais de 20 países.

A EDPR foi avaliada com uma de Soma de Partes, onde um *discounted cash flow model* foi desenvolvido para todos os segmentos, refletindo todas as caraterísticas intrínsecas de cada segmento. A avaliação resultou numa recomendação de compra de 24.7€ por ação para o final de 2022, representando um aumento de 24%, com um preço de fecho de 19.9€ a 12 de janeiro 2022, com um nível de risco médio-baixo. Para apoiar esta avaliação, outros métodos foram também utilizados.

Para complementar a avaliação original, a Austrália foi extensivamente analisada com o objetivo de se verificar se teria as características corretas para a EDPR investir em novos projetos no país. Uma ampla pesquisa sobre o mercado australiano e uma avaliação extra (*discounted cash flow approach*) foram realizadas. Sendo um país desenvolvido, empresas de energias renováveis, como a EDPR, contam com os incentivos necessários do governo australiano para prosperarem.

Ainda assim, põem-se questões como, será que o *cash flow* extra derivado da presença da EDPR em várias regiões compensa o risco da expansão? Deveriam focar-se em menos regiões e, assim, baixar o risco de não ter a capacidade de gerir centenas de projetos ao mesmo tempo? Usando a Austrália como exemplo, não há razão para a EDPR não investir num mercado promissor. Com uma posição e flexibilidade financeira tão avançada, não há razão para não diversificar geograficamente.

Este relatório foi finalizado no dia 16 de janeiro de 2022. No entanto, para incluir novas informações refletindo os impactos da invasão militar à Ucrânia, foi adicionado um *snapshot* atualizado.

Classificação JEL: G10, G32, G34

Palavras-Chave: *Equity Research,* Avaliação de Empresas, Fusões & Aquisições, Renováveis

Acknowledgements

It goes without saying that this last year of my life has been largely shaped around this project. I learned a number of finance related skills however, the greatest lessons were about human interaction and how one can grow and accomplish so much in less than a year. A team is defined as a group that comes together with a goal in mind. I can proudly say that our team was more than that. We were able to go through hardships and conflicts with ease given the level of respect and honesty that we had towards one another. To Ana Rita, Beatriz, João and Rita, I give my greatest congratulations for overcoming this challenge with such confidence, hard work and poise, nonetheless. I hope we will all remember this and each other with the kindest of thoughts.

At a personal level, none of this would be possible without my family. Firstly, I would like to express my gratitude towards my mother for her altruism, patience, and compassion, always putting others above herself and showing me where being kind can truly take you. To my father, for his sacrifices and attentiveness, always making sure I had the right priorities no matter the situation. To my grandparents, thank you for always believing in me and for always being there, supporting my academic journey.

Professor Victor Barros was one of the main keys to our success and I am forever indebted. Without his knowledge and experience, I know I would be less likely to recount my journey with such please. To the rest of the faculty, my deepest appreciation, none of my accomplishments during my time at ISEG could be done without you as well.

I also want to give credit to everyone else that, throughout my whole life, has contributed to what I am today. There are countless people who deserve to be shown my appreciation for their role in my life and academic path. I could not be more pleased to have you in my life.

Disclosures

A significant portion of this report was submitted by a group of students from ISEG, including the candidate, for the 2022 CFA Institute Research Challenge Portuguese Local Final. Upon winning the local final, the same report advanced as the representative report for CFA Society Portugal in the 2022 Southern Europe Sub-Regional Final.

This report is published for educational purposes by Master students at ISEG and is not an investment recommendation. This report must be read with the Disclosures and Disclaimer at the end of this report. Appendices that support this report may be obtained from the author upon request.

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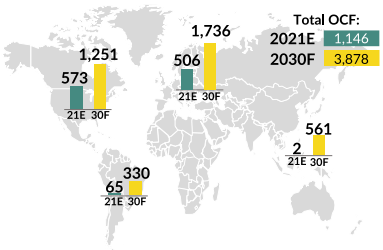
edp renewables

January 2022 | **BUY**

INVESTMENT RECOMMENDATION	
Price target (2022YE)	€ 24.7
Upside	24%
Closing Price (Jan 12, 2022)	€ 19.9
Stock Exchange	Euronext Lisbon
Industry	Renewables
Ticker (Refinitiv)	EDPR.LS
52w Price Range (€)	16.0 - 25.5
52w Daily Volume	1,089k
Shares Outstanding	961M
Market Cap (Jan 12, 2022)	19.1B
Free Float	25%

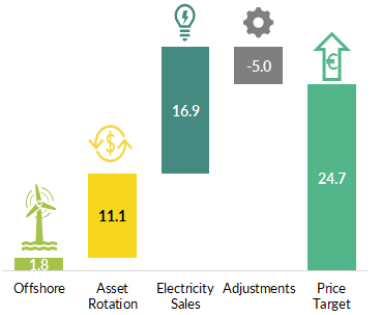
Source: Refinitiv, Team Estimates

Figure 1: EDPR's OCF by segment - 2021E and 2030F (€M)



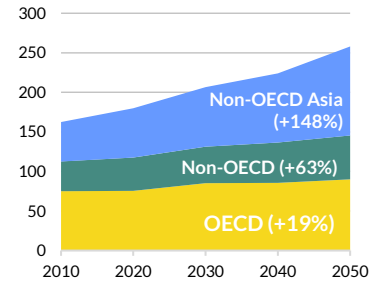
OCF – Operating Cash Flow
Source: EDPR, Team Estimates

Figure 2: Share price drivers: electricity sales, asset rotation and offshore (€/sh)



Source: Team Estimates

Figure 3: Increasing appetite for energy in APAC (GW), growth 2010-2050



Source: IEA

EDPR: Electrifying the World

EDPR drives the renewable energy sector as a global leader, with an operating portfolio surpassing 13GW. With solar and wind projects to deliver clean energy, we believe strong winds will blow EDPR's share price upwards.

1. Investment Summary

BUY is our recommendation for EDP Renováveis, S.A. (EDPR) with a price target of **€24.7/sh** for 2022YE using a DCF model, with a Sum-of-the-Parts (SoP) approach. Our forecasted price implies a **24% upside** potential from the January 12th, 2022, closing price of €19.9/sh, with a **medium-low risk**. Our recommendation is based on **three main pillars:**

1. ROBUST CASH FLOW FROM OPERATIONS

We expect operating cash flow to grow at 15% CAGR between 2021E-30F (Figure 1), fuelled by the company's selective growth approach. From past investment analysis, EDPR has shown a solid record of profitable projects decisions. Its careful strategy based on capital and expertise adding to price stability, seems to have positively contributed to their sustainable regional profitability. The company's selective approach to projects will prevail as a core element for the business attractiveness, distancing it from its peers. The ROIC of 6.5% in 2020 should jump to 7.5% by 2030F, above industry average of 6%. Stable operations in Europe and the US, among the lowest-risk markets, will allow EDPR to expand to other geographies while containing risks. Robust cash flows come from the existing portfolio in locations where EDPR is highly knowledgeable (which alone we estimate at about €17.0/sh) and also from already planned growth in the pipeline (45GW). Targets of new additions are ambitious at c.50GW until 2030. Our estimates indicate that these sources of cash may be undervalued. Yet, this growth is ready to repower the future.

2. SELLING THE GOOD TO INVEST ON THE BEST

Capital plays a role in renewables' growth. An additional project of €1B of CAPEX adds €0.2/sh-€0.4/sh to the price target. To free up capital to invest in these cash-heavy projects, the AR strategy is pivotal for EDPR (Figure 2). The strategy consists of selling existing farms, realising capital gains to fund new ones. It was first implemented in 2012, right after China Three Gorges (CTG) became a major shareholder of EDP – Energias de Portugal, S.A. (EDP), the parent company of EDPR. EDPR became highly specialised in selecting projects for the AR strategy, selling them at very attractive Enterprise Value (EV)/MW multiples - historical 1.75x for onshore wind and 1.25x for solar. Sales under the AR program are at a premium (avg. €450M of capital gains from 2021E-30F), promoting profit generation and reinvestment. AR allows EDPR to expand its portfolio, while disposing projects of outdated technology. This strategy is crucial since it is expected to fund around 1/3 of the planned expansion. Over the years, EDPR has been outdoing its sell-down targets, which gives the company an advantage over its peers (not all have AR strategies) by facilitating access to capital. Overall, the AR represents 20% of the 2021E EBITDA and is estimated to account for 40% of EDPR's EV. We believe that EDPR is in a great position to (dis)invest and rise above the rest.

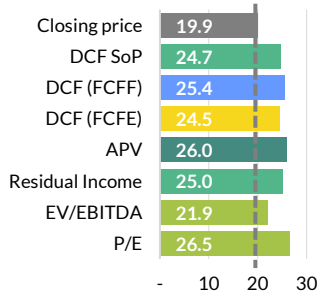
3. GO EAST FOR GROWTH

APAC holds one of the largest growth potentials in the renewables sector (c.30% CAGR until 2030). The region gathers 60% of the global population and has the world's fastest expected increase in energy demand (Figure 3). With the announcement of Sunseap's €600M acquisition in 4Q21, a Singaporean company focused on solar energy, EDPR has burst into a growing and attractive market in Asia. Sunseap is a game-changer for the portfolio, carrying an additional 540MW of operating and under construction solar capacity across 9 countries. The extensive pipeline brings managerial knowledge and is EDPR's first approach to a broader customer list. Also, it provides access to a young portfolio of projects with solar distributed generation (solar DG), a type of project that EDPR had shown interest in. Relevant synergies are expected to emerge from Sunseap's knowledge in these projects and EDPR's track record in the construction and operation of wind farms. According to our estimates, APAC represents 8% of the forecasted EV, with an outstanding EV/MW of 3.6x (+€2.1/sh). The potential in the East is bright around the corner.

THE MISSING PIECE: AUSTRALIA

With Sunseap, EDPR found the best way to enter APAC. Nonetheless, despite already being present in 9 countries of the region, there is one key player that is missing from their portfolio, Australia. The country already produces a considerable amount of energy. However, renewables still represent a small percentage when weighted against fossil fuels. Their incentives and efforts are aligned for an increase in renewable energy production, but fossil fuel exports are still a big part of the country's economy. Furthermore, as the sunniest country in the world and with a considerable coastline, Australia has the opportunity to become a global clean energy superpower by harnessing its extensive renewable energy resources, significant landmass, and easy access to Asian markets. EDPR would benefit by entering this country, especially

Figure 4: EDPR's Price Target (€)



Source: Team Estimates

Figure 5: Breakeven (BE) Analysis

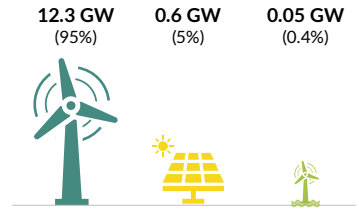
Key Variables	Base	BE	Δ
EV/MW (€M)	1.36	1.25	-0.11
CAPEX/MW (€k)	790	817	27
ASP (€/MWh)	51.2	39.1	-12.1
WACC	4.4%	5.1%	0.7%
T. Growth	1.50%	-2.6%	-4.1%
EUR/USD	1.14	1.23	0.10

Source: Team Estimates

Table 1: Industry's Abbreviations

Abbreviations	
COD	Commercial Operation Date
GW	Gigawatt (= 1,000MW)
IC	Installed Capacity
LCOE	Levelized Cost of Electricity
LF	Load Factor
MW	Megawatt (= 0.001GW)
MWh	Megawatt-hour
PV	Photovoltaic
RES	Renewable Energy Source
REC	Renewable Energy Certificate

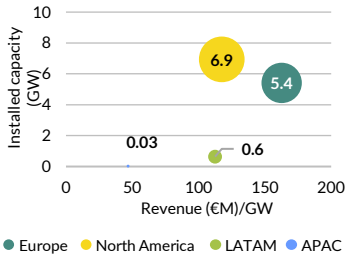
Figure 6: EDPR's IC by technology 2021E [1]



[1] EBITDA + Equity consolidated

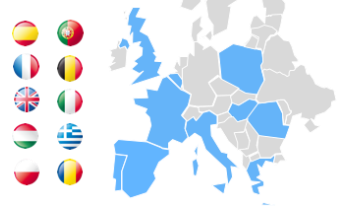
Source: EDPR

Figure 7: EDPR's IC by segment (2021E)



Source: EDPR, Team Estimates

Figure 8: EDPR's presence in Europe



Source: EDPR

considering its potential and future role as a clean energy exporter. With a small share percentage of the Australian market, EDPR would also accelerate its hydrogen segment considering the importance it will have in the country's future. From our projections, by investing just a third of what they would in Latin America (c.€418m in EV), they are able to obtain double the value (c.€820m in EV).

VALUATION METHODS

We used a DCF model based on SoP FCFF applying different WACCs per segment and reached a €24.7/sh price target. Alternative valuation models were also used to triangulate our initial analysis (Figure 4). A FCFF for the company as a whole yields a €25.4/sh price target, also similar to the FCFE (€24.5/sh) and APV (€26.0/sh) approaches. The Residual Income based on economic value added (EVA®) was considered an appropriate alternative, given the strict relationship between ROIC and WACC for EDPR's selection of new projects. The approach supports the buy recommendation (€25.0/sh). Lastly, we value EDPR using multiples, although the company is fairly unique. Larger among pure renewable players, while a regular player among electric utilities. Valuations ranging between €21.9/sh and €26.5/sh were obtained, within the SoP FCFF estimation. EDPR's capital structure is estimated stable in the range 34% to 44% D/E 2021E-30F, and the dividend policy is timid (c.0.4% yield), as cash is channelled for growth.

RISKS TO ACHIEVE THE PRICE TARGET

Buying this stock yields several risks to investors. The competition will be fierce as the industry develops, possibly leading to lower average selling prices (ASP) and available growth opportunities. Oil & Gas companies are gradually transitioning to renewable energy projects, as they already have the necessary capital and experience. Inability to maintain AR's EV/MW multiples may jeopardise EDPR's ability to add capacity, as this strategy directly funds new CAPEX for growth (Figure 5). Lastly, electricity generation depends on uncontrollable weather conditions. Yet, EDPR is minimising this risk with more investment in solar projects compared to the current portfolio mainly composed of onshore wind. The sun and the wind should blow stability to EDPR. Despite these risks, stress tests support our recommendation to buy.

2. Business Description

EDP Renováveis S.A. (EDPR) is a leading global renewable energy company, Portuguese-based, although headquartered in Madrid, Spain. EDPR develops, constructs, and operates onshore wind farms, solar energy plants, and offshore wind projects to deliver clean energy to its customers (Figure 6). The company operates in over 20 countries and 4 continents: North America (50% revenues 2021E), Europe (46%), Latin America (4%) and Asia Pacific (0.1%). EDPR sells energy mainly through long-term regulated contracts and Power Purchase Agreements (PPA), which yield a low-risk cash flow profile. The main driver for EDPR's value is its selective approach to growth opportunities, enabling an above-average ROIC at 6.5% (2020, vs peers average of 5.3%).

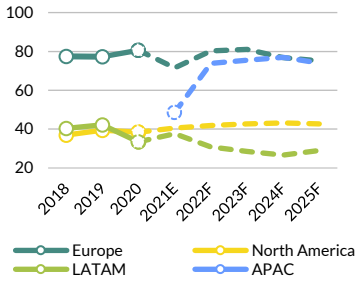
EDPR was born from one of EDP's business units' spinoff in 2007. EDP, Portugal's leading utility company, was created in 1976 by merging 13 companies. As a state-owned company, it became responsible for the electrification of Portugal's mainland. The company was privatized in eight phases, starting in 1996. Later in 2011, CTG acquired the remaining Portuguese Government equity stake of 21.35%. CTG's ownership also enlarged EDPR's market power with room for partnerships in the renewable sector. Additionally, CTG's entrance into the company's shareholder structure allowed EDPR's AR strategy, which was based on the sale of projects to obtain extra funding. CTG also provides credit facilities to EDP at a corporate level. In 1996, EDP's renewable activity began with the construction and operation of wind farms in the north of Portugal (10MW). Later in 2006, 35% of the energy produced by EDP was already sourced from renewables. EDPR was initially established as EDP's autonomous renewable energy subsidiary, a leading global player in the renewable energy market. In 2008, the company was listed on the Euronext Lisbon Stock Exchange. Yet, in 2017 EDP tried to squeeze out EDPR at €6.8/sh but shareholders considered the premium too low for the growth ahead. Later in 2021, the company increased the capital by about €1.5B. Currently, EDP owns c.75% of EDPR's share capital, while the remaining is free float.

Operational segments

North America (NA) | EDPR's presence in NA includes operations in the United States (US), Mexico and Canada, which account for c.50% of total revenue (2021E). Despite a recent decrease in NA's ASP of electricity (-8% YoY), revenue increased 8% YoY to €943M and adjusted EBITDA margin reached 73% in 2021E (67% in 2020). Profitable additions to installed capacity (IC) were vital to increase NA's load factor (LF) (33% in 2020 and 34% in 2021 - Figure 10). In the same year, NA's IC was 6.9GW (c.90% in the US, c.8% in Mexico and c.2% in Canada - Figure 7), employing onshore wind (95%), solar photovoltaic (solar PV) (4%) and solar DG (1%) technologies. Additionally, offshore wind and storage projects are being developed by EDPR. The regulatory outlook for renewables is particularly favourable in the US. Joe Biden's appointment as President led the US to re-join the Paris Agreement and create the Build Back Better Act, which foresees the continuity of renewable incentives, such as Investment Tax Credits (ITC) and Production Tax Credits (PTC). These incentives allow EDPR to finance itself by selling the non-utilized tax credits (avg. €584M of proceeds received in 2021E-28F - Appendix 12). It is unlikely that EDPR will focus its resources on Mexico in the short run because of the new administration's preference for fossil fuels. Further projects can be expected in Canada due to a renewable supportive government, which plans to reach 90% of electricity generation from clean sources by 2030. Within the 2021-25 period, EDPR expects to add 8.8GW in NA (c.44% of total gross additions).

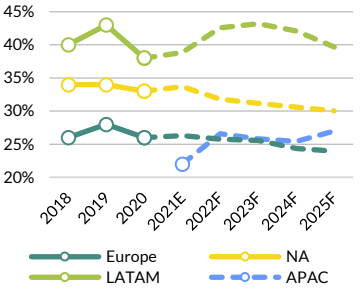
Europe | EDPR has IC in Spain (18% 2021E), Portugal (10%), as well as in other European countries (14% - Figure 8). EDPR's 2021E sales in Europe represented c.46% of the company's total revenue (Spain: 17%; Portugal: 13%; Rest of Europe (RoE): 16%). A decrease of 11% YoY in ASP from 2020 to 2021 was offset by an increase in production in the region (+19% YoY). Also, revenue increased in this segment in 2021E by 13% YoY (€881M), while adjusted EBITDA growth was at 14% YoY (€651M), reaching a margin of 74%. Policy

Figure 9: EDPR's Average Selling Price (€/MWh)



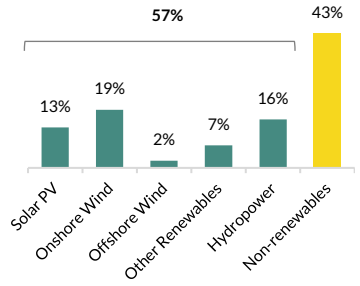
Source: EDPR, Team Estimates

Figure 10: EDPR's load factor by region



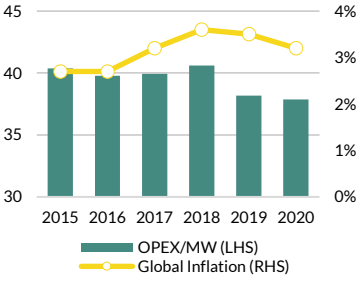
Source: EDPR, Team Estimates

Figure 11: World Energy Mix by 2030F



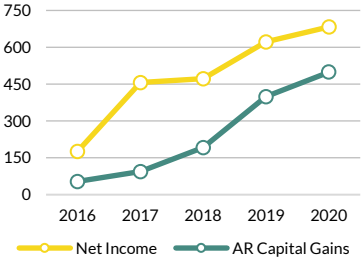
Source: IRENA

Figure 12: EDPR's Historical Core OPEX/MW (€k) vs. Global Inflation Rate (%)



Source: EDPR, IMF, Team Estimates

Figure 13: EDPR's Net income vs Asset Rotation Capital Gains 2016-2020 (€M)



Source: EDPR

instruments and incentives in these locations, such as feed-in tariffs (FiT), feed-in premiums (FiP), green certificates (GC) and auctions, strongly support the renewable industry and EDPR's growth outlook. In 2021E, this segment had a total IC of 5.4GW, employing onshore wind (98%), solar PV (1%) and offshore wind (1%) technologies. Doubling figures is the company's target. Until 2025, EDPR expects to add 6.7GW in Europe (c.34% of total gross additions), benefiting from society's increasing focus on sustainability.

Latin America (LATAM) | In 2020, EDPR's sales in LATAM were impacted by a low wind resource which negatively influenced the region's LF (-12% YoY). In 2021E, revenues recovered to €72M (+97% YoY), representing c.4% of total revenues (2% in 2020YE). Higher production caused by growth in IC (+204MW YoY) and the regularization of onshore wind LF from 38% to 43% explains the revenue growth. Moreover, the adjusted EBITDA margin increased from 62% to 78% in the same period. EDPR's revenue in LATAM comes strictly from Brazil (639MW in 2021E). Yet, projects in Colombia and Chile have already been secured and are expected to start operations in 2022 and 2023, respectively. The goal is to increase investment in these countries since governments have outlined plans to support and attract renewable energy firms. Until 2025, EDPR expects to add 2.9GW in LATAM (c.15% of total gross additions).

Asia Pacific (APAC) | EDPR's presence in APAC has developed rapidly since the announcement of Sunseap's acquisition in 4Q21. This is a crucial piece in the expansion to the East. Before this acquisition, the company operated only 28MW of solar PV in Vietnam. Sunseap already had 540MW of operating and under construction capacity, blue-chip clients secured with PPAs and presence in 9 surrounding countries. Additionally, Sunseap develops projects related to solar DG, a solution to small countries with limited space and big cities where large-scale solar projects are challenging. Sunseap's pipeline of c.5GW is value-driven for EDPR, with 40% already in an advanced development stage. Until 2025, EDPR expects to add 1.4GW in APAC (c.7% of total gross additions).

Adaptability creates opportunity

EDPR has delivered growth on a global scale throughout the years, based essentially on onshore wind and solar PV. Despite its superior track record, EDPR seeks to adapt and innovate in new renewable energy technologies. Currently, EDPR's offshore wind joint venture (JV) *Ocean Winds* (OW) with Engie (50:50) has a portfolio of 8.3GW, with 2 farms (0.5GW) already in operation in Portugal and Belgium. EDPR focuses on this technology, with several projects under development in different countries, including the US, UK, and South Korea. Additionally, EDPR has built a dedicated storage unit in NA to achieve a storage capacity of 1GW within the next five years (c.2% of total additions until 2025). Electricity is not exclusive in the portfolio. EDPR is also entering the hydrogen business, reinforcing its ability to keep up with industry trends.

Company Strategies

Leading the energy transition | EDPR has always been ahead of the renewable transition (Figure 11) and plans to keep its position through growth in new geographies and investment in more efficient technologies. The company expects to increase its total IC by c.20GW until 2025, with 46% of those additions planned for onshore wind and 47% for solar energy, ambitioning to reinforce its position in the latter technology. EDPR is an early mover in offshore wind, competing with RWE and Ørsted through *Ocean Winds,* aiming to have 3.4GW of IC by 2025. Differences can be noted between EDPR and its competitors: pure renewable companies are less technological and geographically diverse, while some utilities heavily employ hydro technology. Yet, we believe these are not harmful factors for EDPR, since the company takes advantage of its consolidated position and the lower levelized cost of electricity (LCOE) of the technologies it uses.

Selective growth | EDPR's growth is supported by its investments' quality due to rigorous criteria for selecting projects. Stable regulatory frameworks, long-term predictable cash flows and above portfolio LF are the requirements for selection. This disciplined approach to additions has already propelled IRR/WACC (1.45x 9M21) and NPV/Capex (35% 9M21) above the targets for 2025 (1.4x and 25%, respectively). This selectivity harms EDPR's efficiency when compared with peers. Yet, a lower risk profile is preferred.

Self-funding | The ambitious strategic plan of EDPR should be executed while keeping net debt (€3.5B 1H21 with a target below €2.5B in 2021) and interest expense in check. To ensure this plan, the company's AR strategy is a crucial key factor expected to fund around 1/3 of the planned expansion. Since every project is carefully selected, EDPR usually has the bargaining power to sell them at very attractive EV/MW multiples. With this strategy and easy access to capital, EDPR is in a great position to further establish itself as a major player in the renewable energy industry.

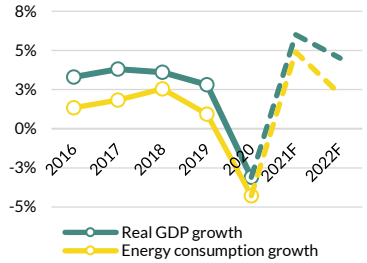
Operational excellence | EDPR has a strategy of strict cost control to stimulate improvements in efficiency and profitability, aiming for effective operations and high-quality teams. This strategy intends to reduce Core OPEX/avg. MW from c.€38k in 2020 to c.€32k in 2025 (-3% CAGR), even in high inflationary periods (Figure 12). Further decreases are expected during 2025F-30F (-1% CAGR). This is mainly explained by the increasing proportion of solar technologies in the overall portfolio, since it has a lower Core OPEX/MW. EDPR settled Operations and Maintenance (O&M) strategies based on Modular Maintenance Model (M3) and a Self-Performance Program (performed in the US only), to optimize the decision between outsourcing and insourcing maintenance activities. These cost models allow high value-added activities to keep in-house, lead to cost savings, and enhance internal quality control by minimizing dependency on third parties.

Key drivers of profitability

LCOE | The LCOE is the average total cost of developing (CAPEX) and operating (OPEX) a project, per unit of total electricity generated over an assumed lifetime. In sum, it is close to the minimum price at which the electricity generated is required to be sold to breakeven. EDPR's remuneration is highly dependent on this driver, since lower LCOE allows the company to be more competitive on pricing. EDPR's LCOE for new projects of onshore wind and solar PV is €22/MWh and €21/MWh, respectively, lower than industry values (Figure 18). As such, the company's LCOE is a form of competitive advantage.

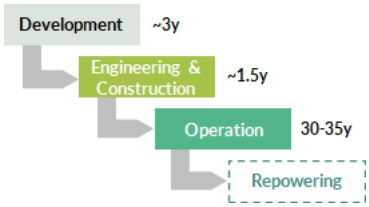
Asset Rotation Strategy | EDPR's bottom line is highly correlated with the successful execution of its AR strategy (Figure 13). While it is unusual to identify capital gains as an operational event, EDPR's track record

Figure 14: Real GDP growth & Energy Consumption growth (Global - %)



Source: IMF, BP, IEA

Figure 15: Development stages of a Renewable Energy project, years



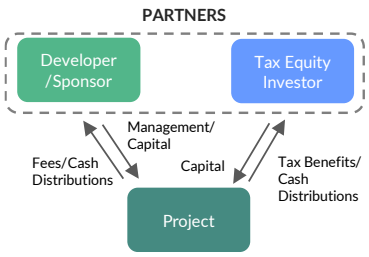
Source: Team Analysis

Table 2: EDPR's Market Share based on renewables electricity output

	2019	2020
Portugal	21.1%	18.8%
Romania	13.5%	13.7%
Spain	8.1%	6.1%
Poland	6.9%	6.0%
Italy	1.3%	1.4%
France	1.0%	0.4%
Belgium	0.5%	0.0%
Europe	**2.0%**	**1.5%**
US	4.0%	3.6%
Mexico	3.0%	2.1%
Canada	0.2%	0.2%
NA	**3.6%**	**3.3%**
Brazil	**2.8%**	**1.6%**

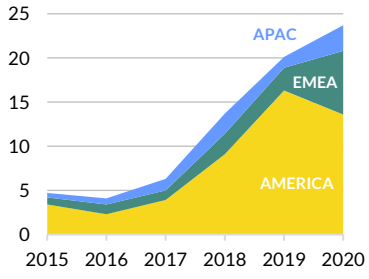
Source: EIA, EDPR, Team Estimates

Figure 16: General market structure of Tax Equity Agreements



Source: Congressional Research Service, 2019 – Adapted by Team

Figure 17: Global Corporate PPA volumes 2015-2020 (GW)



Source: Bloomberg NEF

and a solid plan for this type of transaction fully justify it. EDPR seizes the opportunities to sell at a premium, leading to extra income and improved margins. The success of the AR strategy will highly impact the company's profitability in the future. Total proceeds are expected to reach €22B (2021E-30F).

3. Industry Overview and Competitive Positioning

Global Economic Outlook

The world is still tackling the COVID-19 pandemic. After a downfall of 3.1% in 2020, global real GDP growth is expected at c.6% in 2021 and 4.5% in 2022, foreseeing the increase in the number of fully vaccinated people and the turnaround of the pandemic. Yet, new COVID-19 variations and pandemic waves may swiftly change this landscape. National policies and recovery plans are expected to maintain businesses afloat and propel them to pre-pandemic levels. The projected growth rate for NA's economy is c.5% YoY in 2021, 4.3% for Europe, 5.2% in LATAM and higher at 6.5% in APAC. Simultaneously, Central Banks are starting to take actions. Monetary policies were established in 2021 to respond to the inflation surge. Hence, GDP growth and consumption might slow down, contributing to the decrease of inflation soon after.

Electricity consumption in the aftermath of the COVID-19 pandemic

As an essential good for households and businesses, electricity demand is inelastic. Historically, global electricity consumption follows global GDP growth and is expected to rise at 2.6% CAGR in 2020-30F (Figure 14). However, if the instability created by the COVID-19 pandemic persists, delays in the recovery of electricity demand could occur, especially in the services sector. At the same time, most of the increase in electricity demand is expected to come from the APAC region, where rising economic growth is increasing demand for all types of energy sources.

Market Overview

A renewable energy project comprises a relevant degree of bureaucracy before starting operations. Multiple licenses are required to make progress early in the *development* phase, subject to each country's type of technology and idiocrasies. Before the *construction* phase, the core CAPEX is required. After the project reaches its Commercial Operation Date (COD), regular OPEX is needed to maintain the LF at the feasible maximum (1.5%-6.0% of core CAPEX). At the end of the assets' expected useful life, around 30 to 35 years, the project can be *repowered* or sold for a residual value (Figure 15). Experience in the complex licensing phase and in the overall process is essential. Companies favour projects in regions where they already have operations, thus avoiding the initial and costly learning curve.

Meteorological Conditions | Identifying the best locations to construct wind and solar farms is key to success and to lock in competitive advantages in this market. Renewable Energy Sources (RES) are strongly dependent on atmospheric conditions, which are variable over time and, sometimes, unpredictable. Unexpected meteorological changes may lead to production interruptions, likely to impact the stability of the power grid, since supply could not offset demand levels. There is higher wind resource availability at night when energy prices are lower. The opposite is valid for solar energy. Therefore, a diversified production profile helps mitigate this risk by decreasing the volatility of energy production. Enel and Iberdrola lead the pack in this aspect. Thus, producers with a diversified portfolio are more likely to maintain stable revenues and operating cash flows.

Bidding Processes | Competitive auctions are set to grant support to new renewable energy installations, regardless of their distinct format across countries. The main objective is to deliver long-term contracts to renewable energy project developers who offer the most competitive prices for a certain volume of energy. In Europe and LATAM, auctions have been critical and the most used policy instrument. Countries have been implementing these incentive schemes to achieve renewable energy targets. Also, it offers sellers stable revenues and reduces buyers' exposure to market volatility, while accelerating the diversification and integration of different RES.

Tax Equity Financing | Tax Equity investors in the US are usually large banks and financial institutions. They play an essential role in financing wind and solar projects across the country. Renewable energy producers do not have a large enough tax liability to take full advantage of the tax benefits provided by the US government (PTC, ITC, and accelerated depreciation). Therefore, tax equity agreements are conducted to sell these tax benefits to investors in exchange for upfront funding (Figure 16). Additionally, investors receive a stake in the underlying project. Notable renewable developers like EDPR and Ørsted utilize Tax Equity Investments (TEI) frequently, for different types of technologies.

Offshore | Offshore wind has the potential to play a crucial role in achieving renewable energy targets in many countries. By 2020, the global offshore wind IC was 34GW, an increase of around 11x from 2010 and an impressive +6GW YoY. Until 2030 it is expected to grow to 382 GW (+27% CAGR). The World Bank expects more than 71,000 GW of resource potential to be available worldwide for the technology. Over the past 10 years, offshore wind has become cost-competitive compared to other RES, with Ørsted, RWE and EDPR reaping the benefits. Recent technological innovations are the catalyst for increased profitability, with versatile and adjustable turbine structures translating into higher average LFs. At the same time, the constrained supply chain, in addition to the dearth of regulatory frameworks and specificity in countries' policies, creates a barrier to commercialization in the short term.

Demand Drivers

Thinking outside the barrel | The Paris Agreement established the ambitious target of reaching carbon neutrality by 2050. The urging plans, commitments, and several targets towards energy transition by governments and companies were reinforced in the UN COP26 Conference held in Glasgow in 2021. Goals were established for the IC of RES and its share in electricity consumption. Also, incentives are provided to the primary consumers of electricity: industry, services, transport and residential sectors. With the objectives agreed and considering that the energy transition is still lagging in APAC, this region is expected to keep

Table 3: IC 2030 Targets for wind and solar PV: European countries (GW)

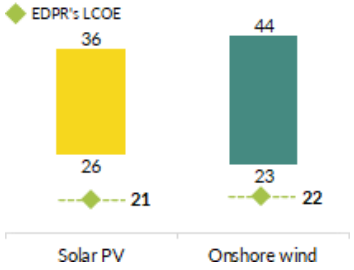
Wind [1]	2020	2030E
Spain	27.1	50.3
Portugal	5.2	9.3
France	17.4	34.0
Belgium	4.7	10.0
Poland	6.3	13.4
Romania	3.0	5.3
Italy	10.8	19.3
Greece	4.1	7.0
UK	24.5	30.0

[1] Onshore and offshore wind

Solar PV	2020	2030E
Portugal	1.0	9.0
Poland	3.9	7.3
Romania	1.4	5.1
Hungary	2.0	6.5
Spain	14.1	18.9
UK	13.5	40.0

Source: IRENA, NECP

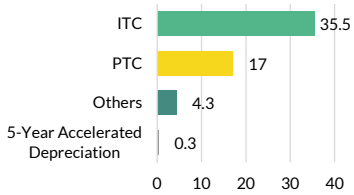
Figure 18: LCOE by technology (€/MWh)



Note: LCOE is sensitive to each company specific discount rate, among other intrinsic characteristics.

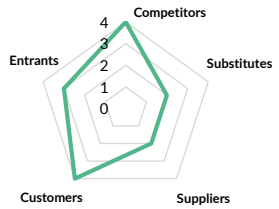
Source: Lazard, Team Estimates

Figure 19: Renewable Tax Incentives' expenditures in US (2020E-24F) ($B)



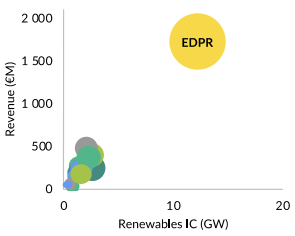
Source: Congressional Research Service

Figure 20: Porter's Five Forces



Source: Team Analysis

Figure 21: Pure-play renewable companies and EDPR's dominance



Companies plotted in this chart include Neon, Innergex, Encavis, Terna Energy, ERG, Falck Renewables, Alerion, Voltalia, TransAlta, Boralex, Solaria, Scatec Solar and EnergieKontor.

Source: Company's Reports

leading the investment in the renewable sector. Simultaneously, renewable energy consumption quotas are required for corporations in some countries (e.g., RECs and RPS in the US; Fit-for-55 package and GC in Europe), thus increasing clean energy demand. Yet, and despite the economic impact from COVID-19, volumes of corporate PPAs for renewable energy continue to climb (Figure 17).

Need for decreasing electricity bills | Over the last decade, renewable energy technologies have become cost-competitive with fossil fuels, since the soaring additions of IC allied with technological improvements promote economies of scale. Onshore wind and solar PV are the world's cheapest sources of energy (Figure 18). In fact, combining different RES in the same project (hybridization) creates a balanced way to stabilize energy production, increasing efficiency and the competitiveness of renewable projects (Appendix 21). In auctions or corporate PPAs, selling prices are adjusted according to renewable energy production costs. Due to their higher frequency, PPA prices are usually more reactive and incorporate this effect faster than government auction prices. As costs decrease, demand for renewable energy increases. Several players have favoured long-term contracts, thus enabling predictability of cash flows.

Supply Drivers

Targets and Regulatory Outlook | Nearly all countries have committed to the targets defined by the Paris Agreement, setting a favourable perspective for renewable energy producers. Governments are adopting legislation to ease development and construction processes and modify the existing pricing structures. However, this growth is constrained in regions with underdeveloped electricity grids. European governments have been increasing the number of energy auctions (45GW in pipeline in 2021) and country level targets were established until 2030 (Table 3). In the US, Biden's plan to reach 80% of energy production through RES by 2030 sets the sector's target. LATAM is one of the most dynamic renewable energy markets globally, with ambitious targets to be met. However, since this region is heavily focused on hydro technology, wind and solar energy producers as EDPR, Enel and Iberdrola, still have plenty of growth to unveil. The APAC region currently leads the global power generation investment. Until 2030, the $2.4T targeted investment will mainly focus on RES due to western governments' pressure.

Incentives to repower a greener future | Governments have been using public policy as a tool for incentivizing private activity on the energy transition. These benefits effectively increase clean energy supply by creating electricity price stability and encouraging the construction of new renewable facilities. In NA, renewable energy producers can take advantage of accelerated depreciation for tax purposes (US, Canada, and Mexico) while, specifically in the US, tax credits are used (PTC and ITC - Figure 19). In the European case, remuneration is typically through auctions, contracts for difference (CfD) or FiT, albeit different per country. Brazil has also enacted tax credits to renewable firms and allowed them to sell directly to the final consumer. There are several incentives to renewables in Colombia, such as an annual income tax reduction. In APAC, incentives for companies include tax exemptions and accelareted depreciations.

Technology | Project developers as EDPR, Neoen and RWE benefit from higher LFs and cost reductions. The industry mainly uses wind turbines with a horizontal axis and 3 blades. Most technological advancements come from increasing rotor diameter and hub height of the turbines, which lead to greater capacity and efficiency, effectively increasing cash flow stemming from operations. Repowering old wind farms is an effective method of replacing old technology in sites with above-average wind resources, effectively increasing operating margins. The most common solar panels use polysilicon cells, which are 20% cheaper when compared with other types of panels (e.g., mono silicon). However, these are less energy-efficient (18% LF). Recent advancements include using a combination of Passive Emitted Rear Cells with bifacial modules, which allow the highest cost-efficient LF of 27% (dependent on location). This technology is increasingly used in new projects, especially in Asia and NA, at an additional cost of c.€0.004/module compared to mono facial. Therefore, technology will be critical in repowering farms for producers to collect competitive margins.

Supply chain | The impact of COVID-19 on the supply chain may lead to CAPEX cost increases, project delays and thus, lower profitability for renewable developers. Port congestion, limited container availability, shipment cancellations and power curtailments are the root of the issues. Simultaneously, steel and polysilicon prices (the primary materials used in wind and solar equipment) have been rising due to a mismatch between supply and demand post-lockdowns. Solar projects are more likely to suffer from these circumstances, as these projects have lower development times and lower flexibility than onshore and offshore wind projects. Also, wind's supply chain is much more geographically diverse than solar, mainly located in China (c.75% of solar components production). Some project developers, like EDPR, have already locked in most 2022 CAPEX costs. However, those that have not could suffer a maximum impact of 1%-2% in their share price, as the supply chain should normalize no later than 2023 (Bank of America).

Competitive Positioning

Rivalry Among Existing Competitors - HIGH | Although many firms compose the renewable energy industry, the majority is small in size (Figure 21). EDPR is the fourth-largest wind energy producer worldwide (excl. Chinese companies) in terms of IC, behind Iberdrola (21.7GW in 2020), NextEra (21.6GW) and Enel (16.3GW). Competition in the renewables industry is intensifying, mainly because of incentives such as auctions and PPAs. Oil & Gas companies have started decarbonizing their operations and main utilities are expanding their renewable portfolio. EDPR can compete by reducing its LCOE by improving technologies and economies of scale. Overall, the rivalry amongst competitors is intense. Nonetheless, competitors usually partner in offshore projects, where risk and knowledge sharing are key.

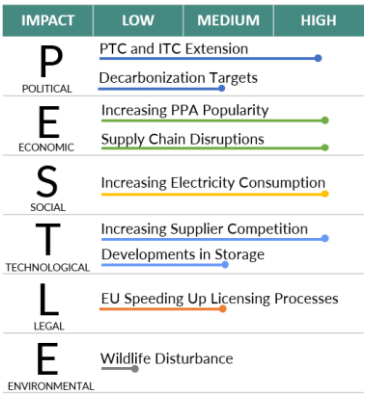
Threat of Substitute Products - LOW | For consumers, switching from one energy source to another is relatively inexpensive. However, conventional (fossil fuel-based) energy is already viewed as a non-viable solution and most countries have an ongoing plan to phase it out. The urge to change the landscape and to make a transition to greener solutions is already transforming the energy industry. Support has been coming from governments and other institutions to accelerate this transformation. The market size recorded in 2020 ($614B) is expected to almost double by 2027 (Reuters).

Table 4: Oil & Gas Renewable IC (2020)

Oil & Gas Companies	IC (GW)
EDPR	**12.2**
Naturgy	1.9
Galp	0.9
Repsol	0.4
Eni	0.3
TotalEnergies	6.9
Royal Dutch Shell	1.0

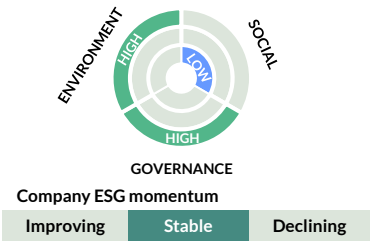
Source: Company's Reports

Figure 22: Industry Overview summary



Source: Team Analysis

Figure 23: EDPR's ESG Materiality



Source: Societe Generale

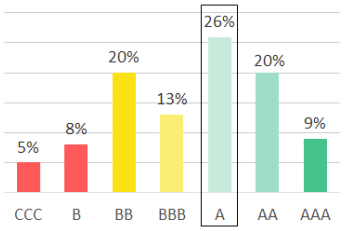
Table 5: EDPR's MSCI Rating (0-10)

	Rating	Industry
EDPR	**A**	**BBB**
Environment	9.3	6.4
Social	4.5	5.7
Governance	4.9	4.6

Note: *Industry Average is for all type of utilities*

Source: MSCI

Figure 24: MSCI's ESG Rating Distribution



Source: MSCI

Table 6: ESG Risk peer benchmarking

Company	ESG Risk Rating	Industry Rank *
EDPR	**15.1 (Low)**	**21**
Ørsted	16.3 (Low)	32
Iberdrola	20.4 (Medium)	81
RWE	22.7 (Medium)	110
Enel	23.5 (Medium)	120
Neoen	25.4 (Medium)	145

Note: *Out of 672 companies*

Source: Sustainalytics

Bargaining Power of Suppliers - LOW | As of 2020YE, EDPR had over 4,300 suppliers, including the well-known Vestas, Siemens Gamesa, Goldwind and General Electrics. These suppliers are mainly dedicated to the manufacturing of wind turbines and solar panels, as well as O&M. Electricity producers select suppliers based on their ability to provide equipment with the lowest LCOE. For this reason, suppliers do not have significant pricing power. In fact, constant R&D is necessary to capture market share, as the advantages of new technology and innovations quickly dissipate. This technologically driven competition is highly beneficial for EDPR. It widens the company's choice of suppliers and its LCOE will continue to decrease in the long term, growing EDPR's profitability.

Bargaining Power of Customers – HIGH | EDPR's primary customers are utilities (e.g., EDP), regulated entities and corporations (e.g., Amazon, Apple, Facebook, Google, Microsoft, P&G), that purchase electricity to distribute, retail, or consume it. In 2020YE, c.94% of the total energy generated by EDPR was contracted, which greatly reduces risk. When negotiating these long-term contracts, customers expect to achieve the most competitive price amongst all producers, while also weighing in the track record of the companies. This gives customers a high bargaining power since switching costs are low. On the other hand, when exposed to merchant prices, the bargaining power of customers is low since prices are the same across all companies in the renewables industry and only depend on the regulation in each geography.

Threat of New Entrants – MODERATE | This is a cost-intensive type of industry. EDPR manages to gain an edge over new entrants, given its consolidated relationship with suppliers. This makes it easier for EDPR to conduct contracts and obtain credits, enhancing profitability and efficiency in electricity production. Despite the significant barriers to entry, Oil & Gas companies are setting foot in the industry (Table 4). For example, Royal Dutch Shell recently acquired a solar and energy storage developer, *Savion*, while Galp already has 927MW in operation and c.4GW in total when considering pipeline. These companies already have considerable size, an important presence, and the necessary capital and industry knowledge. This makes them dangerous competitors, given the attractiveness of sound growth rates and government incentives.

From PESTLE to SWOT | The company is facing external forces that shape the industry (Figure 22). However internal strengths on knowledge, experience, and reputation along with large pipeline more than cover the weaknesses the company faces (Appendix 22). The recent Sunseap's acquisition is already tackling EDPR's significant reliance on onshore wind.

4. ESG - Environmental, Social and Governance

Nowadays, ESG factors are under the radar of all stakeholders. Benefitting from initiatives such as the Paris Agreement and an expected increase in global electricity demand, EDPR is expected to consolidate its leading position in the sector. The Sustainable Finance Disclosure Regulation (SFDR) in the EU for financial institutions is benefiting EDPR as an attractive sustainable asset.

The EU Taxonomy is an example of a classification system that helps shift capital to sustainable businesses, considering requirements for non-financial companies (disclosure of Turnover, CAPEX and OPEX aligned with the Taxonomy), financial institutions (e.g., Green Asset Ratio) and others. Also, EDPR already benefits from these incentives, such as tax cuts and subsidies. As the company's major shareholder, EDP is aligned with the requirements needed to issue green bonds and take advantage of the tax incentives. The EDP Group uses a centralized approach when it comes to financing. Hence, most of EDPR's funding is raised by EDP. However, EDPR has a "fee" added to the rate it has to pay EDP (Appendix 11). If EDPR were to issue their own bonds and forgo the added fee, we believe their cost of debt would lie between 1.5% and 2.6%, which would lead to a higher price target between €24.9/sh and €25.3/sh. Therefore, there is room for cost of debt optimization. EDPR will need to maintain its solid and reliable competitive advantages given that the sector is bound to attract other players and more investors, thus benefiting stakeholders (Figure 23 and Figure 24).

Environmental

EDPR excels in environmental factors (9.3 score - Table 5), placing itself above peers and the industry average (6.4). EDPR has a policy for the ESG and it is ISO certified. The policy is an integrated Health & Safety and Environmental Management System, which defines the commitment to protecting the climate, engaging with biodiversity, and preserving natural resources.

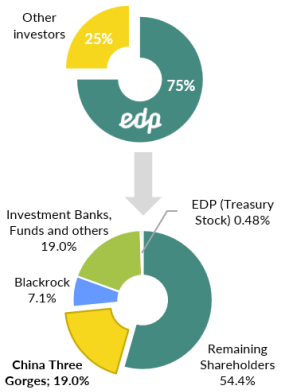
Additionally, EDPR has a sustainability roadmap that started in 2019 and is to be achieved by 2022. With COVID-19, the execution of the plans to reach their goals was slowed down, but EDPR was still able to take steps to achieve them. However, some areas could be improved. CO_2 avoided per capacity shows a negative trend since 2017. In 2020 alone, it decreased c.10%. EDPR's direct emissions are higher than the lowest value of 2017. Yet, this still represents less than 0.02% of the CO_2 avoided. Although the company is expanding, total waste has been decreasing YoY since 2017 and waste recovered is quite considerable (76% of total waste). However, not all expansion is safe. Their IC affecting protected areas increased 31.3% YoY in 2020, a trend since 2014, ranging between 16% and 21%.

Social

EDPR contributes to the communities surrounding farms and since 2013 channelled c.€14M to social investments. They are linked to EDP Foundation that promotes volunteering programs and investments that positively impact society. In 2009, the EDP Group and the United Nations launched the *Access to Energy* (A2E) initiative. A2E's main objectives are to improve refugees' life quality by implementing energy efficiency and clean water strategies.

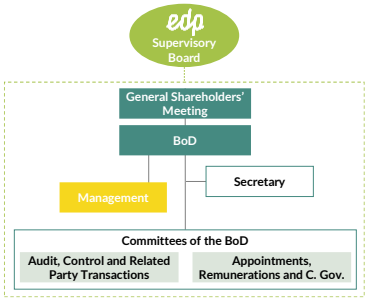
At the corporate level, EDPR's employee's turnover rate decreased over the last 3 years, from the 17% highs of 2018YE to 9% in 2020YE (industry avg. c.7%). EDPR's Social score (4.5) is below the industry (5.7) only due to this last metric. The number of employees grew at an average of c.10% for the past 7 years, and the metrics related to human capital development followed the same trend. Female employees represent 30% of the total workforce, and EDPR has set it as one of its sustainability goals to increase this figure. There were 24 industrial accidents in 2020YE, a concern for the company when compared to 2019 that only had 10 accidents. However, the integrated Health & Safety System is already in motion to reduce these numbers.

Figure 25: EDPR and EDP's shareholder structure (2021)



Source: EDPR, EDP

Figure 26: EDPR's Corporate Governance Structure



Source: EDPR

Table 7: EDPR's Management Team

Name	Position
Miguel Stilwell	CEO
Rui Teixeira	CFO
Duarte Bello	COO | Europe & LATAM
Sandhya Ganapathy	COO | NA
Pedro Vasconcelos	COO | APAC
Bautista Rodrigues	CTO & Offshore

Note: In green, the new members

Source: EDPR

Table 8: EDPR's SoP Price Target

Price Target				
	Model	g	%EV	€M
NA	FCFF	2.0%	49%	13,153
Spain	FCFF	0.8%	19%	5,000
Portugal	FCFF	0.7%	12%	3,202
RoE	FCFF	0.7%	11%	3,087
APAC	FCFF	2.9%	8%	2,017
LATAM	FCFF	2.6%	2%	418
OW	FCFE			1,687
Adjustments				(4,795)
Equity Value				**23,769**
# Shares (M)				961
Price Target (€/sh)				**24.7**

Source: Team Estimates

Table 9: EDPR's WACC per segment

	2022E	TV
Debt Ratio	28%	30%
Cost of debt	3.1%	3.1%
WACC	**2022E**	**TV**
Spain	4.1%	4.1%
Portugal	4.5%	4.5%
RoE	4.9%	4.6%
NA	3.6%	3.5%
LATAM	8.0%	8.0%
APAC	5.0%	4.7%
EDPR	**4.2%**	**4.3%**

Note: EDPR's WACC, weighted by EBITDA contribution, increases due to changes in portfolio (see Appendix 11)

Source: Team Estimates

Overall, no relevant risks are expected to EDPR's value coming from the Social component. We believe the current rating should lie between 5.7 and 7.0 since EDPR shows signs of improvement in the majority of the social metrics. Upcoming scores revision should reflect these changes.

Governance

Shareholder structure | A recent capital increase of €1.5B enlarged EDPR's free float to c.25%, reducing EDP's majority ownership to 75% (82.6% 2020YE). Yet, EDP's shareholders are the ultimate shareholders of EDPR (Figure 25). Among those, CTG has been playing an important part in EDPR's growth, since its relationship with EDP is at the centre of EDPR's AR strategy. The controlling perspective of EDP does not constrain voting rights of the minority shareholders. Yet, the majority control prevents them from influencing the decisions. Both EDP and EDPR are also intimately tied through EDP's General and Supervisory Board, as EDPR's strategic plans and performance are subject to its prior favourable opinion (Figure 26). This approach aims to strengthen the control of operations while providing guidance and assuring the effective management of the company.

Controversies | In 2020, EDPR's previous CEO and CFO were forced to step down after a judge's order in a judicial investigation of alleged corrupt practices. The market reaction to this event was not mild, with a c.1% decrease in EDPR's share price one day after the announcement and, after this, 10 more days of consecutive losses were realized (-7% accumulated). As a response, EDPR implemented changes to the governance structure to prevent future adverse outcomes. The executive committee of EDP moved directly into EDPR's executive committee and this approach ties closely with the General and Supervisory Board. Although the governance component was affected, EDPR still manages have higher EV/EBITDA multiples (proxy for management performance) compared to peers with better governance ratings (EDPR C+ vs. Iberdrola B-, Enel A- and RWE B).

Board of Directors | After recent changes, the number of Directors in the BoD decreased from 15 to 12 (2 Executive: EDP/EDPR's CEO and CFO) who have proven expertise and complementary educational and professional backgrounds in several fields. The term of office is three years, and the re-election of members is possible for multiple consecutive terms. The CEO and the Chairperson (Mr António Gomes Mota) roles remain separate, and governance was strengthened with an increase of the percentage of independent directors from 40% to 50%, including the Chairperson. Also, the percentage of women in the BoD increased from 13% to 33%, in line with the ESG best practices globally.

Management Team | The CEO (Mr Miguel Stilwell) and the CFO (Mr Rui Teixeira) are the same for EDPR and EDP. Announced at the beginning of 2022, the Management Team now counts with 6 members (Table 7), 3 of which are new (2 COOs and the CTO). After 10 years, a woman is again part of this governance body, an indicator lacking improvement. Besides that, the Team has a diverse representation, with all members having a successful journey outside, but especially, inside the EDP Group (average of 16 years).

Remuneration Policy | EDPR does not remunerate directly its Directors that are simultaneously EDP's Directors (Executive or Non-Executive). The company has an Executive Management Services Agreement with EDP, under which a fee is paid for the services provided by these members (in 2020, c.€960k for Executive and €135k for Non-Executive). The BoD members have a fixed remuneration (€45k-€80k in 2020). The Management Team has a fixed and variable compensation, with annual and multi-annual (deferred for three years) components, based on specified KPIs (including ESG and equity metrics). EDPR does not have any share remuneration or share purchase option plans as a remuneration component.

5. Valuation

For further details please refer to Appendix 1 to 20

Free Cash Flow to the Firm: A Sum-of-the-Parts Approach (SoP)

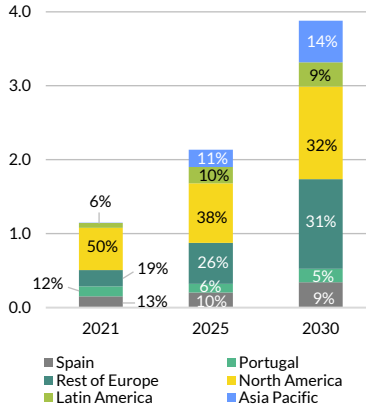
We value EDPR using a Discounted Cash Flow (DCF) method (Table 8). The company's presence in 25 countries heightens the need for a separate valuation of each region, leading to a FCFF (SoP) approach as the main method. Different WACCs are computed to accommodate divergent risks in each segment (Table 9). This approach yields a 2022YE price target of €24.7/sh, including a project-by-project FCFE valuation of *Ocean Winds* (OW). Additional approaches are used to complement the initial valuation.

Our assumptions follow the same rationale for every segment. Forecasted **Revenues** mainly depend on the ASP, IC and LF of each segment (Appendix 6, 7 and 8). New additions with higher efficiency compensate the older portfolio technology, allowing LF stability. **Core OPEX/MW** decreases -2% CAGR 2021E-26F, below the company's targets and -0.3% CAGR 2026F-30F, due to lower solar costs and economies of scale in new geographies, especially in APAC. **Gross CAPEX** is forecasted based on the gross additions of each country and its specific gross CAPEX/MW multiple, factoring issues such as supply chain constraints. **Net CAPEX** is adjusted to reflect the proceeds from AR. The **Core NWC** is based on EDPR's historical components of the cash conversion cycle and each segment's revenue.

North America (NA) | NA is EDPR's largest segment, representing 50% of 2021E's revenues. NA's ASP decreases c.0.1% CAGR 2021E-30F, due to two opposing effects. First, existing contracts are inflation indexed. Second, newer PPA contracts are fixing lower prices (€33/MWh 2030F compared to €37/MWh 2020 in the US), reflecting higher competition and decreasing costs. Solar technologies are expected to have the largest weight in net additions (c.60%), resulting in a c.1% CAGR 2021E-30F decrease in OPEX/MW for the region. The large tax benefits available in the region stimulate capacity additions, with IC in the segment growing at c.12% CAGR 2021E-30F (Appendix 12). While our base case considers the end of tax benefits after 2026, the segment's outlook remains stable, as PPA prices tend to adjust quickly to changes in costs.

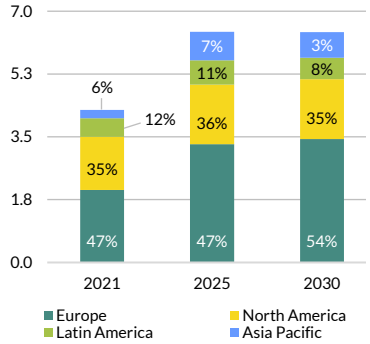
Spain | Spain is a historical region for EDPR, where it has operated almost since its inception (alongside Portugal). Additionally, it represents 17% of total revenues in 2021E. The incentives given by the Spanish government promote the installation of renewable technologies in the country. Unsurprisingly, EDPR's IC in this region is expected to grow at c.7% CAGR 2021E-30F, leveraged by its competitive position. This segment's ASP suffered a c.40% decrease from 9M20 to 9M21 due to an ineffective hedging strategy by the

Figure 27: EDPR's Operating Cash Flow without AR gains (€B)



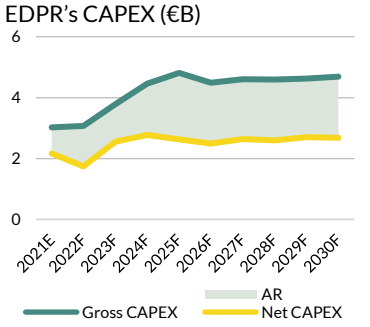
Source: Team Estimates

Figure 28: Gross CAPEX per region, 2021-2030 (€B)



Source: Team Estimates

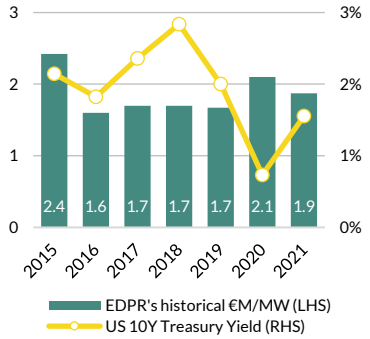
Figure 29: Asset Rotation's effect on EDPR's CAPEX (€B)



Source: Team Estimates

Figure 30: EDPR's AR multiples vs. US 10Y Treasury Yield (€M)

Note: *Low correlation (-0.31)*



Source: Refinitiv, EDPR announcements and analyst estimates

company. However, ASP is expected to bounce back to 2020 levels (avg. c.€72/MWh 2021E-30F). EDPR's CEO claimed it in the 9M21 results call and we foresee it as feasible.

Portugal | In 2021E, Portugal represents 10% of the IC. The growth of IC in the forecasted period is expected at a c.6% CAGR. Additions in this country are mainly driven by the decarbonization targets, incentives, and the ambition to maintain the 18.8% market share in the region (Table 2). ASP decrease is expected to be soft, following a c.-2% CAGR 2021E-30F. Overall, this segment's revenue comprises 13% of the total in 2021E. As one of EDPR's roots, Portugal will keep steadily growing in the company's portfolio.

Rest of Europe | By 2021E, RoE represented 16% of total revenues and 14% of total IC. After the expansion to the UK and Greece, EDPR is expected to start operations in Hungary by 2022, consolidating its presence in 8 different markets. For Romania and Belgium, no additions to IC are likely, whereas for the other countries we estimate a 21% CAGR from 2021E to 2030F. Also, due to the increasing number of auctions, ASP is expected to decrease within the 2024F-26F period and to remain stable onwards (Figure 9).

APAC | APAC is EDPR's smallest segment, representing 0.2% of the IC in 2021E. After Sunseap's consolidation (2022E), APAC's IC increase is estimated at c.34% CAGR from 2022F to 2030F. APAC will quickly surpass LATAM as the third-largest region for EDPR. Solar technologies will carry the biggest weight (c.74%) of APAC's IC by 2030F, followed by onshore wind and offshore wind projects. Given the high investment in CAPEX, the segment only becomes profitable in 2026F. Yet, the segment's outlook creates the opportunity for exponential growth in the following years.

LATAM | LATAM represents 5% of the IC in 2021E. In this region, governments are making efforts to change the energy mix of their countries, moving from a historical hydro market to cheaper renewable energy technologies. In addition to Brazil, EDPR announced its expansion to Colombia and Chile, fostering IC growth at 25% CAGR from 2021E to 2030F. As the number of operations expands in this segment, Core OPEX/MW decreases -2% CAGR, due to several reasons, among which economies of scale. However, ASP is considerably lower, given the transition from tariffs to PPA auctions in Brazil. In spite of the segment's potential, the current exchange rate scenario is severely unfavorable. Consequently, its potential is undervalued. Changes to this scenario could improve LATAM's performance in EDPR's portfolio.

Offshore | To value the 50% equity stake of EDPR in OW we performed a FCFE valuation based on 8 offshore wind projects with announced secured IC, guaranteed through long-term contracts (FiT, CfD or PPA). Assumptions for LF, OPEX, and CAPEX were made, considering the year of the investment, and the offshore wind technology used in each project (fixed or floating). Also, the debt ratio was estimated at 80% and interest was calculated based on EDPR's cost of debt (3.1%). After starting operations, each project has an expected useful life of 30 years and an estimated residual value of 15% of the total CAPEX invested initially. All cash flows were discounted using EDPR's 2022 cost of equity, considering the country of operation. Thus, the value created by OW to EDPR corresponds to €1,687M (7.1% of the price target).

Capex and D&A

In this period of expansion, CAPEX will severely impact EDPR's value (Figure 28). Total additions and CAPEX/MW multiples drive the overall gross CAPEX of the company. Since EDPR is expanding in existing and new geographies and technologies, different CAPEX/MW is assumed to capture both effects. Gross CAPEX is €3B in 2021E, eventually reaching c.€5B in 2025F. The NA and Europe segments consume around 75% of the total spending, given EDPR's extensive know-how and confidence in these regions. LATAM and APAC investments (12% and 13% of the total CAPEX) diversify the company's portfolio and serve as vehicles for the future growth expected in those regions. The proceeds from this AR strategy (excl. capital gains) reduce EDPR's actual CAPEX (Figure 29). This result is defined as net CAPEX, totalling c.€25B 2021E-30F. D&A rates for PP&E, right-of-use assets (RoA) and intangible assets were obtained historically. A detailed depreciation schedule was built for each region, both for historical IC and for new additions (Appendix 9).

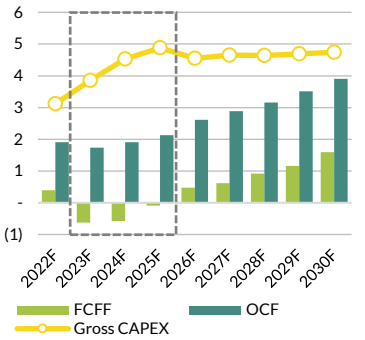
AR strategy

The AR strategy of EDPR is a driver of growth and profitability. Extensive detail on this topic is conducted. The company intends to sell c.33% of gross additions each year, with a reinforced target of 40% for the 2021E-23F period. However, this second target is rather optimistic. Our base case considers a target of 33% for the whole forecasted period. EDPR also announces the EV/MW multiples of their sell-down transactions (1.75x for onshore wind and 1.25x for solar), which effectively corresponds to the total proceeds received by the company per MW sold, including the effect of debt de-consolidation. Yet, we apply more conservative EV/MW multiples of 1.5x for onshore wind and 1.2x for solar projects. Even so, total proceeds 2021E-30F amount to c.€22B. According to its previous year IC, the capacity sold is distributed per country, with some adjustments (Appendix 10). Criticism common to the AR strategy is its reliance on low interest rates. Yet, Figure 30 leads to a different conclusion when looking at EDPR specifically. Additionally, we estimated the approximate contribution of this strategy to our price target to highlight its relevance. We used a DCF model to calculate the PV of the capital gains earned at EDPR's consolidated WACC. The AR strategy proves its worth with an €11.1 contribution to our price target.

Weighted Average Cost of Capital

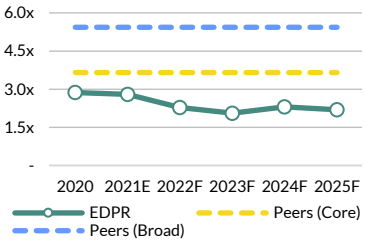
EDPR operates worldwide where risks, regulatory frameworks, and political incentives vary significantly. A specific WACC for each region is computed (Appendix 11). The **cost of equity** was calculated through the standard CAPM approach, with betas following the pure-play method with over 224 firms. The cost of equity ranges from c.4% to c.11%. EDPR's **cost of debt** was computed considering the 10-year normalized German Government Bond Yield as the RFR (0.5%), EDP's bond spread (1%) – since most of the company's debt is financed by EDP, with a better credit rating – and an additional spread of 1.6% (EDP's own spread for EDPR), reaching a pre-tax cost of debt of 3.1%. The cost of debt is assumed to remain constant over the explicit period, whereas the cost of equity fluctuates due to the changes in EDPR's financial leverage. Given the current inflationary period, we are using normalized risk-free rates to accommodate the expected increases in yields. Countries were bundled by regions and discounted using the region's discount rate, except for Spain and Portugal.

Figure 31: EDPR's FCFF, OCF and Gross CAPEX (€B)



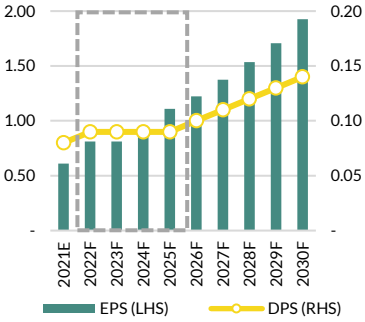
Source: Team estimates

Figure 32: EDPR's vs. Peers Net Debt to Adj. EBITDA (x)



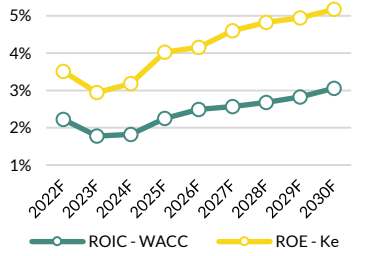
Source: Team estimates

Figure 33: EDPR's EPS and DPS



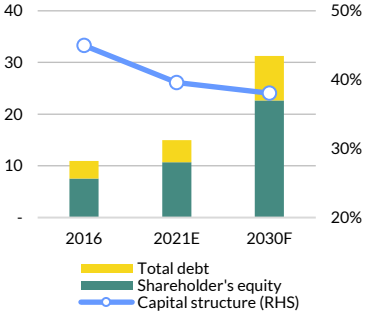
Source: Team estimates

Figure 34: ROIC spread to WACC vs ROE spread to Cost of Equity



Source: Team estimates

Figure 35: EDPR's Capital Structure



Source: Team estimates

FCFF and APV | A DCF model, where we discount EDPR's joint FCFF from each segment at the company's consolidated WACC, results in a €25.4/sh price target. APV points to €26.0/sh. Since these two models are also DCF approaches, similar results to the SoP FCFF approach confirm the robustness of the initial analysis.

Residual Income | This approach, based on economic value added (EVA®), is valuable in assessing EDPR's operations due to some observed FCFF volatility in the forecasted period and EDPR's rigorous project selection metrics (IRR/WACC > 1.4x and NPV/CAPEX > 25%). The dynamic between CAPEX and the AR strategy's value creation is also in play. Thus, we measure the value creation of EDPR's operations with the residual income approach, yielding a price target of €25.0/sh and confirming our recommendation.

FCFE | EDPR is in an immense investment phase, yet still has a relatively stable capital structure. This warrants the use of FCFE to triangulate the leading valuation. Calculating the Equity Value directly through this approach returns a €24.5/sh price target and points to an average c.3% FCFE yield during 2021E-30F, above EDPR's forecasted dividend yield of 0.5% (2022F).

Current Portfolio | EDPR already owns a solid portfolio as of 2021E, generating OCF of c.€1.3B/year. We estimate its value through a DCF model, where we forecasted operations until the end of the portfolio's average useful life and assumed no perpetual value. We reach a €17.0/sh, representing c.85% of the January 12th, 2022 closing price. Based on this analysis, our team believes the market undervalues EDPR's growth potential and its large pipeline (45GW).

Relative Valuation | After the Green Bubble, EDP's main competitors (EDF, Enel and Iberdrola) delisted and consolidated their renewable subsidiaries. This left EDPR as the only major listed pure-play renewable company. Thus, finding adequate peers for EDPR became challenging. Yet, we used relative multiples' valuation as a complement to the DCF method, considering P/E and EV/EBITDA multiples. For EDPR's peer group selection, the Sum of Absolute Rank Differences (SARD) approach was followed. Yet, some of the companies were not fully comparable with EDPR. Those were then replaced with more suitable companies. We selected 5 different firms (Enel, Iberdrola, Neoen, Ørsted, RWE) based on geographical locations, operational characteristics, and key financial indicators. Using the P/E ratio, we reach a price target of €26.5/sh whereas the EV/EBITDA yields €21.9/sh, which sustains our initial buy recommendation.

DDM | We performed a DDM analysis, considering several approaches such as the two-stage, single growth and H-model. Since EDPR is focused on growth, an explicit dividend policy is lacking, as the company intends to reinvest its earnings into operations. Thus, we considered the DDM inadequate as a valuation model.

6. Financial Analysis

For further details please refer to Appendix 4

EDPR's backbone: OCF | EDPR's FCFF will be volatile because of the aggressive CAPEX plans. The company's ambitious growth targets mainly explain this. LATAM and APAC are expected to become cash-flow positive only in 2026F. The FCFF for the remaining segments should only stabilize after 2025F. The CAPEX will be kept high, yet the new operational capacity added from 2021E-2025F should boost the OCF. The OCF is EDPR's main value driver, and its performance is exemplary compared to the selected peers, growing at an impressive 18% CAGR 2021E-26F (vs 10.7% peers). Towards the end of the explicit period, from 2026F to 2030F, FCFF grows rapidly at c.33% CAGR.

Operational Excellence | EDPR's Revenue/MW in 2020 of €130k took a major hit from 2019's €143k (c.-9%). While it is expected to bounce back in 2022 to €156k/MW (+20%), it should be at around €131k/MW by 2030F (-1% CAGR 2021E-30F), caused by an increasingly competitive market, thus lowering ASP. The trend will be similar regarding the costs they can manage – Core OPEX/MW -2% CAGR 2021E-26F. Together, these effects propel the Adj. EBITDA/MW to an average of c.€101k in the forecasted period, remaining stable throughout the forecasted period and above 2020's Adj. EBITDA/MW of €86k. As ASP trends are downward in the industry, OPEX improvements are crucial to maintain the LCOE stable.

Capital needs already covered | Despite belonging to a heavy capital industry, EDPR's balance sheet is very robust. Following the equity raise of €1.5B in 2021, its Net Debt/EBITDA is currently close to 2.2x, better than its peers' average (3.7x). Even without considering capital gains from AR, Net Debt/EBITDA is still 2.8x, best-in-class among peers (Figure 32). The interest coverage ratio also stands out at 4.9x in 2021E (peers' avg. is 3.1x). Financial strength is here to play a role in EDPR's growth ability. Plus, project finance is used to mitigate interest rate risk when possible. Its D/E ratio ranges from 39% to 46%, historically and in the forecasted period. As it stands, EDPR has already secured the capital needed to fund its 2021E-25F pipeline.

Outperforming the industry in liquidity | While EDPR does have its balance sheet ready to expand, risks come primarily from potential supply chain issues in sourcing components that can make CAPEX more expensive. The Cash Ratio is 0.17x in 2021E, compared to 0.28x historically (2016-2020) and with peers (0.3x). However, if we look at EDPR's Net Liquid Balance ratio, it points to an increase in liquidity, increasing from 1.02 in 2020 to 1.28 in 2021E. This is in line with EDPR's impressive CCC of c.-271 days, bringing a competitive advantage over most competition with an average of c.50 days CCC.

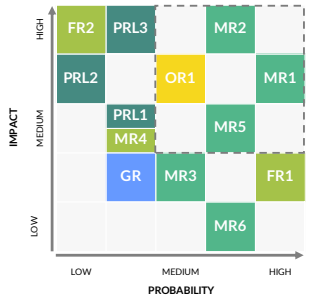
Profitability | Maintaining profitability while expanding is a key aspect of EDPR and the company has proven in the past to know how to tackle this balance. The company provided an OCF/Sales of c.52% in 2020. We expect this ratio to increase to c.71% by 2026F. Figures for 2020 are not likely to persist. As a large player in the renewable industry, EDPR has shown historically they can pass costs onto suppliers or through adjustments to electricity contract pricing. This ability has been helping to grow Adj. EBIT margin by c.300 bps compared to the historical average 2021E-26F (c.40%) compared to the historical average (c.37% in 2016-20). From 2019 to 2020, the Net Profit margin (NPM) decreased 420 bps to 13.8%, mainly due to overall lower wind resources and a soft increase in CAPEX and OPEX. The pandemic may have also played as a destabilizing factor. Yet, the bottom line will continue positive, driven by a complementary portfolio after the solar expansion, APAC's higher ASP than other segments and *OW*turning profitable.

Table 10: EDPR's vs. Peers Div. Yield

	Dividend Yield
EDPR	0.4%
Peers (Broad)	1.6%
Peers (Core)	3.4%

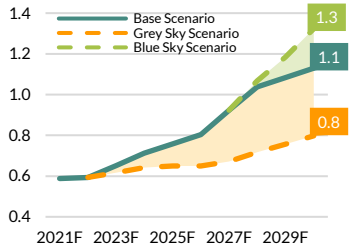
Source: Refinitiv

Figure 36: Risk Matrix



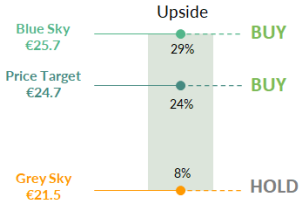
Source: Team Estimates

Figure 37: Forecast of EDPR's Adjusted EBITDA in the US (GW)



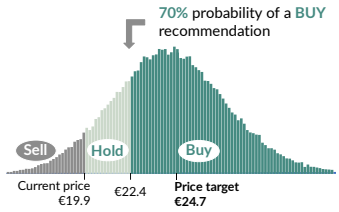
Source: Team Estimates

Figure 38: Scenario Analysis – Extinction of PTC and ITC (€/sh)



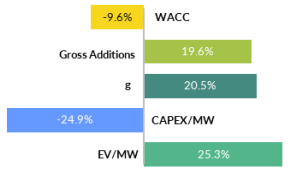
Source: Team Estimates

Figure 39: Monte Carlo Simulation



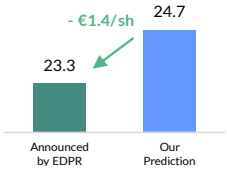
Source: Team Estimates

Figure 40: Contributions to Monte Carlo Simulation



Source: Team Estimates

Figure 41: EDPR's IC Target VS Base Case IC



Source: Team Estimates

Value creation | EDPR's explosive growth does not compromise value creation, as long as the company keeps the rigorous project's assessment with IRR > WACC of 1.4x and NPV/CAPEX of c.30%. Recent inflation warnings may pressure yields upwards, yet EDPR has a vast revenue inflation-adjusted portfolio. ROIC increases throughout the whole forecasted period, thus increasing the spread to the WACC (Figure 34). The gap from ROE to the cost of equity follows the same path of shareholder value creation. Another essential value measure is its yearly average EVA® of €908M (2021E-30F), further proof of the effectiveness of EDPR's framework.

Dividends | EDPR's first dividend payment goes back to 2013. Better long-term earnings forecasts have triggered dividend increases. The evolution has been timid, since EDPR's focus is on expansion and EDP's wish is to keep profits within the group. The parent company tried in 2017 to squeeze out, but the premium was too low for the remaining shareholders to forego their stake. The low Dividend Yield is expected to continue (0.5% 2022F), given their CAPEX and their forecasted cash flows. We see EDPR's dividend policy to evolve mostly when CAPEX stabilizes. After that, we expect it to converge to the industry average (Table 10). The DPS has been raised 4x over the last 8 years, going from €0.04 in 2013 to double in 2020. We estimate EDPR to have room for gradual increases of dividends, forecasted as 7x until 2030F, to reach a range of €0.14-€0.17. The aggressive policy is in line with the current payout ratio of c.16% in 2021E.

7. Investment Risks

For further details please refer to Appendix 23 to 25

Market Risk | Competition (MR1)

Major Oil & Gas and utility companies started entering the market, putting pressure on prices. This increases the likelihood of EDPR not earning the targeted capacity in tenders, jeopardizing its value creation. Mitigation: Target of -2% CAGR of Core OPEX/MW by 2025, allowing EDPR to remain competitive.

Market Risk | Material and equipment (MR2)

According to IEA, an international energy agency, there is a frightening discrepancy between the global emissions targets and the availability of critical minerals required to develop power grids, wind turbines and storage units. Supply chain disruptions caused by the COVID-19 intensified this situation, increasing the prices of materials used in the construction of wind turbines and solar panels. Mitigation: Short term risk is minimal, since EDPR has existing agreements with the top suppliers. Medium term risk is more significant given the lower visibility for the solar supply chain. EDPR closely monitors suppliers and drafts their contracts considering CAPEX to reduce risk. They may also use hedging instruments. We estimate that a ±€10k change in the CAPEX/MW would lead to a price target between the range of €22.5/sh and €27.2/sh.

Operational Risk | Weather conditions and natural disasters (OR1)

Meteorological conditions may vary unexpectedly, leading to a lower generation or even damage EDPR's physical assets. This triggers over costs and delays in COD and which affects the company's value creation. Mitigation: EDPR relies on a geographical and technologically diverse portfolio and, analyses the use of financial products to hedge this risk. Hybridization is a future measure to mitigate this risk.

Market Risk | Exchange Rates (MR5)

Due to its international operations, EDPR seeks financing in the same currency as the revenues of the projects it invests in. Also, payments to suppliers may be denominated in different currencies. EDPR's greatest exposure is to the EUR/USD exchange rate since 43% of their 2021E revenues come from the US. Mitigation: EDPR uses cross-currency interest rate swaps and foreign exchange forwards to mitigate the risk. Due to the high costs associated with some of these strategies, this risk is not entirely eliminated. We estimate that a ±2% change in the EUR/USD would lead to a price in the range of €23.2/sh and €26.4/sh.

Political, Regulatory and Legal Risk | Extinction of PTC and ITC in the US (PRL3)

In the US, the continuity of renewable tax credits for farms starting construction after 2021 is still uncertain. PTC's termination is currently scheduled for 2022 and ITC will be significantly reduced after 2023. Our price target reflects expectations that both will be fully extended until 2026 through the Build Back Better Act (Base Scenario). Since their inception, the PTC and ITC have been planned to end several times, however these have been continuously renewed, even under Republican presidencies. Hence, two other scenarios were considered: (i) both expire after 2021 (Grey Sky), and (ii) both are continuously renewed and still available in 2030 (Blue Sky) - Appendix 23.

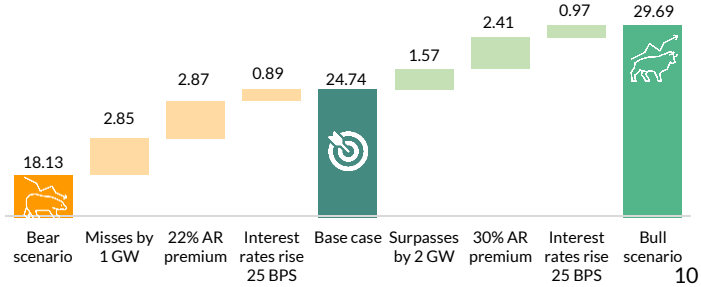
Sensitivity and Scenario | EDPR's key variables are very stable. Its ability to pass costs through suppliers and electricity contracted prices is expected to continue. Additionally, the company has rigorous project selection metrics and several measures in place to reduce volatility. To reflect this in our sensitivity analysis, we considered small changes when stressing such variables (ASP, CAPEX/MW, EV/MW, WACC, USD/EUR, Terminal Growth). As expected, CAPEX/MW and EV/MW have the biggest impact on the price target. Yet, most of the scenarios still point to a buy recommendation. Our bull and bear scenarios are highlighted in Figure 43. As a supplementary analysis, EDPR's target scenario of reaching 19.8GW of IC additions by 2025 was contrasted with our base scenario (20.8GW), which yields a price target of €23.33/sh (Figure 41).

Figure 43: Sensitivity Analysis

ASP \ CAPEX/MW (€k)	780	785	790	795	800
47.23	25.3	24.1	22.9	21.8	20.6
49.23	26.2	25.1	23.8	22.7	21.6
51.23	27.2	26.0	24.8	23.7	22.5
53.23	28.0	26.9	25.6	24.5	23.4
55.23	28.9	27.7	26.5	25.4	24.2

EUR/USD				
1.11	1.13	1.14	1.15	1.16
26.4	25.6	24.7	24.0	23.2

Figure 42: Scenario Analysis



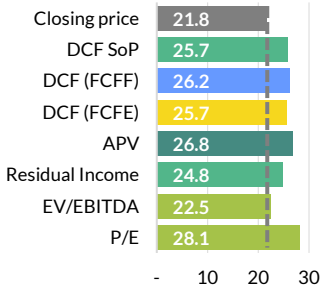
EDPR: Electrifying the World

EDPR drives the renewable energy sector as a global leader, with an operating portfolio surpassing 13GW. With solar and wind projects to deliver clean energy, we believe strong winds will blow EDPR's share price upwards.

INVESTMENT RECOMMENDATION	
Price target (2022YE)	€ 25.7
Upside	18%
Closing Price (Mar 7, 2022)	€ 21.8
Stock Exchange	Euronext Lisbon
Industry	Renewables
Ticker (Refinitiv)	EDPR.LS
52w Price Range (€)	16.6 - 25.1
52w Daily Volume	1,055k
Shares Outstanding	961M
Market Cap (Mar 7, 2022)	20.9B
Free Float	25%

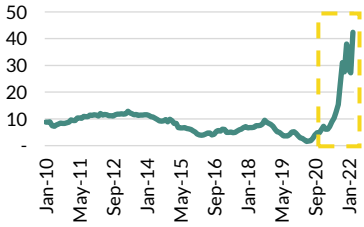
Source: Refinitiv, Team Estimates

Figure 44: EDPR's updated Price Target (€)



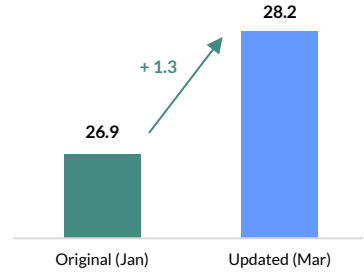
Source: Team Estimates

Figure 45: Natural gas prices – Europe (monthly – US$/mmbtu)



Source: International Bank for Reconstruction and Development / World Bank

Figure 46: EDPR's EV in 2022YE, before and after the update (€B)



Source: Team Estimates

8. Update – Military invasion of Ukraine

BUY is our updated recommendation for EDP Renováveis, S.A. (EDPR) with a price target of **€25.7/sh** for 2022YE using a DCF model, with a Sum-of-the-Parts (SoP) approach. Our forecasted price implies an **18% upside** potential from the March 7th, 2022 closing price of €21.8/sh, with a **medium-low risk**. Our recommendation is based on **three main pillars:** (1) EDPR's robust cash flow from operations, (2) the company's impressive asset rotation (AR) strategy, and (3) the expansion to the East. Our additional valuation methods still support this recommendation (Figure 44).

The first version of this report was finished on January 16th, 2022. Since then, the world has changed. The military invasion of Ukraine, which started on February 24th, 2022, has sent shockwaves throughout the world's economy. Commodity prices have increased sharply, inflation has risen, and supply chain pressures intensified, worsening the effects of the COVID-19 crisis.

Russia's invasion of Ukraine has driven already high energy prices even higher, as the country is one of the world's largest producers of natural gas and oil. Since the European wholesale electricity market works based on marginal pricing, rising natural gas prices (Figure 45) have spiked the price of electricity. Also, Europe is very dependent on Russia's energy. Thus, the invasion is expected to add more urgency to Europe's efforts to break its dependence on Russian oil and gas, by diversifying its suppliers and investing in renewables. This could prompt a long-term shift towards the energy transition with a higher penetration of RES, such as wind and solar, to ensure a reliable energy supply.

These circumstances affect, and will continue to affect, EDPR's operations. Therefore, we updated our investment recommendation in order to reflect the current outlook. For EDPR, the most direct consequence of Russia's invasion of Ukraine is the rise in wholesale electricity prices. We considered an increase in merchant electricity prices, from 2022 to 2024, in the European countries where EDPR has merchant exposure. Compared with our previous recommendation, and on average, we increased these prices by 78%, or €88/MWh (from €113/MWh to €201/MWh)

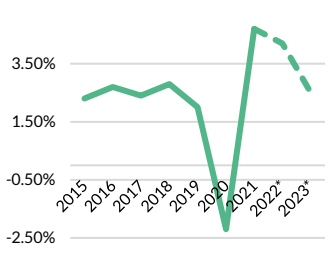
The surge in inflation and the supply chain constraints observed are causing the cost of materials to increase. As such, in 2022 and 2023, we considered an increase in the CAPEX/MW premium of 20% (+10 p.p.) and 40% (+15 p.p.) in wind and solar technologies, respectively. Previously, we considered a premium due to COVID-19's effect on the supply chain. However, these have worsened with Russia's invasion of Ukraine. Together with high inflation, we consider that these factors will create added pressure in the renewables supply chain. It will cause wind turbine and solar panel suppliers to raise their prices, as their margins are already extremely low or even negative. This effect is even harsher in solar technology, since its supply chain is not very diverse, with c.75% stemming from China. The recent increase in merchant electricity prices does offset this partially, and the long-term contracts the company signs (such as PPAs) adjust quickly to increases in CAPEX. EDPR announced that the pricing of new PPAs fully reflects higher material costs and allows the company to, at the very least, maintain its usual profitability.

Since there is a significant rise in CAPEX costs in solar technology, we considered a slight adjustment in the price at which EDPR sells its solar projects. We increased the solar asset rotation multiple to €1.25M EV/MW (+0.05), which is in-line with the company's recent track-record. However, our overall asset rotation multiple assumption remains conservative, since we assume an average EV/MW of €1.38M, while EDPR has maintained an historical average EV/MW of c.€1.7M in this strategy.

Furthermore, the geopolitical uncertainty caused by the invasion is causing a multitude of problems. Following these energy price shocks, inflation is expected to remain very high. On February of 2022, the US inflation increased to a 40-year high of 7.9% and, in Europe, projections were updated to an average of 5.2% in 2022. The Federal Reserve has already taken measures to combat this by raising interest rates; the ECB will follow suit. Hence, we adjusted upward (+1.3 p.p.) the market risk premium in 2023 in Europe, NA and China. This caused EDPR's overall WACC to increase by 0.3 p.p. in this same year.

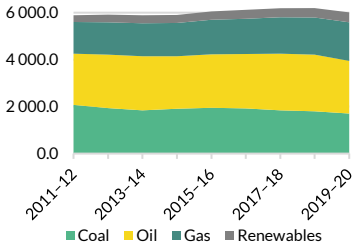
As a result of the aforementioned adjustments, our estimation of EDPR's EV in 2022YE increased by €1.3B (Figure 46**Figure 46:** EDPR's EV in 2022YE, before and after the update (€B)), and so did the price target of our investment recommendation (+€1.0/sh). Using the DCF SoP Approach, the price target rose to €25.7/sh, approximately 4% higher than our previous assessment presented in January. This update does not change the relevance of the three drivers of our recommendation nor its nature, a buy. In fact, we reinforce our belief that it pays off to be in Green, as EDPR is a leading player in the sector, expected to install c.50GW of RES until 2030, contributing to the reduction of the dependence on fossil fuels worldwide.

Figure 47: Real GDP Growth



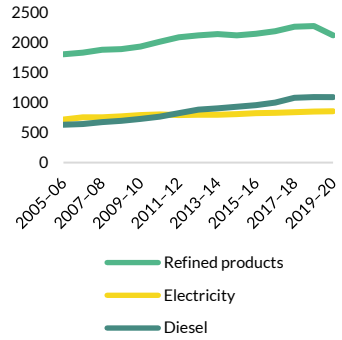
Source: IMF

Figure 48: Australian energy consumption, by fuel type (Petajoules)



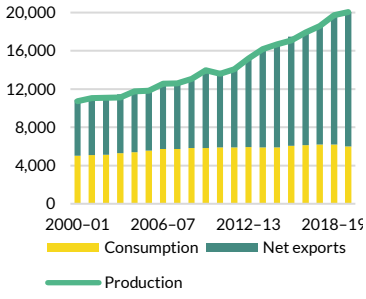
Source: Department of Industry, Science, Energy and Resources (2021), Australian Energy Statistics

Figure 49: Australian final energy consumption (Petajoules)



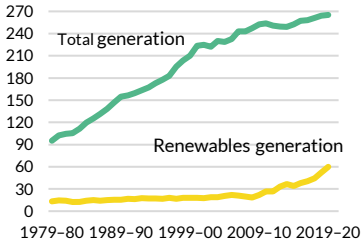
Source: Department of Industry, Science, Energy and Resources (2021), Australian Energy Statistics

Figure 50: Australian Energy Balance (Petajoules)



Source: Department of Industry, Science, Energy and Resources (2021), Australian Energy Statistics

Figure 51: Australian Electricity Generation (Terawatt hours)



Source: Bloomberg

9. Australia: Successful (Over)Diversification

Economic Outlook | Australia is one of the most developed countries in the world. It has a population of 25.8 million, with an annual growth of 0.3%. Over the past few years, Australia's economic growth has been through ups and downs (**Figure 47:** Real GDP Growth). It slowed down from 2018 (2.8% YoY) to 2019 (2% YoY), in 2020 the growth was negative (-2.2% YoY) and rebounded in 2021 (4.7%). In 2020, according to the world bank, Australia's GDP represented 1.18% of the world's economy and, according to the OECD, it is expected to grow by 4.2% in 2022 and 2.5% in 2023. Australia's main export partners include China (36.5%), Japan (10.4%), the EU (3.8%), Korea (5.6%), the US (6.2%) and India (3.9%). Due to its history and geographical location, it is a country still rich in natural assets (coal, iron, copper, gold, natural gas, uranium, and renewable resources), which attracts high levels of foreign direct investment.

Exports and Imports | Australia's natural resources grant it several opportunities when it comes to energy production. Most of it is exported, in fact, in 2019-20, its net exports were equal to c.70% of total production. A c.2% increase from 2018-19 was fuelled by the exports' growth of 3 fossil fuels, liquefied natural gas (6%), crude oil (15%) and liquefied petroleum gas (48%). Energy imports, on the other side, fell by c.7% in 2019-20. Most of their imports are related to refined petroleum products and other refined feedstock (a combination of products derived from crude oil). This drop is in response to lower demand from the transportation sector, and the rise in the energy output of the country. The leaders of the country know that to achieve their targets and comply with global treaties, such as the Paris Agreement, a harder push for the energy transition must be done. Not only the investment in clean sources must be intensified, but also a decrease in the dependence on fossil fuels needs to be notable in the economy.

As one can easily gather, Australia is heavily dependent on its energy exports. As the world is decarbonising, countries will have to make the shift to clean energy. Australia knows it will have to substitute its exports with a clean fuel that has a small footprint: enters hydrogen. Hydrogen is expected to lead the way in decarbonisation, as it can be used for fuel, feedstock for manufacturing industries, heavy transport, and electricity peaking generation (plants that are only active when demand is higher than what is considered normal). Its exports are a suitable substitute and could supply other countries that do not have the means to meet their own demand. Moreover, research suggest that Australia will be among the countries with the lowest LCOE when it comes to renewable hydrogen. Given the right incentives, and knowing how much Australia will depend on hydrogen, only adds to the fact that EDPR should add the country to their portfolio. Also, this would accelerate the growth of the business unit that EDPR had already created focused on hydrogen.

Incentives | Since 2017, an AUD18.4 billion investment in large-scale renewable projects was used to install 9.3GW and has created more than 35 thousand jobs. Until 2015, this type of investment would seem impossible given that the prime minister, at the time, considered the target for renewables unattainable. To this day, he publicly speaks against renewable targets and subsidies, as he believes this change could damage the country. Although his rationale does not make sense, his large following backs his opinion. This regressive thinking allowed for the continuation of heavy fossil fuel subsidies (AUD 11.6bn in 2021-22), which surpassed the amount spent on education.

Despite all the setbacks, renewable energy represented c.33% of total electricity generated in 2021. This represents a 5 percentage points increase from 2020. The sector is growing at its fastest pace, almost doubling showing signs of the acceleration in the transition and proving that a future with net-zero emissions is possible. Nonetheless, there is still a long road ahead. Coal still represented c.59% of the electricity generation source in 2021. The Australian government must commit to the cause by cutting the subsidies given to fossil fuel related companies and steering investors' money to clean energy producers.

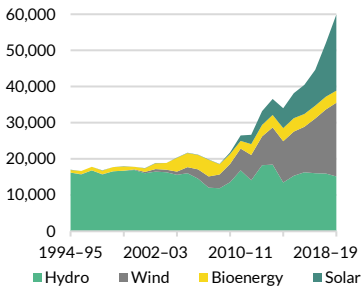
With the appropriate incentives and leadership, Australia could become one of the global clean energy export superpowers. The 2022–23 Budget is set to put Australia on track to achieve net-zero emissions by 2050.This budget was presented in April 2022, and it allocates AUD 1.3bn to reduce emissions and maintain energy security. It will be a difficult transition, given that one political party is resisting to the idea of phasing-out coal. Nonetheless, the market size of electricity retailing is c.$40bn so, even a slow transition allows for new green players to enter the market and capture a considerable market share. The focus is to support clean energy production and facilitate the private sector investment in low emission technologies. It is also aligned with their national hydrogen strategy and other targets such as increasing of renewables generation to 72% in the National Electricity Market.

The Australian government has committed more than AUD 22bn of public investment in low emissions technologies by 2030. However, while investments in clean energy transition have increased by more than 185% over the past decade, investment levels will need to triple to US$2.1bn (AUD 3.1bn) per year from 2022 to 2025. Furthermore, if the world is to reach its goal of net-zero emissions by 2050, the value needs to then double again to US$4.2bn (AUD 6.11bn), between 2026 and 2030.

Electricity Consumption | Due to the recent war in the eastern block of Europe, inflation and supply-chain disruptions, energy prices have been soaring. The Australian authorities have legislated a temporary reduction in the fuel excise tax, but it is only valid (or in place) until September 2022. Moreover, China's recent lockdowns have hindered even further the supply-chain issues that Australia has been facing. In the last decade, there has been an average growth of c.0.7% in energy consumption. However, Australia's severe restrictions led to a reduction of energy consumption of 1.68% in 2020 and, in 2021, a reduction of 1.98%. During the last 2 years, energy use fell in most sectors – in the commercial sector due to COVID-19, in agriculture due to drought, and in manufacturing due to sugar and petroleum refining.

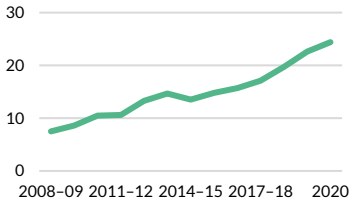
Even more, the largest reduction was in the transportation sector (9%), because of travel restrictions. However, the sector remained the largest user of energy, with a 27% share. Yet, due to more people staying home, residential energy use increased, as well as in the mining sector, following iron ore and liquified natural gas export. Although energy consumption had a decline, energy productivity (GDP/Energy Production) rose

Figure 52: Australian Electricity Generation from Renewable Sources (GWh)



Source: Bloomberg

Figure 53: Australian Electricity Share from Renewable Sources (%)



Source: Statista

Table 11: Australia's Discount Rate

Risk Free Rate	4.1%
BetaLevered	0.55
MRP	6.4%
Cost of Equity	**7.6%**
Cost of Debt	**3.1%**
Tax Rate	30.0%
WACC	**6.0%**

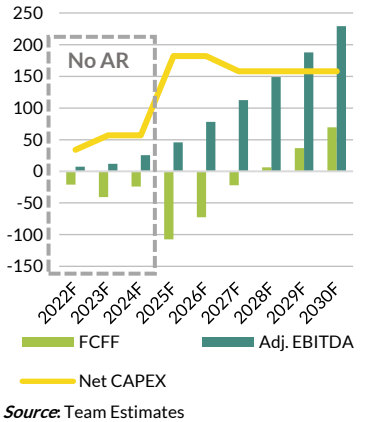
Source: Refinitiv, Team Estimates

Table 12: Comparison between main variables, Australia vs EDPR current Portfolio

	Australia	EDPR	Δ (%)
WACC	6.0%	4.4%	22%
Load Factor - Wind	35.0%	32.5%	8%
Load Factor - Solar	28.0%	20.7%	35%
Terminal Growth	1.8%	1.5%	16%
ASP	€66	€54	22%

Source: Team Estimates, Department of Industry, Science, Energy and Resources (2021), Australian Energy Statistics, Refinitiv,

Figure 54: Australia's cash flows if added to EDPR's Portfolio



Source: Team Estimates

by 2.7% in the same period. Over the past ten years, energy productivity has increased by 21%. In fact, for every petajoule of energy consumed (amount of energy used by 19,000 homes in a year), Australia creates 324 million US$ in GDP. The country has been pushing for reforms that have as a main goal reducing GHG emissions. In 2021, the renewable energy industry accounted for 32.5% of total electricity generation (an increase of 5% YoY), due to a rise in solar and wind farms. Given the recent events, the transition towards a greener economy should be further encouraged.

Electricity Production | In 2019-20, energy production rose by 2%, because of increased natural gas and oil extraction. An increase in production in the Northwest led natural gas extraction to grow by 8%, naturally occurring liquified petroleum gas by 48%, and crude oil and condensate production by 18%. Since Australia has a firm plan to transition to green energy, black coal production and brown coal production fell by 2% and 4%, respectively. The share of renewables vs fossil fuels electricity generation has been increasing. In 2019, fossil fuels accounted for 76% of electricity generation and renewables for 24%. As of 2020, renewables had a share of 28% and, in 2021, 33%. According to the Australian "Clean Energy Council", in FY2021, total installed wind capacity rose c.23% (1.75GW), whereas solar capacity grew 26% (4.7GW).

However, EDPR should penetrate this market through Solar DG. This segment is five times bigger when compared to 2017 and has caught the attention of the Australian population has a way to reduce energy costs. EDPR will have to enter the market knowing that some companies have already established themselves in this market. Nonetheless, there is still much market share to grab. As to any other country that EDPR adds to its portfolio, local players will already be present. No matter what size its competitors are, in the energy sector, the winner is the one that has the best technology and capital to remain price competitive overall. In the end, whether one is an individual or a multinational, electricity remains the same, the only difference is the price.

(Over)Diversification | A standard stakeholder can perceive further investment, like the expansion to Australia, or the creation of new segments, as unnecessary. However, as we have claimed, technological diversification helps renewables to have a steady stream of electricity production. All in all, despite segmenting wind, solar and storage, it is all meant to produce and sell one final product, electricity.

As we are arguing that an expansion to Australia would be of value to EDPR, we are in the geographical diversification realm. The literature on the impacts of international diversification is of general nature. In fact, as of today, only two studies specific to the energy sector are found. One study is by Li et al. (2016), which has analysed the relationship between Chinese listed companies and regional diversification, concluding that renewables expansion to other regions is beneficial, contrary to non-renewables. The other, focused on energy companies in Western Europe, authored by Westerman, De Ridder and Achtereekte, found, through a multivariate analysis, that international diversification has a significant negative impact on firm performance. Such contradictory studies show the need of further research on the topic. Since EDPR's IPO, the market has positively reacted to its new expansions, and the company's strategy only allows for controlled and certain growth. This makes it a prime example to defend that geographical (over)diversification should not be a problem for pure-play renewable companies, if they were to follow such a strict strategy. In fact, its presence in several markets created a clear and undeniable competitive advantage.

Valuation | To assess this new addition to EDPR's portfolio, a DCF method is the one that suits better, a SoP to be more specific (Appendix 26). The WACC used to discount the cash flows considers the risk involved in investing in equities nowadays and for EDPR to expand to Australia (Table 11). To keep the valuation consistent with the other countries in the region, Core OPEX/MW, and Core NWC are in line with Australia's cost of labour and EDPR's historical costs. The Gross CAPEX is adjusted considering the minimum MWs that EDPR should install per farm to be considered for the Large-scale Renewable Energy Target. Hence, in our estimation, EDPR installs 100MW of solar farms every year, easily achieved with the presence of Sunseap in APAC. When it comes to wind, the same 100MW are installed every year starting in 2025, which is when we believe Sunseap will have a large enough presence to begin installing and operating wind farms.

If the company complies with this course of action, it may create Large-scale Generation Certificates (LGCs) for the renewable electricity they produce. This is an amazing incentive for renewable firms since liable companies have to purchase a certain amount of electricity from clean sources every year, which is facilitated through LGCs. The AR proceeds are considered by maintaining EDPR's sell-down ratio. However, the AR strategy only begins in 2025, which is when we estimate the start of wind projects in this segment and when they capture a substantial market share. The Net CAPEX is adjusted taking this into consideration. The ASP and the LF were obtained through independent sources, and they are conservative according to the average of the country. The terminal growth used is the expected GDP growth of the country from 2030 onwards (Table 12). If EDPR invests just c.€1.1 billion throughout this project until 2030 (Figure 54), it could add an extra €820 million in enterprise value, which is an added upside of c.4% considering the March 7th closing price.

Conclusion | Since literature is ambiguous, and EDPR proves to be a successful case when it comes to geographical diversification, one can take away that project selection plays a key role on the outcome of the expansion. In spite of this valuation being conservative, EDPR would be adding almost as twice to their share price when compared to LATAM. The optimal plan for EDPR would be to drop the projects in countries that are not adding as much value to its portfolio (Mexico, Chile, and Colombia), which could function like their AR strategy. EDPR can make use of its financial flexibility to seize this opportunity and, since Australia will become one of the next clean energy superpowers, entering the market now will only be beneficial. Not only would they be able to accelerate the growth of their hydrogen business unit, which would stabilize production, but also create the capability of exporting energy. As a final remark, we believe EDPR has a clear advantage over its competitors. Entering promising markets such as Australia, would make them a candidate to become an undisputed leader in renewable energy and also, in the future, the whole energy sector. After becoming profitable and achieving a steady income stream in their primary region, there is a plethora of incentives to start expanding.

Appendices

Appendix 1: Statement of Financial Position and Common-size

CONSOLIDATED BALANCE SHEET (€M)	2019	2020	2021E	2022F	2023F	2024F	2025F	2026F	CAGR 21-26	2021E % Assets	2026F % Assets
Non-current Assets	**16,118**	**16,630**	**18,947**	**20,757**	**22,444**	**25,140**	**27,630**	**29,503**	**9%**	**93%**	**92%**
Property, plant and equipment, net	13,264	13,492	14,932	15,853	17,444	19,123	20,531	21,717	8%	73%	68%
Right-of-use asset	616	674	720	764	841	922	989	1,047	8%	4%	3%
Intangible assets	290	314	344	379	423	473	530	588	11%	2%	2%
Goodwill	1,199	1,223	1,298	1,599	1,599	1,599	1,599	1,599	4%	6%	5%
Investments in JV & Assoc. and Equity instrum. at FV	476	488	458	429	399	360	392	446	(1%)	2%	1%
Deferred tax asset	126	122	122	122	122	122	122	122	-	1%	0%
Trade Receivables and debtors/other assets from comm. activ.	19	23	25	28	31	36	40	45	13%	0%	0%
Other Debtors/other assets and collateral deposits (fin. debt)	128	294	1,049	1,582	1,585	2,505	3,426	3,940	30%	5%	19%
Current Assets	**1,574**	**1,532**	**1,479**	**1,723**	**2,177**	**2,020**	**2,327**	**2,423**	**10%**	**7%**	**8%**
Inventories	34	55	42	55	62	72	76	89	16%	0%	0%
Trade Receivables	228	200	265	317	333	368	427	486	13%	1%	2%
Debtors/other assets from comm. activ. and others	449	641	642	658	664	672	683	699	2%	3%	2%
Tax Assets, Assets held for sale and collateral deposits (fin. debt)	281	162	165	165	166	168	170	169	1%	1%	1%
Cash & Cash Equivalents	582	474	366	528	952	740	971	980	22%	2%	3%
TOTAL ASSETS	**17,693**	**18,163**	**20,427**	**22,480**	**24,620**	**27,160**	**29,956**	**31,926**	9%	100%	100%
Share capital + share premium	4,914	4,914	6,402	6,402	6,402	6,402	6,402	6,402	-	31%	20%
Reserves and retained earnings	1,584	1,878	2,357	2,856	3,550	4,243	5,032	6,001	21%	12%	19%
Consolid. net profit attrib. equity holders (parent)	475	556	585	780	780	875	1,065	1,174	15%	3%	4%
Non-controlling interests	1,362	1,276	1,384	1,514	1,652	1,804	1,990	2,194	10%	7%	7%
SHAREHOLDERS' EQUITY	**8,335**	**8,624**	**10,728**	**11,552**	**12,384**	**13,325**	**14,489**	**15,771**	8%	53%	49%
Non-current Liabilities	**6,900**	**7,412**	**7,585**	**8,357**	**9,450**	**10,767**	**12,077**	**12,436**	10%	37%	39%
Medium/Long-term Financial Debt	2,599	3,450	3,712	3,980	4,310	4,894	5,525	5,152	7%	18%	16%
Provisions	272	310	310	310	310	310	310	310	-	2%	1%
Deferred Tax liability	355	427	427	427	427	427	427	427	-	2%	1%
Institutional Partnerships in the US	2,290	1,934	1,829	2,171	2,822	3,433	3,991	4,564	20%	9%	14%
Trade and Other Payables from Comm. Activities	460	439	422	557	610	673	747	871	16%	2%	3%
Other liabilities and other payables	924	853	886	913	971	1,030	1,077	1,113	5%	4%	3%
Current Liabilities	**2,458**	**2,126**	**2,114**	**2,571**	**2,786**	**3,068**	**3,390**	**3,718**	12%	10%	12%
Short-term financial debt	818	497	537	576	624	709	800	746	7%	3%	2%
Provisions and Other liabilities and other payables	278	173	173	177	181	187	190	194	2%	1%	1%
Trade and Other Payables from Comm. Activities	1,269	1,346	1,293	1,708	1,871	2,063	2,290	2,669	16%	6%	8%
Current tax liabilities	93	110	110	110	110	110	110	110	-	1%	1%
TOTAL LIABILITIES	**9,358**	**9,539**	**9,699**	**10,928**	**12,237**	**13,835**	**15,467**	**16,155**	11%	47%	51%
TOTAL EQUITY AND LIABILITIES	**17,693**	**18,163**	**20,427**	**22,480**	**24,620**	**27,160**	**29,956**	**31,926**	9%	100%	100%

Appendix 2: Income Statement and Common-size

CONSOLIDATED INCOME STATEMENT (€M)	2019	2020	2021E	2022F	2023F	2024F	2025F	2026F	CAGR 21-26	2021E % Rev	2026F % Rev
Electricity sales and other	1,642	1,529	1,769	2,216	2,402	2,639	2,998	3,465	14%	93%	94%
Income from institutional partnerships	182	202	127	129	164	187	202	218	11%	7%	6%
Total revenue	**1,824**	**1,731**	**1,897**	**2,345**	**2,566**	**2,826**	**3,199**	**3,683**	**14%**	**100%**	**100%**
Other income	400	498	412	424	409	535	677	639	9%	22%	17%
Asset rotation capital gains	313	444	342	337	315	431	559	503	8%	18%	14%
Other operating income	86	54	69	87	94	104	118	136	14%	4%	4%
Operating costs	(440)	(446)	(568)	(665)	(728)	(815)	(949)	(1,085)	14%	(30%)	(29%)
Supplies and services	(309)	(304)	(327)	(361)	(399)	(450)	(531)	(613)	13%	(17%)	(17%)
Personnel costs	(131)	(141)	(119)	(136)	(156)	(181)	(212)	(237)	15%	(6%)	(6%)
Other operating costs	(136)	(123)	(122)	(169)	(173)	(184)	(206)	(235)	14%	(6%)	(6%)
Share of profit from JV and associates	3	(6)	(8)	0	3	(1)	73	101	(265%)	(0%)	3%
EBITDA IFRS	**1,651**	**1,655**	**1,733**	**2,103**	**2,250**	**2,545**	**3,001**	**3,339**	**14%**	**91%**	**91%**
D&A and Provisions	(593)	(601)	(673)	(765)	(869)	(994)	(1,134)	(1,275)	14%	(35%)	(35%)
EBIT IFRS	**1,059**	**1,054**	**1,060**	**1,338**	**1,382**	**1,551**	**1,867**	**2,064**	**14%**	**56%**	**56%**
Financial income/(expense)	(349)	(285)	(218)	(235)	(270)	(308)	(351)	(395)	13%	(12%)	(11%)
Profit Before Taxes	**709**	**769**	**841**	**1,103**	**1,112**	**1,243**	**1,516**	**1,669**	**15%**	**44%**	**45%**
Income taxes (incl. CESE)	(86)	(86)	(99)	(130)	(131)	(146)	(178)	(196)	15%	(5%)	(5%)
Net Income	**623**	**683**	**742**	**974**	**981**	**1,097**	**1,338**	**1,473**	**15%**	**39%**	**40%**
Net income attributable to Minority Interest	148	127	157	194	201	222	272	299	14%	8%	8%
Net income attributable to EDPR	**475**	**556**	**585**	**780**	**780**	**875**	**1,065**	**1,174**	**15%**	**31%**	**32%**

Appendix 3: Cash Flow Statement and Common-size

CONSOLIDATED CASH FLOW STATEMENT (€M)	2019	2020	2021E	2022F	2023F	2024F	2025F	2026F	CAGR 21-26	2021E % CFO	2026F % CFO
NET CASH FLOW FROM OPERATING ACTIVITIES	**1,090**	**908**	**1,482**	**2,414**	**2,279**	**2,564**	**3,004**	**3,509**	**19%**	**100%**	**100%**
EBIT	1,681	1,503	1,060	1,338	1,382	1,551	1,867	2,064	14%	71%	59%
Non-cash charges	(383)	(365)	673	765	869	994	1,134	1,275	14%	45%	36%
Changes in Net Working Capital	(130)	(138)	(122)	484	195	209	237	431	(229%)	(8%)	12%
Other receipts (payments) from op. activities	(41)	(47)	(29)	(44)	(36)	(44)	(56)	(65)	17%	(2%)	(2%)
Income tax received/(paid)	(38)	(45)	(99)	(130)	(131)	(146)	(178)	(196)	15%	(7%)	(6%)
NET CASH FLOW FROM INVESTING ACTIVITIES	**(568)**	**(1,637)**	**(2,935)**	**(2,526)**	**(2,502)**	**(3,626)**	**(3,547)**	**(3,071)**	**1%**	**(198%)**	**(88%)**
PP&E and intangible assets (Net)	(1,207)	(1,545)	(3,023)	(2,772)	(3,785)	(4,458)	(4,813)	(4,492)	8%	(204%)	(128%)
Sale of subsidiaries with loss of control	499	1,072	862	1,329	1,231	1,685	2,187	1,961	18%	58%	56%
Acquisition of subsidiaries	(13)	(580)	-	(600)	-	-	-	-	-	-	-
Loans to related parties (net)	353	(353)	(745)	(530)	-	(915)	(915)	(517)	(7%)	(50%)	(15%)
Dividends and Interest and similar income	41	41	39	47	56	61	67	78	15%	3%	2%
Other receipts (payments) from inv. activities	(241)	(273)	(67)	(0)	(3)	1	(73)	(101)	9%	(5%)	(3%)
NET CASH FLOW FROM FINANCING ACTIVITIES	**(499)**	**675**	**1,344**	**273**	**647**	**850**	**773**	**(428)**	**(180%)**	**91%**	**(12%)**
Receipts (payments) relating to loans	(144)	797	302	307	378	669	722	(427)	(207%)	20%	(12%)
Interest and similar costs	(248)	(178)	(235)	(254)	(291)	(331)	(378)	(426)	13%	(16%)	(12%)
Receipts (payments) relating from institutional partnerships	106	249	(105)	342	651	610	559	573	(240%)	(7%)	16%
Payments of lease liabilities	(41)	(44)	(46)	(48)	(50)	(54)	(59)	(62)	6%	(3%)	(2%)
Dividends paid	(99)	(107)	(127)	(150)	(149)	(156)	(173)	(191)	9%	(9%)	(5%)
Increase in capital and share premium	-	-	1,488	-	-	-	-	-	(100%)	100%	-
Other receipts (payments) from financing activities	(73)	(43)	66	75	108	113	102	105	10%	4%	3%
CHANGES IN CASH & EQUIVALENTS	**23**	**(55)**	**(108)**	**162**	**424**	**(212)**	**231**	**10**	**(162%)**	**(7%)**	**0%**
Cash & Equivalents (Initial) & Exchange rate fluctuations	559	530	474	366	528	952	740	971	15%	32%	28%
CASH & EQUIVALENTS (END OF THE PERIOD)	**582**	**474**	**366**	**528**	**952**	**740**	**971**	**980**	**22%**	**25%**	**28%**

Appendix 4: Key Financial Ratios

Financial Analysis	2019	2020	2021E	2022F	2023F	2024F	2025F	2026F	Industry (2020)
Industry Specific Ratios (€k)									
Revenue/MW	143	130	141	156	145	137	131	129	147
Core OPEX/MW	38	38	36	35	34	33	32	32	216
Adj. EBITDA/MW	100	86	100	116	107	100	98	97	164
OCF/MW	96	75	88	124	98	91	85	91	108
Efficiency Ratios									
Fixed Assets Turnover (x)	0.11	0.10	0.10	0.11	0.11	0.11	0.12	0.12	0.26
Collection Period (DSO) (Days)	46	42	51	50	47	48	49	48	117
Days in Inventory (DIO) (Days)	7	11	8	9	9	9	9	9	37
Payables Period (DPO) (Days)	346	376	330	353	353	353	346	351	104
Operating Cycle	53	54	59	58	56	57	57	57	155
Cash Conversion Cycle (Days)	(293)	(323)	(271)	(294)	(297)	(297)	(289)	(294)	50
Solvency Ratios									
Debt to Equity Ratio (%)	41%	46%	40%	39%	40%	42%	44%	37%	247%
Debt and Tax Equity Investments to Equity Ratio (%)	56%	59%	49%	50%	53%	57%	60%	54%	-
Net Debt to Adj. EBITDA (x)	2.1	2.9	2.8	2.3	2.1	2.3	2.2	1.7	5.5
Interest Coverage Ratio (x)	3.0	3.7	4.9	5.7	5.1	5.0	5.3	5.2	2.0
Debt Service Coverage Ratio (%)	14%	14%	14%	17%	16%	16%	17%	20%	56%
Liquidity Ratios									
Current Ratio (x)	0.64	0.72	0.70	0.67	0.78	0.66	0.69	0.65	1.67
Quick Ratio (x)	0.42	0.32	0.30	0.33	0.47	0.37	0.42	0.40	1.54
Cash Ratio (x)	0.24	0.22	0.17	0.21	0.34	0.24	0.29	0.26	0.99
Net Liquid Balance (WC-WCR)	0.87	1.02	1.29	1.46	1.48	1.58	1.77	1.70	-
Profitability Ratios									
EBITDA Margin (%)	91%	96%	91%	90%	88%	90%	94%	91%	-
Capital Gains (% Rev)	17%	26%	18%	14%	12%	15%	17%	14%	-
Adjusted EBITDA Margin (%)	73%	70%	73%	75%	75%	75%	76%	77%	63%
EBIT Margin (%)	58%	61%	56%	57%	54%	55%	58%	56%	32%
Net Profit Margin (%)	34%	39%	39%	42%	38%	39%	42%	40%	9%
OCF/Sales (%)	60%	52%	60%	81%	68%	67%	67%	71%	80%
ROA (%)	3.5%	3.8%	3.6%	4.3%	4.0%	4.0%	4.5%	4.6%	1.5%
ROIC (%)	6.6%	6.5%	5.6%	6.5%	6.1%	6.1%	6.6%	6.9%	6.0%
ROIC w/o goodwill (%)	7.2%	7.0%	6.0%	7.1%	6.6%	6.6%	7.1%	7.4%	-
ROE (%)	7.5%	7.9%	6.9%	8.4%	7.9%	8.2%	9.2%	9.3%	6.3%
Value Creation and Cashflow Ratios									
Economic Value Added (EVA)	420	403	547	530	624	817	894	1,105	-
Cash to Income	103%	86%	108%	142%	126%	123%	114%	126%	-

Appendix 5: Financial Statements Assumptions

Balance Sheet Assumptions	Unit	2021E	2022F	2023F	2024F	2025F	2026F	Note
Operating Assets	€M							
PP&E	% NFA	94.4%	94.4%	94.4%	94.4%	94.4%	94.4%	Net Fixed Assets (NFA) t = Gross Fixed Assets t - Acc. Depreciation - Disposals
Right-of-use Assets	% NFA	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	NFA t = Gross Fixed Assets t - Acc. Depreciation - Disposals
Intangible Assets	% NFA	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	NFA t = Gross Fixed Assets t - Acc. Depreciation - Disposals
Trade receivables	DSO	50	49	47	47	48	48	4Y Moving Average
Inventories	DIO	8	8	9	9	9	9	4Y Moving Average
Debtors & Assets from comm. activ.	%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4Y Moving Average over revenue
Current tax assets	€M	141	141	141	141	141	141	Assumed constant due to lack of necessary information to estimate
Non-Operating Assets	€M							
Invest. JV & Assoc. // Equity inst. FV	€M	457	429	399	360	392	445	Inv. JV&Ass. t = t-1 + Share profit JV & Ass. - Dividends from invest // Constant
Goodwill	€M	1,298	1,599	1,599	1,599	1,599	1,599	Assumed constant after Sunseap's integration in 2022
Deferred tax asset	€M	122	122	122	122	122	122	Assumed constant due to lack of necessary information to estimate
Other debtors and other assets	€M	1,603	2,133	3,049	3,964	4,481	4,879	Assumed constant except for loans to other parties (EDPR lends OW funds)
Collateral deposits assoc. to debt	%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	4Y Average over Total Debt
Assets held for sale	€M	12	12	12	12	12	12	Assumed constant due to lack of necessary information to estimate
Operating Liabilities	€M							
Trade & oth. payables comm. activ.	DPO	325	348	349	350	343	347	4Y Moving Average
Current tax liabilities	€M	110	110	110	110	110	110	Assumed constant due to lack of necessary information to estimate
Non-Operating Liabilities	€M							
Total Debt	€M	4,249	4,556	4,934	5,603	6,325	5,898	% CAPEX, according to EDPR's targets until 2025, and D/E Ratio constant
Medium/long-term financial debt	%	87%	87%	87%	87%	87%	87%	Historical percentage of Total Debt
Short-term financial debt	%	13%	13%	13%	13%	13%	13%	Historical percentage of Total Debt
Provisions	€M	6	6	6	6	6	6	Assumed constant due to lack of necessary information to estimate
Institutional partnerships in the US	€M	1,829	2,171	2,822	3,433	3,991	4,564	See Appendix 12
Other liabilities and other payables	€M	1,053	1,084	1,146	1,211	1,262	1,301	Assumed constant (exc. lease liability)

Income Statement Assumptions	Unit	2021E	2022F	2023F	2024F	2025F	2026F	Note
Revenue	€M			Sum of regions				
Spain	€M	329	494	418	399	387	391	See Appendices 6, 7 and 8
Portugal	€M	249	211	215	201	201	216	See Appendices 6, 7 and 8
Rest of Europe	€M	303	437	514	590	719	890	See Appendices 6, 7 and 8
North America	€M	943	998	1,154	1,306	1,381	1,494	See Appendices 6, 7 and 8
Latin America	€M	72	108	147	171	254	318	See Appendices 6, 7 and 8
Asia Pacific	€M	1	98	118	158	257	375	See Appendices 6, 7 and 8
Other income	€M			Sum of regions				
Other operating income	%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	4Y Average (excl. 2018)
Capital gains from AR	€M	342	337	315	431	559	503	See Appendix 10
Operating Costs	€M			Sum of regions				
Core OPEX: Supplies and services	%	73%	73%	72%	71%	72%	72%	5Y moving average over Core OPEX
Core OPEX: Personnel costs	%	27%	27%	28%	29%	28%	28%	5Y moving average over Core OPEX
Other operating costs	%	5.9%	6.1%	6.0%	5.9%	6.0%	6.0%	4Y Moving Average
Share of profit (JV and associates)	€M	(8)	0	3	(1)	73	101	2Y Moving Average over revenue + NI from OW
EBITDA IFRS	€M			Sum of regions				See Appendix 15
D&A and Provisions	%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	Historical % of PP&E + RoA + Int. Assets. Provisions assumed constant
EBIT IFRS	€M			Sum of regions				See Appendix 15
Interest costs of debt	%	3.2%	3.1%	3.1%	3.1%	3.1%	3.1%	See Appendix 11
Interest costs of TEI	%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	Historical average (2015-2020) over Institutional Partnerships in the US
Interest costs of leases	%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	2Y average over lease liability, no information available before 2019
Income tax	%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	Historical effective tax rate 3Y Average
CESE (incl. in income taxes)	€M	(3)	(3)	(3)	(3)	(3)	(3)	2Y Moving Average
Non-controlling interests	%	21.2%	19.9%	20.5%	20.2%	20.4%	20.3%	2Y Moving Average over Net Income
Dividends	€	0.08	0.09	0.09	0.09	0.09	0.10	Based on the long-term forecast of the FCFF

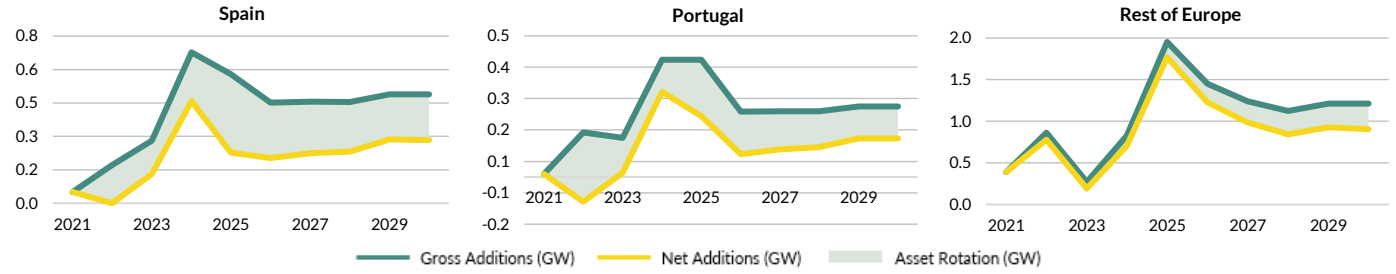
Appendix 6: Installed Capacity - Assumptions

From 2021E-25F, IC was forecasted based on: i) the assumption that EDPR will meet its targets for the capacity additions in such period, both in terms of segment distribution and technology type (c.50% solar and 50% wind), and ii) public disclosures of recent agreements and future construction plans. From 2026F-30F, total gross additions are expected to reach 28.9GW, which is slightly above, but in line with EDPR's target to install an average of 5.5GW/year.

IC - Gross Additions	2021E - 2025F	2026F - 2030F
Spain	1.8	2.3
Portugal	1.0	1.1
Rest of Europe	4.3	6.2
North America	8.8	11.3
LATAM	2.9	2.8
APAC	2.0	5.1
Total (GW)	**20.8**	**28.9**
Target	19.8 ✓	27.5 ✓

Technology	2021E - 2025F	2026F - 2030F
Onshore wind	9.2	14.1
Solar PV	8.6	10.5
Solar DG	1.4	2.6
Storage	0.4	0.6
Offshore wind	1.2	1.2
Total (GW)	**20.8**	**28.9**
Target	19.8 ✓	-

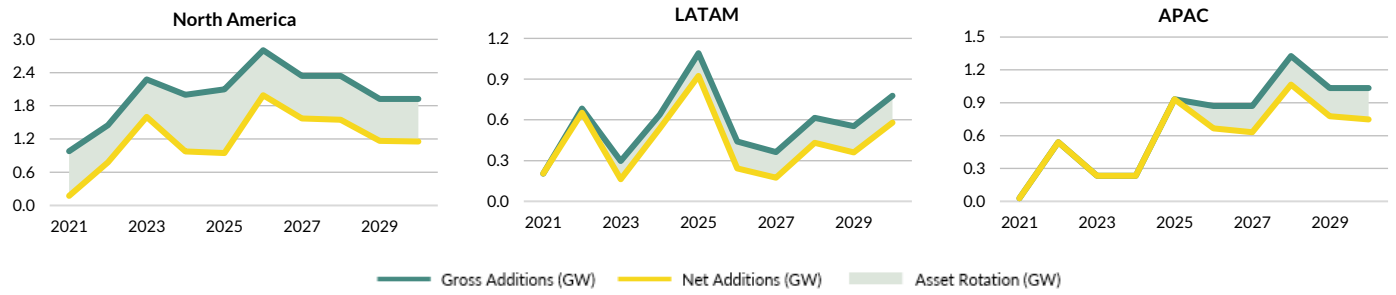
Europe | In this segment, EDPR is expected to surpass its 2021-25 target of 6.7GW of gross capacity additions, reaching 7.1GW, to which contribute onshore wind (3.5GW), solar PV (2.4GW), and offshore wind (1.2GW). It was considered that no capacity would be added in neither Belgium nor Romania since most of the capacity was sold, or no additions were made in historical years.



North America | Due to the more favourable regulatory environment in the US and Canada, it was assumed that no IC would be added in Mexico, apart from the projects already under development. EDPR is expected to meet its NA 2021-25 targets through gross capacity additions of wind (2.9 GW), solar PV and DG (5.5 GW) technologies. Targets regarding storage capacity additions in the US should be achieved as well (1GW until 2026). For solar DG, the acquisition of C2 Omega in 2021 will propel the growth of EDPR NA in this segment, allowing added capacity to surpass 1GW until 2030. After 2028, IC additions growth in the US will slow down to the same pace as in Europe since the extinction of the tax credits will produce effects from then on.

LATAM | Recently, the company has announced its expansion to Chile and Colombia, complementing its already consolidated position in Brazil. From 2021E-25F, the latter will have added 1.5GW of gross IC, which is the same capacity that Chile and Colombia will add collectively in the same period (complying with EDPR's targets). In this segment, gross additions are divided between onshore wind (3.6GW 2030F) and solar PV (2.1GW 2030F).

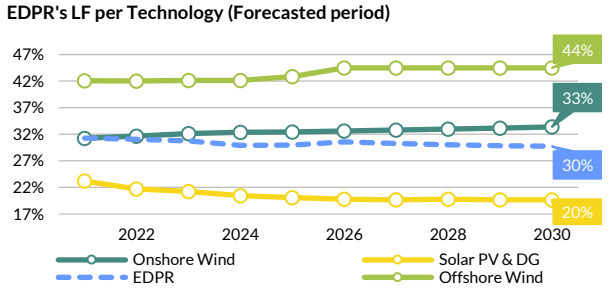
APAC | Sunseap had already an established business with trustworthy clients in 9 countries, so EDPR will be able to seize APAC's growth by creating valuable synergies. EDPR is expected to surpass their estimated targets for this region and achieve 7.1GW of gross additions by 2030, consisting of onshore wind (1.3GW), solar PV (2.6GW) and DG (2.8GW), and offshore wind (0.5GW) technologies.

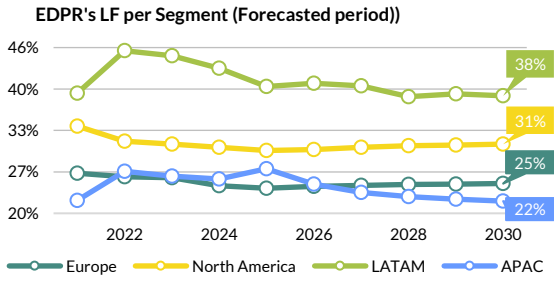


Appendix 7: Load Factor - Assumptions

Load Factor (LF) is key for the players that operate in the renewable energy industry since it corresponds to each farm's efficiency level. The higher the LF, the higher the electricity output generated by each farm individually and, in the end, by each company. As an industry trend, the LF of new additions is expected to increase over the years. This is anticipated for all technologies, through R&D and technological improvements, irrespectively of the projects' location. On top of that, onshore and offshore wind technologies have higher LF when compared to solar PV and DG. Currently in the industry, onshore wind's LF lies between 25%-55% while the LF of solar technology ranges between 13%-27%, both dependent on project specific conditions.

We estimated a double effect on EDPR's LF. First, the negative effect on the historical LF caused by older farms will be partially offset by EDPR's AR strategy. The sale of farms with decreasing performances and less efficiency can help stabilize the overall LF. Second, considering the new IC additions, a positive effect on EDPR's LF is anticipated for all technologies. However, a slight decrease in EDPR's average LF should occur in the segments where the proportion of the least performing technology (solar) increases in the overall IC. This is explained by the company's plan to add c.50%-50% of wind and solar technologies before 2030.



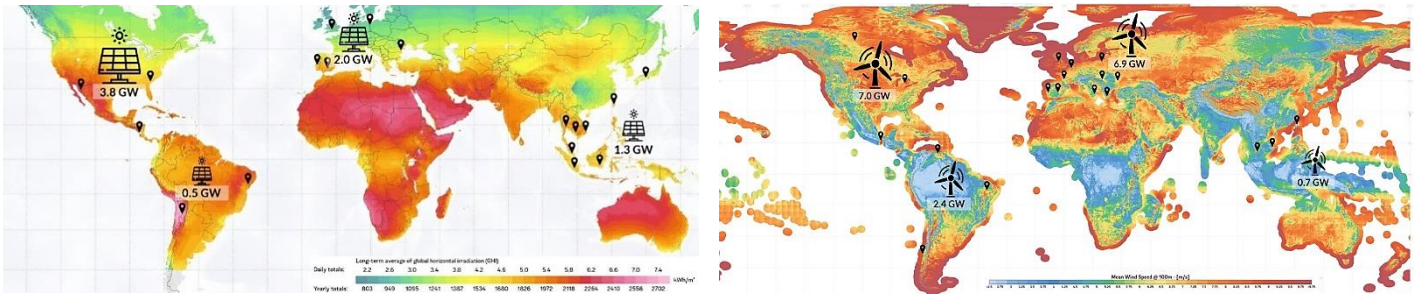


Source: Team Estimates

Solar and wind potential & EDPR's geographical diversification impact on Load Factor

EDPR's vast sector experience and consolidated position ensure that both solar and wind farms are located in geographies with great concentrations of solar radiation and wind power availability, where above average LFs are expected. However, since the best locations are already occupied, there will be an increasing trend of project construction in locations with lower resource availability where the company is already well established (Europe, US).

Global annual average horizontal radiation (2001-2020) and Mean wind power density at 100m (1998-2017) & EDPR's solar PV, DG and wind onshore IC (2025F)

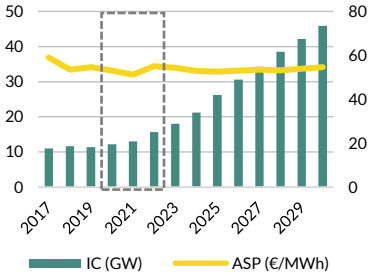


Source: Global Solar Atlas, Global Wind Atlas, World Bank Group

Appendix 8: Average Selling Prices (ASP) of electricity - Assumptions

Amongst its different locations, the bulk of EDPR's sales comes from long-term agreements (FiT, CfD and PPA), due to the predictability of revenues it provides. In 2021E, 94% of the estimated electricity output was contracted, and only 6% relied on merchant prices. This proportion was assumed to remain stable throughout the forecasted period. All countries in which EDPR operates have 100% of their total electricity output contracted, apart from the US (90%), Spain (83-94%), Poland (85-98%), Romania (95-98%) and Belgium (99%).

We estimate that EDPR's ASP will decrease from €59/MWh in 2017 to €55/MWh in 2030F (c.1% CAGR). The bump in ASP verified in the transition from 2021 to 2022 is motivated by i) the regularization of the ASP in Spain (+40% YoY), after a 26% decrease between 2020 and 2021; and ii) the ASP experienced in APAC (€74/MWh 2022F), after EDPR's investment in Sunseap, which is much higher than EDPR's ASP in 2021E (€51/MWh).. From 2021E-30F, ASP is expected to increase at 0.7% CAGR.



Contracted electricity prices | The renewable energy market is becoming increasingly competitive. Therefore, we estimated a decrease in the long-term contracts' prices YoY. For all technologies, the estimated prices were based on public announcements for specific projects, disclosures of auctions, and PPA prices in each country. Except for Greece and the US, long-term agreements' prices were adjusted based on each country's inflation rates YoY.

Merchant electricity prices | During 2021, international liquefied natural gas (LNG) prices have surged (e.g., +62% since early Jul-2021 in Europe) due to a combination of several factors. As the economy is still recovering from the impact of COVID-19, rising global demand for gas (notably in Asia) created a divergence with supply capacity. Adding to this, in Europe, the opportunity to switch from gas to coal is limited due to the ongoing underinvestment in coal and record carbon prices. Simultaneously, and besides all efforts towards decarbonization, if coal is phased out before significant renewable energy production and storage capacity have been developed, spikes in electricity prices could become even more frequent.

EDPR's merchant electricity prices in Spain, Poland, Romania, and Belgium were estimated based on forward prices (from 2022E to 2024F) to account for these soaring prices. From 2025F onwards, normalization of these prices to historical values was assumed, using a 2-year moving average starting in 2014. On the contrary, merchant electricity prices are expected to fluctuate slightly in the US.

Appendix 9: EDPR's CAPEX, D&A and Fixed Assets

Gross CAPEX (€M)	2021E	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	CAGR 21-25	CAGR 21-30
Onshore wind	1,814	1,413	1,896	2,622	3,065	2,843	2,869	2,891	2,982	2,963	14%	6%
Solar PV	1,189	1,617	1,849	1,789	1,608	1,535	1,732	1,699	1,648	1,727	8%	4%
Storage	20	40	40	47	140	113	-	-	-	-	52%	-
Total	**3,025**	**3,073**	**3,787**	**4,460**	**4,815**	**4,494**	**4,603**	**4,592**	**4,632**	**4,692**	**12%**	**5%**

Gross CAPEX | We estimated that gross CAPEX of a certain year is split 50-50 between that same year and the previous one, as solar PV and onshore wind projects usually take around 1 to 2 years of construction before reaching COD. Gross CAPEX was calculated on a per MW basis, divided by segment and technology (based on historical information from IRENA, IEA and Lazard):

€M/MW	Onshore Wind	Solar PV	Solar DG	Storage	Justification
Spain	1.05	0.65	-	-	Europe (Spain, Portugal and RoE) has stable and low CAPEX costs in most countries. The renewable energy industry is closer to maturity in this segment, which coupled with EDPR's long tenure in the region drives CAPEX/MW of both technologies down.
Portugal	1.00	0.60	-	-	
RoE	1.00	0.60	-	-	
NA	1.05	0.65	0.70	0.40	NA has the largest share of additions (c.36% 2021E-30F), despite not having the lowest CAPEX/MW in any technology. This is mainly due to tax benefits allowing cheaper financing and EDPR's extensive experience in that segment.
LATAM	0.95	0.60	-	-	LATAM is a region with many CAPEX cost differences between countries. However, Brazil is the cheapest and EDPR's only platform in the segment in 2021. With gross additions up (+16% 2021E-30F), effects stemming from economies of scale become increasingly noticeable.
APAC	1.25	0.55	0.65	-	APAC has the lowest cost for solar technologies, mainly because c.75% of solar equipment originates from China (c.90%, including other APAC countries). In contrast, wind technology is costlier (excl. China), as most countries have subpar conditions to install wind energy projects, such as inadequate energy grids.

Additionally, we considered a 25% premium on solar PV and DG gross CAPEX/MW for 2022F-23F, reflecting the effect of current supply chain issues. The impact of the current situation is expected to be lower for wind developers compared to solar. EDPR communicated on its 9M21 results call that 2022F's wind CAPEX is fully hedged for onshore wind. Therefore, we applied a 10% premium to onshore wind's gross CAPEX/MW in 2023F.

Net CAPEX (€M)	2021E	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Gross CAPEX	3,023	3,071	3,785	4,458	4,813	4,492	4,601	4,590	4,630	4,690
Proceeds w/o cap. gains	1,364	1,329	1,231	1,685	2,187	1,998	1,967	1,990	1,928	2,008
Net CAPEX	**1,660**	**1,741**	**2,554**	**2,773**	**2,626**	**2,493**	**2,634**	**2,600**	**2,702**	**2,682**

Net CAPEX | Capital gains of the AR strategy were deducted from gross CAPEX to achieve net CAPEX. For valuation purposes, net CAPEX is used, reflecting EDPR's real investment accurately. To find each segment's net CAPEX, see Appendix 15.

D&A	2021E	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	CAGR 21-25	CAGR 21-30
D&A rate	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	-	-
D&A (€M)	673	765	869	994	1,134	1,275	1,412	1,551	1,691	1,832	14%	12%

D&A | D&A rates for PP&E, right-of-use assets (RoA) and intangible assets were obtained historically. A detailed depreciation schedule was built for each region, both for historical IC and new additions.

Appendix 10: Asset Rotation (AR)

Sell-down ratio | EDPR's IC sold under the AR strategy was estimated at 1/3 of gross additions for the whole forecasted period. This assumption was based on the company's targets for 2025, except for the period from 2021 to 2023. In these years, a target capacity sold of 40% of gross additions was considered optimistic, as EDPR already missed this target for 2021.

AR 2021 - 2025	EDPR's targets	Team estimates
Sell-down ratio	~30% - ~40%	**33%**
Wind EV per MW	1.75	**1.50**
Solar EV per MW	1.25	**1.20**
Capital gain per MW	250k	**280k**

Capacity sold distribution | The yearly distribution of the capacity sold is based on each country's previous year IC weight on the total IC. To normalize the distribution, cut-off metrics were applied. Also, this distribution is divided equally per onshore wind and solar PV/DG, following EDPR's target of 50%-50% investment in both technologies until 2025.

Situation	Cut-off criteria
General rule	Segment's historical IC at the time of the first AR transaction: **Spain - 2.2GW; Portugal – 1GW; RoE – 0.9GW; NA – 3.6GW; LATAM – 0.5GW**
Exception 1. Countries in APAC	There is no track record of AR deals since EDPR's operations in this region started in 2021. Eligible for AR **post-2025** with a cut-off value of 1.6GW (other segments' cut-off value).
Exception 2. Belgium, Romania and Mexico	Countries where EDPR has not been recently active (either by adding or selling IC). **Excluded** for the whole forecasted period.

Stake sold | Assumed a 100% stake sold for all divestments, except for two projects' sales concluded before 2022, which instead had an 80% stake sold.

AR multiples | EDPR's announced multiples (€M/MW) of 1.75x and 1.25x for onshore wind and solar PV, respectively. Yet, we consider these multiples optimistic in the long-run. As such, we applied 1.5x and 1.2x for each one of the technologies. Regardless of this, historical performance shows EDPR has only had an average multiple lower than 1.6x once since the beginning of its strategy in 2012. The AR strategy represents **40%** of EDPR's Enterprise Value, confirming its pivotal role in the company's operations.

Asset Rotation	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030T	TV
Capital Gains (€M)	**337**	**315**	**431**	**559**	**503**	**497**	**509**	**493**	**514**	**300**
WACC	-	4.28%	4.30%	4.39%	4.46%	4.44%	4.41%	4.44%	4.46%	4.35%
PV of Capital Gains	3,138	3,272	3,085	2,770	2,309	1,888	1,452	985	514	
PV of Terminal Value	7,552	7,875	8,214	8,574	8,956	9,354	9,766	10,200	10,654	
AR Value	10,690			% in EV = 40%					g = 1.5%	

Appendix 11: WACC Assumptions

EDPR's presence in several geographies, with different risk levels and required returns, makes it difficult to estimate a true consolidated WACC. Thus, we estimated a discount rate for each segment (Spain, Portugal, RoE, NA, LATAM and APAC) as well as for EDPR as a whole. The consolidated WACC is weighted by each segment's EBITDA contribution. The WACC rates by segment fluctuate YoY due to changes in the capital structure.

WACC	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	TV
Portugal	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Spain	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%
RoE	4.9%	4.8%	4.8%	4.8%	4.7%	4.7%	4.7%	4.6%	4.6%	4.6%
NA (without tax equity)	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.5%	3.5%
LATAM	8.0%	7.8%	7.8%	7.9%	8.1%	8.1%	8.2%	8.3%	8.2%	8.0%
APAC	5.0%	5.0%	5.0%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.7%
Consolidated WACC	**4.2%**	**4.3%**	**4.3%**	**4.4%**	**4.5%**	**4.4%**	**4.4%**	**4.4%**	**4.5%**	**4.3%**

Cost of Equity (Ke) | The Capital Asset Pricing Model (CAPM: $Ke = RFR + \beta * ERP$) was the method chosen to compute Ke. The regional cost of equity is achieved by summing each country's weighted cost of equity-based on its EBITDA contribution. Hence, the cost of equity fluctuates YoY since i) the change in the capital structure causes the Betas to change over time and ii) the new IC added creates the need to rebalance the weights of the countries in which EDPR operates each year.

Betas | The Betas used to calculate the cost of equity were estimated using the pure-play method (sample of 225 Renewable Energy Power Producers that operate in the same geographies as EDPR). First, we collected the levered betas of the peers and delevered them according to each peer's capital structure and statutory tax rates. Then, we computed the regional average of the unlevered betas and estimated EDPR's regional unlevered betas. Lastly, we re-levered the betas for each forecasted years, considering EDPR's YoY capital structure.

	# of Companies	β Levered (avg.)	Avg D/E	β Unlevered (avg.)
Europe	38	0.8	1.5	0.4
NA	24	0.7	1.6	0.3
LATAM	12	0.7	1.0	0.4
APAC	151	0.8	1.8	0.3

RFR and MRP | Both rates were retrieved from "Survey: Market Risk Premium and Risk-Free Rate used for 88 countries in 2021" (Fernandez), and assumed to be the best proxies of current market estimates for future required rates and an approximation of the normalized rates.

Cost of Equity	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	TV
Portugal	5.4%	5.4%	5.4%	5.5%	5.3%	5.3%	5.3%	5.3%	5.3%	5.4%
Spain	4.8%	4.8%	4.9%	4.9%	4.8%	4.7%	4.7%	4.7%	4.7%	4.9%
RoE	5.8%	5.8%	5.9%	5.8%	5.6%	5.5%	5.5%	5.4%	5.4%	5.6%
NA (without tax equity)	4.0%	4.1%	4.1%	4.1%	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%
LATAM	10.4%	10.0%	10.2%	10.5%	10.4%	10.4%	10.4%	10.4%	10.3%	10.5%
APAC	6.0%	6.0%	6.0%	5.9%	5.7%	5.7%	5.6%	5.6%	5.6%	5.6%
Consolidated Ke	**4.9%**	**5.0%**	**5.0%**	**5.2%**	**5.2%**	**5.1%**	**5.1%**	**5.1%**	**5.1%**	**5.2%**

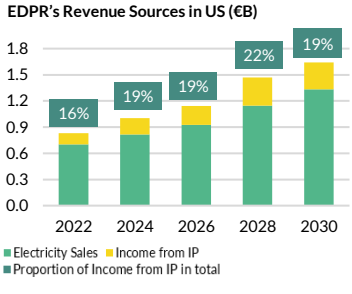
Cost of Debt | Computed using the sum of three different rates. The first rate is the normalized German RFR (0.47%). Since EDP is the entity that provides the majority of the loans for EDPR, the second rate is the average spread of EDP's bonds (1.02%), obtained by subtracting the company's current average yield by the German normalized RFR. The third rate (1.57%) is the spread obtained by removing the 2021E cost of debt (3.2%) by the current average of EDP's yields (1.49%) and applying a discount (9.2%), calculated according with EDPR's decreasing cost of debt trend. The sum of the three rates (3.1%) is the cost of debt used.

Appendix 12: Tax Equity Financing

How does it work?

A significant proportion of EDPR's revenue in the US arises from tax equity agreements. Through these arrangements, the company sells its unused tax benefits (PTC, ITC and accelerated depreciation) to tax equity investors in exchange for upfront funding. Given their large tax liability, these investors manage to take full advantage of the tax benefits received by EDPR. Also, they become entitled to a certain proportion of ownership in the underlying project, enabling them to receive cash distributions.

PTC	*ITC*	*Accelerated*
Tax credit per MWh of electricity generated over the first 10 years of the project's life.	Tax credit in the percentage of the project's capital costs. Generally collected at COD.	Creates tax losses, which decrease taxable income.



To forecast EDPR's tax credits received, we assume that PTC and ITC will be extended until 2026, following the Build Back Better Act draft passed by the House of Representatives in 4Q21. US wind farms can take advantage of either the PTC or ITC. Research points out that the PTC provides more value than the ITC in about 2/3 of the cases analysed (Bolinger, 2009). Thus, we assumed that 2/3 of the added wind capacity would take advantage of the PTC, while 1/3 will receive ITC. We believe the company's solar parks will also enter these agreements from 2022 onwards, taking advantage of the ITC.

Liability Created EDPR agrees with the tax equity investors the upfront cash funding to be paid and the return investors will receive. This generates a liability for EDPR (named "Institutional Partnerships in US Wind Farms"). This account is increased by the proportion of the obligation due in the period and by the proceeds received from investors. The cash EDPR pays to investors and the recognition of benefits sold as revenue diminish this liability. This account is highly correlated with the change in net additions. As such, in years when net additions decrease (e.g. 2021), this liability will also decrease.

Income from Institutional Partnerships EDPR recognizes as revenue the tax benefits sold to investors. The PTC is received and recognized simultaneously during a farm's first 10 years. On the other hand, the ITC and accelerated depreciation are received in the first year and the first 6 years after COD, respectively. However, both are recognized as revenue throughout the project's entire life (30 years). Consequently, even though Income from Institutional Partnerships is also positively associated with net additions, it presents a more paced evolution.

Return for Tax Equity Investors The return agreed between EDPR and the investors focuses on an estimated period of 10 years. The date on which this period ends, and the target return is achieved, is called the flip date. The historical average return of 6.82% from 2015 to 2019 was used in our forecasts. The 2020 estimate was not considered since it reflected a lower demand for tax equity agreements.

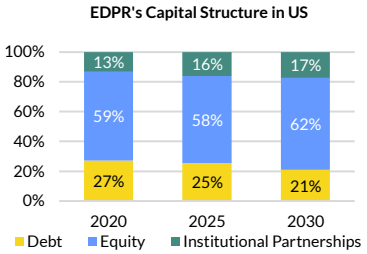
Allocation of Cash and Benefits The flip date marks a turning point in the agreement, as the allocation of benefits and cash changes between partners. According to the IRS guidance, the developer must maintain at least a 1% interest in all tax credits over the life of the partnership. Hence, it was assumed that 99% of tax credits go to the investors. Also, 50% of the cash distributions will be received by investors until the flip date, with the remaining retained by EDPR. Then, based on information provided by the company, it was considered that investors would receive 6.25% of the project's cash distributions.

Proceeds Received by EDPR To forecast the proceeds received in each year, the NPV of the tax benefits and cash provided by EDPR was calculated in the first 10 years after COD. The discount rate used was the agreed target rate of return. We assumed that EDPR receives the proceeds from investors in the same year as the COD of the project. On average, tax equity investors pay EDPR $0,75 per each $1 of tax benefits and cash distributions received

Appendix 13: Cost of Tax Equity

EDPR's cost of tax equity was estimated and forecasted through the difference between the company's total cost of tax equity agreements and the income received through them. The total cost was calculated through the IRR of the cash and tax benefits provided every year until the end of the project, having the proceeds received from the investors as the initial outlay. The income received by EDPR was computed through the Income from Institutional Partnerships item over the total tax equity liability. The difference between the two provides an average cost of tax equity for EDPR of 2% (2020-30F).

The cost of tax equity could be included in the WACC, since tax equity agreements (Institutional Partnerships) work as a source of capital for the company and have a cost associated. Considering this cost in the WACC would cause the price target to increase 2.7% to €25.4/sh. We included the liability regarding Institutional Partnerships in the adjustments from EV to P. Including the cost of tax equity in the cost of capital calculation does not change the nature of the investment recommendation.



Source: Team Estimates

Appendix 14: Terminal Growth Rate

Despite operating in a worldwide growing industry, EDPR will stabilize its growth in each segment. We considered that EDPR's FCF will grow perpetually at a constant rate for the terminal period. The Stable Growth Model was the initial approach used. However, after normalizing the reinvestment rate's inputs, the values arising from this analysis proved not to be a good fit. We considered that it overly estimates all terminal growth rates for all cases. Since EDPR's revenues depend on electricity consumption, which historically follows GDP growth, the forecasted real GDP growth rate in 2050 of each segment was used as a proxy for the perpetual growth rate. We consider this to be a conservative approach. EDPR's g was computed with a weighted average of each country's g and their respective weight on EV.

Stable Growth Model	Spain	Portugal	RoE	NA	LATAM	APAC
CAPEX (€M)	137	41	725	836	348	409
D&A (€M)	49	25	121	210	90	66
Δ NWC (€M)	(15)	(2)	(116)	(103)	(33)	(59)
NOPAT (€M)	100	61	385	414	136	144
Reinvestment Rate	73%	25%	127%	126%	166%	197%
ROE	9%	9%	8%	9%	9%	9%
g	6.6%	2.2%	10.1%	11.4%	15.0%	17.7%

Spain	Portugal	RoE	NA	LATAM	APAC	EDPR
0.8%	0.7%	0.7%	2.0%	2.6%	2.9%	1.5%

Source: Team Estimates, Expectation for real GDP growth rate in 2050 from IRENA, OCDE, PwC

Source: Team Estimates, Expectation for real GDP growth rate in 2050 from IRENA, OCDE, PwC

Appendix 15: FCFF Valuation

We carried out several adjustments to our FCFF model to reach the Equity Value of EDPR from its Enterprise Value. Non-operational assets such as Cash & Equivalents, Loans to related parties and others, and financial liabilities, such as Total Debt and Rent, were considered. Provisions and Non-controlling interests were subtracted as well, as they have a negative effect on the company's value. Below, the FCFF (SoP) calculation for each segment can be found, together with its respective WACC, final EV and EV/MW multiple. The cash flows used for EDPR's FCFF and APV are the same. The FCFF of the terminal period was normalized through the average of each region's FCFFs in the years where EDPR's operations have a higher degree of stabilization (2026-30). To arrive at the FCFF in NA, income from institutional partnerships was also deducted from NOPAT since it is not a cash item. The tax rate used was each region's statutory rate (each country's rate weighted by revenue), except for NA, where we used EDPR's consolidated effective tax rate in 2022F-30F (12%). This is because the effective tax rate in this region has, historically, been c.0%, which we consider will not keep occurring indefinitely.

Source: Team Estimates, Expectation for real GDP growth rate in 2050 from IRENA, OCDE, PwC

Source: Team Estimates, Expectation for real GDP growth rate in 2050 from IRENA, OCDE, PwC

Source: Team Estimates, Expectation for real GDP growth rate in 2050 from IRENA, OCDE, PwC

Source: Team Estimates, Expectation for real GDP growth rate in 2050 from IRENA, OCDE, PwC

SPAIN

€M	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	TV
Revenues	**494**	**418**	**399**	**387**	**391**	**416**	**454**	**496**	**538**	
Core OPEX	(87)	(87)	(96)	(106)	(113)	(121)	(129)	(138)	(147)	
Other operating costs	(64)	(54)	(52)	(50)	(51)	(54)	(59)	(64)	(70)	
Other operating income	19	16	16	15	15	16	18	19	21	
EBITDA	**362**	**293**	**267**	**246**	**242**	**257**	**285**	**313**	**342**	
D&A and provisions	(107)	(117)	(130)	(143)	(155)	(166)	(178)	(190)	(202)	
EBIT	**255**	**176**	**137**	**103**	**87**	**91**	**107**	**123**	**140**	
Tax rate	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
NOPAT	**191**	**132**	**103**	**77**	**65**	**68**	**80**	**93**	**105**	
+ After-tax profit from AR strategy	39	32	47	73	51	48	46	42	42	
+ D&A and provisions	107	117	130	143	155	166	178	190	202	
- Change in NWC	(153)	57	15	17	(8)	(20)	(30)	(32)	(35)	
- CAPEX	3	260	212	19	107	126	150	185	182	
FCFF	**487**	**(36)**	**53**	**257**	**173**	**176**	**184**	**172**	**202**	**181**
WACC	-	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%
Enterprise Value	**5,000**		**EV/MW = 2.1x**						**g = 0.8%**	

PORTUGAL

€M	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030T	TV
Revenues	**211**	**215**	**201**	**201**	**216**	**228**	**242**	**258**	**275**	
Core OPEX	(45)	(43)	(47)	(54)	(59)	(62)	(65)	(69)	(73)	
Other operating costs	(13)	(13)	(12)	(12)	(13)	(14)	(14)	(15)	(16)	
Other operating income	8	8	8	8	8	9	10	10	11	
EBITDA	**161**	**167**	**150**	**143**	**153**	**162**	**173**	**184**	**197**	
D&A and provisions	(60)	(65)	(72)	(79)	(85)	(90)	(95)	(100)	(106)	
EBIT	**101**	**102**	**78**	**64**	**68**	**72**	**77**	**84**	**91**	
Tax Rate	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
NOPAT	**71**	**72**	**55**	**45**	**47**	**51**	**54**	**59**	**64**	
+ After-tax profit from AR strategy	46	21	20	34	26	23	22	20	20	
+ D&A and provisions	60	65	72	79	85	90	95	100	106	
- Change in NWC	14	(5)	11	4	(14)	(10)	(11)	(12)	(15)	
- CAPEX	(149)	102	134	15	22	37	51	70	70	
FCFF	**312**	**61**	**2**	**139**	**150**	**137**	**130**	**121**	**134**	**134**
WACC	-	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Enterprise Value	**3,202**		**EV/MW = 2.7x**						**g = 0.7%**	

REST OF EUROPE

€M	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030T	TV
Revenues	**437**	**514**	**590**	**719**	**890**	**1,089**	**1,284**	**1,480**	**1,680**	
Core OPEX	(74)	(85)	(99)	(125)	(158)	(193)	(225)	(255)	(287)	
Other operating costs	(26)	(31)	(35)	(43)	(53)	(65)	(76)	(88)	(100)	
Other operating income	17	20	23	28	35	43	50	58	66	
EBITDA	**354**	**419**	**480**	**579**	**713**	**874**	**1,034**	**1,195**	**1,359**	
D&A and provisions	(90)	(104)	(126)	(155)	(187)	(219)	(251)	(283)	(317)	
EBIT	**263**	**315**	**354**	**425**	**527**	**654**	**783**	**911**	**1,042**	
Tax Rate	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
NOPAT	**202**	**239**	**266**	**307**	**365**	**448**	**543**	**633**	**725**	
+ After-tax profit from AR strategy	20	18	28	42	52	59	65	66	71	
+ D&A and provisions	90	104	126	155	187	219	251	283	317	
- Change in NWC	(131)	(65)	(62)	(90)	(149)	(163)	(158)	(157)	(168)	
- CAPEX	309	466	755	899	936	840	795	832	804	
FCFF	**134**	**(41)**	**(274)**	**(305)**	**(184)**	**50**	**222**	**307**	**477**	**175**
WACC	-	4.8%	4.8%	4.8%	4.7%	4.7%	4.7%	4.6%	4.6%	4.6%
Enterprise Value	**3,087**		**EV/MW = 1.4x**						**g = 0.7%**	

NORTH AMERICA

€M	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030T	TV
Electricity sales	869	990	1,118	1,179	1,275	1,402	1,528	1,671	1,794	
Income from institutional partnerships in US	129	164	187	202	218	286	326	310	310	
Revenues	**998**	**1,154**	**1,306**	**1,381**	**1,494**	**1,688**	**1,853**	**1,982**	**2,105**	**1,490**
Core OPEX	(247)	(279)	(312)	(333)	(360)	(400)	(450)	(494)	(531)	
Other operating costs	(53)	(59)	(66)	(70)	(76)	(84)	(91)	(100)	(107)	
Other operating income	34	39	44	46	50	55	60	66	70	
EBITDA	**733**	**855**	**971**	**1,024**	**1,107**	**1,259**	**1,372**	**1,454**	**1,537**	
D&A and provisions	(445)	(498)	(551)	(598)	(651)	(709)	(767)	(819)	(869)	
EBIT	**287**	**357**	**421**	**426**	**456**	**550**	**605**	**634**	**668**	
Tax Rate	12%	12%	12%	12%	12%	12%	12%	12%	12%	27%
NOPAT	**254**	**315**	**371**	**376**	**402**	**485**	**534**	**560**	**590**	
+ After-tax profit from AR strategy	162	161	243	276	196	186	190	183	186	
+ D&A and provisions	445	498	551	598	651	709	767	819	869	
- Change in NWC	(106)	(133)	(122)	(33)	(108)	(155)	(129)	(98)	(102)	
- CAPEX	859	1,223	458	419	985	1,173	976	833	819	
FCFF	**(22)**	**(280)**	**642**	**662**	**155**	**77**	**318**	**517**	**618**	**214**
WACC	-	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.5%
Enterprise Value	**13,153**		**EV/MW = 1.7x**						**g = 2%**	

LATAM

€M	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030T	TV
Revenues	**108**	**147**	**171**	**254**	**318**	**343**	**358**	**405**	**449**	
Core OPEX	(23)	(31)	(39)	(54)	(65)	(68)	(73)	(80)	(88)	
Other operating costs	(7)	(9)	(10)	(15)	(19)	(20)	(21)	(24)	(27)	
Other operating income	4	6	7	10	12	13	14	16	18	
EBITDA	**83**	**113**	**129**	**195**	**246**	**268**	**277**	**317**	**353**	
D&A and provisions	(35)	(49)	(67)	(89)	(104)	(114)	(126)	(141)	(158)	
EBIT	**47**	**63**	**62**	**106**	**143**	**154**	**152**	**176**	**195**	
Tax Rate	33%	32%	32%	32%	31%	31%	31%	31%	31%	31%
NOPAT	**31**	**43**	**42**	**73**	**99**	**107**	**105**	**123**	**136**	
+ After-tax profit from AR strategy	6	23	18	31	40	38	36	37	38	
+ D&A and provisions	35	49	67	89	104	114	126	141	158	
- Change in NWC	(33)	(32)	(20)	(61)	(55)	(20)	(11)	(36)	(37)	
- CAPEX	421	324	632	478	73	108	231	327	382	
FCFF	**(314)**	**(176)**	**(485)**	**(225)**	**225**	**171**	**48**	**10**	**(14)**	**88**
WACC	-	7.8%	7.8%	7.9%	8.1%	8.1%	8.2%	8.3%	8.2%	8.0%
Enterprise Value	**418**		**EV/MW = 0.3x**						**g = 2.6%**	

APAC

APAC (€M)	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030T	TV
Revenues	**98**	**118**	**158**	**257**	**375**	**451**	**531**	**628**	**741**	
Core OPEX	(22)	(30)	(38)	(72)	(94)	(114)	(133)	(156)	(178)	
Other operating costs	(6)	(7)	(9)	(15)	(22)	(27)	(32)	(37)	(44)	
Other operating income	3.83	4.64	6.22	10.11	14.72	17.72	20.85	24.67	29.10	
EBITDA	**74**	**86**	**117**	**180**	**273**	**328**	**388**	**459**	**548**	
D&A and provisions	(13)	(20)	(31)	(52)	(73)	(90)	(109)	(130)	(151)	
EBIT	**61**	**66**	**85**	**128**	**200**	**237**	**278**	**330**	**397**	
Tax Rate	18%	18%	18%	19%	20%	20%	20%	20%	20%	20%
NOPAT	**51**	**55**	**71**	**106**	**163**	**192**	**224**	**265**	**319**	
+ After-tax profit from AR strategy	-	-	-	-	42	49	53	52	58	
+ D&A and provisions	13	20	31	52	73	90	109	130	151	
- Change in NWC	(77)	(17)	(32)	(74)	(97)	(61)	(63)	(76)	(91)	
- CAPEX	299	180	581	795	371	351	397	455	426	
FCFF	**(158)**	**(88)**	**(447)**	**(562)**	**4**	**41**	**53**	**68**	**193**	**72**
WACC	-	5.0%	5.0%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.7%
Enterprise Value	**2,017**		**EV/MW = 3.6x**						**g = 2.9%**	

Note: Summary of Valuation in Tables 7 and 8

Appendix 16: Ocean Winds Valuation

We valued *Ocean Winds* separately, project by project, due to its importance to EDPR's strategy and value, using a FCFE approach. A capital structure of 80% debt was assumed, as offshore projects usually are 70%-90% leveraged. The discount rate considered was EDPR's 2022F cost of equity. To calculate the interest expenses associated with each project, EDPR's cost of debt was applied (3.1%). The table below shows all known information and assumptions used. Additionally, projects already announced but not consolidated due to lack of information, such as the tariff contracted, were greyed out.

Share of profit from JV and Associates	2021E	2022F	2023F	2024F	2025F
OW Net Income	(62.9)	(44.6)	(53.5)	(80.4)	67.9
EDPR's share of profit	(19.5)	(12.6)	(11.2)	(16.9)	54.8

OW projects	Location	IC (MW)	EDPR stake	EDPR IC (MW)	CAPEX/MW (€M)	OPEX/MW (€M)	Load Factor	Tariff (€/MWh)	EqV to EDPR (€M)	Status	Tech.
Windplus	Portugal	25	43%	11	6.60	0.06	44%	140	28	Installed	Floating
SeaMade	Belgium	487	9%	43	3.01	0.06	42%	79	51	Installed	Fixed
Moray East	UK	950	28%	269	4.00	0.06	42%	58	108	U/C	Fixed
EFGL	France	30	40%	12	5.28	0.06	47%	240	107	U/D	Floating
Noirmoutier	France	496	31%	151	3.75	0.08	43%	137	484	U/D	Fixed
Le Tréport	France	496	30%	150	4.03	0.08	45%	133	468	U/D	Fixed
Mayflower	USA	2,000	25%	500	2.73	0.07	47%	58	198	U/D	Fixed
B&C Wind	Poland	400	50%	200	2.99	0.06	47%	320	243	U/D	Fixed
Consolidated		**4,884**		**1,335**	**3.30**	**0.07**	**45%**	**98.8**	**1,687**		
Moray West	UK	882	31%	272	-	-	-	-	-	U/D	Fixed
Korea Floating Wind	South Korea	1,500	31%	458	-	-	-	-	-	U/D	Floating
California Project	USA	120-150	-	-	-	-	-	-	-	U/D	Floating
Hanbando	South Korea	1,000	-	-	-	-	-	-	-	U/D	Fixed
ScotWind	UK	9,000	-	-	-	-	-	-	-	-	Fixed

Appendix 17: FCFE

To calculate EDPR's equity value directly, we move from Net Income to FCFE with the necessary adjustments, such as removing Income from Inst. Partnerships. After 2026, net borrowings correspond to the amount invested in net CAPEX and NWC that will be financed through debt and TEI, while maintaining the capital structure as 60% (D+TEI)/EV: $Net\ Borrowings = \frac{D+TEI}{EV} \times (CAPEX - D\&A + \Delta\ NWC)$.

(€M)	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030T	TV
Net Income	974	981	1,097	1,338	1,473	1,681	1,873	2,083	2,344	
Non cash charges & adjustments	636	701	808	859	956	1,019	1,111	1,258	1,393	
Change in NWC	(503)	(179)	(216)	(255)	(427)	(429)	(403)	(414)	(432)	
CAPEX	1,741	2,554	2,773	2,626	2,493	2,634	2,600	2,702	2,682	
Net borrowings	509	798	1,033	1,047	(64)	546	458	428	320	
FCFE	881	105	381	873	297	1,042	1,244	1,481	1,807	1,393
Cost of Equity	4.9%	5.0%	5.0%	5.2%	5.2%	5.1%	5.1%	5.1%	5.1%	5.2%
Equity Value	**23,317**								**g = 1.5%**	

Equity Value (€M)	**23,317**
Ocean Winds	1,687
Non-controlling interests	(1,514)
Total Equity Value (€M)	**23,491**
# Shares (M)	961
Price target (€/sh)	**24.5**

Appendix 18: Residual Income Model

The Economic Value Added (EVA®) was calculated from the NOPAT perspective, where we deduct a capital charge computed with EDPR's WACC and correspondent capital structure. The terminal value was calculated assuming that EDPR's ROIC will slowly decrease, eventually reaching the same value as its WACC, meaning there would be no EVA®. The persistence factor (w) used was 0.9, as our team believes EDPR can keep creating value in the long run. $(1 + k - w)(1 + k)$ is the denominator formula used to calculate the terminal value.

(€M)	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	TV
NOPAT	1,181	1,219	1,369	1,648	1,822	2,066	2,296	2,512	2,777	2,820
Capital charge	634	689	745	831	928	961	1,041	1,140	1,247	1,326
Economic Value Added®	**547**	**530**	**624**	**817**	**894**	**1,105**	**1,255**	**1,372**	**1,530**	**1,494**
Initial book value of equity	11,552	-	-	-	-	-	-	-	-	-
Equity Value	**23,862**								**w = 0.9**	**g = 1.8%**

Equity Value (€M)	**23,862**
Ocean Winds	1,687
Non-controlling interests	(1,514)
Total Equity Value (€M)	**24,036**
# Shares (M)	961
Price target (€/sh)	**25.0**

Appendix 19: Peers

Valuation with multiples must begin with the definition of a peer group to more accurately benchmark the relative measures selected. We used the Sum of Absolute Rank Differences (SARD) approach developed by Knudsen et al. (2017) as a basis for our peer group selection. In this case, different financial drivers, such as Return on Equity, EBIT margin, Net Debt/EBIT, etc., were chosen and ranked across the entire group. Companies within industries such as the electric utilities, electrical equipment, gas utilities, independent power and renewable electricity producers, multi-utilities and Oil & Gas and consumable fuels were chosen as a starting point for the SARD analysis. The final peer group, constituted by the companies which minimized the SARD below..

Rank	SARD	Company	ROE	Rank	Net Debt/EBIT (x)	Rank	Revenue Growth	Rank	EBIT margin	Rank	Market Cap (€M)	Rank
	0	**EDPR**	**7.6%**	**13**	**3.72**	**22**	**12.0%**	**8**	**35.6%**	**4**	**21 399**	**12**
3	6	Innergex	-3.0%	27	18.74	1	11.1%	9	31.6%	5	2 474	23
1	1	EnergieKontor	33.5%	2	3.98	21	49.6%	2	30.8%	6	999	29
3	6	Iberdrola	9.3%	11	6.58	12	7.9%	12	17.1%	14	63 086	4
2	5	Enel	17.7%	6	4.72	18	4.6%	21	16.8%	16	68 438	3
3	6	SSE	20.3%	3	6.14	16	22.1%	5	17.1%	15	20 563	14

Source: Refinitiv

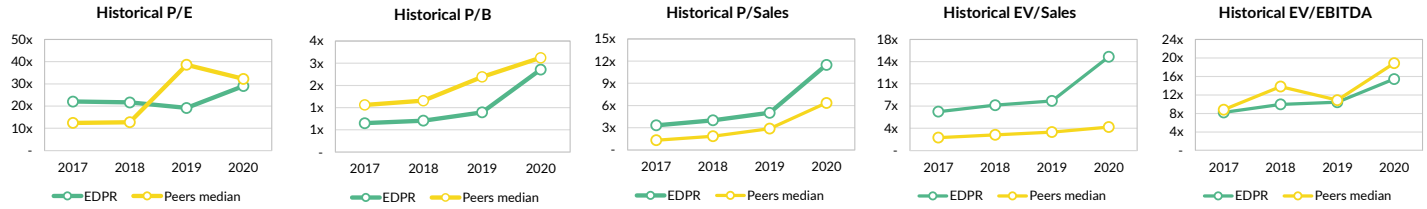
However, our team believes some of these companies are not fully comparable to EDPR. Thus, some peers were substituted in accordance with some indicators such as the renewables installed capacity, geographical locations, and key financial indicators (ROE, D/E, EBITDA Margin, etc.). Companies with installed capacities below 2.5 GW were excluded, as well as the ones that were not well diversified in terms of geographical locations.

Peers	IC (GW)*	Production (GWh)	Pipeline (GW)*	EBITDA Margin	Note
EDPR	**12.2**	**28 537**	**45.0**	**70%**	
Neoen	2.6	4 396	6.9	91%	Operates in Australia, Europe, Africa and Americas. Solar PV, onshore wind and storage technologies. 88% under PPAs and 12% merchant. 5.2 GW of secured portfolio.
Iberdrola	21.7	44 454	71.1	30%	Operates in Europe, Australia, Japan, US, Brazil and Mexico. Onshore and offshore wind and solar. 70% of generation secured through PPAs or long-term agreements.
Ørsted	9.2	20 986	20.3	33%	Europe, NA and APAC (excl. mainland China). Main focus on offshore wind, with other technologies (onshore and solar). In the case of offshore wind, 86% has subsidized exposure, whereas 75% of onshore wind is under PPAs.
Enel	16.3	36 756	141.0	28%	Present across North America, LATAM, Europe Africa and APAC regions. Wind and solar technologies. 56% of production from renewables covered by PPAs.
RWE	8.8	23 708	33.8	24%	Operations in Europe, US and Rest of the World. Technologies include onshore and offshore wind and solar. c.70% secured by long-term contracts.

* includes solar PV, wind (onshore and offshore) and storage

Appendix 20: Valuation through Multiples

The multiples were computed for 2022F. EDPR's values were based on team estimates, whereas peer multiples were extracted from Refinitiv's Forecasted Multiples. We first analyse different EDPR's historical multiples to compare them with peers and understand EDPR's position. Given the significant differences in the capital structure amongst peers, we are quickly motivated to favour the EV/EBITDA multiple. In addition, from the charts below, we can observe that for both EV/EBITDA and P/E, EDPR has been trading along with the median value of the peer group in historical years. In what regards P/Sales and EV/Sales, we observe that EDPR has been trading at a premium, as the company still has capacity to grow. In contrast, when observing the P/B multiple, it shows that EDPR has been trading at a discount.



	P/E			P/B			P/Sales			EV/Sales			EV/EBITDA			EV/MW
	2019	2021E	2022F	2019	2021E	2022F	2019	2021E	2022F	2019	2021E	2022F	2019	2021E	2022F	2020
Average (Peers Core)	57.8x	37.1x	32.7x	2.6x	2.6x	2.5x	3.8x	4.4x	3.8x	5.5x	6.0x	5.2x	12.9x	12.8x	11.5x	1.9x
EDPR	19.1x	41.1x	30.5x	1.3x	2.3x	2.1x	5.0x	11.3x	10.6x	7.8x	14.5x	11.5x	10.4x	13.3x	12.8x	2.0x
Price target	31.5	22.6	26.5	21.4	27.4	28.6	6.9	8.3	9.0	5.8	8.4	9.5	17.7	19.7	21.9	21.4

Appendix 21: Storage and Hybridization

With the progress of the energy transition, countries' dependence on renewables will increase. However, RES display a certain seasonality, affecting its reliability. Hybridization and energy storage solutions are being developed to tackle this problem. Hybridization involves the merger of different RES in the same park, stabilizing energy production and increasing the parks' efficiency and competitiveness. EDPR is currently planning a hybrid solar-wind project in Spain. Even though, energy storage is still an underdeveloped technology, it is expected to have an important role in the energy transition. This is because it provides flexibility to the grid systems by storing energy when the demand is low and providing energy when demand surpasses energy production. EDPR started with a storage pilot project in Romania, and it has already 2 solar parks under development in NA which include storage facilities. In 2021, the company created a business unit in the US which focusses on achieving 1GW of storage capacity by 2026.

Appendix 22: SWOT Analysis

Strengths

- Value crystallization through AR
- Knowledge, experience and reputation
- Large pipeline
- Ability to take advantage of tax credits and incentives
- Strong relationship with suppliers

Weaknesses

- Significant reliance on onshore wind
- Revenue is highly dependent on climate conditions
- Very high upfront costs

Opportunities

- Expansion in APAC through Sunseap
- Likely expansion of tax credits (US)
- Decarbonization targets imply RES investment
- Technological advancements
- Continuously decreasing LCOE
- Hybridization and repowering projects
- Diversification of production profile

Threats

- Changing competitive landscape
- Overly ambitious renewable targets
- Eventual phase-down of tax incentives.
- Disruptions in solar supply chain
- Extensive licensing process
- Opposition of communities
- Weather

Appendix 23: Risk Matrix

Political, Regulatory and Legal Risk | Extinction of PTC and ITC – Scenarios (PRL3)

	Blue Sky Scenario	Base Scenario	Grey Sky Scenario
Continuity of ITC and PTC	No expiration	Expiration for farms starting construction > 2026	Expiration for farms starting construction > 2021
Income from IP (2022F-30F)	+ c.18% CAGR	+ c.12% CAGR	- c.17% CAGR
IC Growth (2022F-30F)	+ c.12% CAGR	+ c.11% CAGR	+ c.10% CAGR
Electricity Sales (2022F-30F)	+ c.9% CAGR	+ c.8% CAGR	+ c.7% CAGR
Price Target (€/sh)	25.7	24.7	21.5
Upside (from Jan 12, 2022)	+ 29%	+ 24%	+ 8%
Investment Recommendation	**Buy**	**Buy**	**Hold**

Financial Risk | Solvency and Liquidity (FR2)

Tax Equity Investors, commercial banks, corporate debt from EDP Group entities and the gains crystallized from the asset rotation strategy are the main sources of financing used by EDPR. Future investments may a cause strain on the company's ability to pay unexpected expenses (e.g., weather events). Mitigation: EDPR has easy access to capital even on short notice as seen through their recent ABB which raised 1.5B for €17/share.

Political, Regulatory and Legal Risk | Remuneration schemes and incentives (EU/LATAM/APAC) (PRL2)

EDPR relies on remuneration schemes and incentive mechanisms, such as public auctions, CfD, Government and EU grants, amongst others, to get long-term visibility on its revenue and increase its IC in all technologies. The future availability of these mechanisms to support future renewable energy projects is not guaranteed. Yet, these are expected to prevail. Mitigation: The company continuously monitors the evolution of renewable energy targets and regulations in all its regions.

Political, Regulatory and Legal Risk | Licenses approval (PRL1)

EDPR's renewable power plants are subject to strict regulations and laws regarding landscape and environmental aspects. A non-approval of permission can lead to challenges in the negotiation of long-term contracts and delays, or even refusals, of construction. These situations can harm EDPR's earnings. Mitigation: EDPR's 45GW current pipeline, geographical diversification and process specialization help to lighten the impact of delays in operations.

Market Risk | Energy planning (MR4)

While the long-term contracts are active, the remuneration received is fixed. However, after the contracts' expiration date, exposure to merchant energy prices will exist. Since the marginal setting price is used in most countries where EDPR operates (price paid for the most expensive offer accepted), the continuously increase in RES generation may lead to lower electricity pool prices in the next years (wind and solar installations have a zero marginal price). The impact of this trend on EDPR's profitability depends on the continuity of current legislation. Mitigation: To access projects' financial strength, the company performs sensitivity analyses on the future evolution of electricity pool prices.

APAC's Terminal Growth

1.9%	2.4%	2.9%	3.4%	3.9%
23.7	24.1	24.7	25.9	28.4

Governance Risk | EDP – Energias de Portugal (GR)

EDP – Energias de Portugal holds c.75% of EPDR's share capital, allowing it to dictate the path of EDPR. Also, some strategic and operational measures are subject to a prior favourable opinion from EDP's Supervisory Board, such as plans for M&A transactions or share capital increases. Throughout the years, EDPR has been an important piece for EDP's success. Considering this and the fact that EDPR's earnings are being reinvested into value-creation activities and dividends are being paid since 2013, we do not believe EDP is harming the interest of minority shareholders.

Market Risk | Energy Price (MR3)

EDPR's revenues depend on electricity prices, which can fluctuate unpredictably. This hinders the company's strategy of long-term visibility of revenue. Mitigation: EDPR expects to have only 6% of its revenue exposed to merchant prices by 2021YE. EDPR operates mainly in countries that have regulated framework mechanisms When this is not the case (e.g. US), negotiations usually involve PPAs with electricity and GC/REC to eliminate price risk. Financial hedging instruments are also used. We estimate that a ±8% change in the ASP would lead to a price target between €22.9/sh and €26.5/sh.

Market Risk | Inflation rates (MR6)

In the last year inflation became a hot topic due to its constant escalation (In 2021, 7% YoY in US and 5.2% YoY in EU). It can cause increased expenses for businesses due to rises in commodity prices and interest rates. Mitigation: EDPR's revenues have little exposure to inflation, since most arise from long-term contracts indexed to it. Surges in inflation will not have much impact in EDPR's CAPEX, due to the increasing competitiveness in the supplier side, preventing significant price increases. Additionally, EDPR is able to maintain a constant OPEX/MW even with inflation (Figure 12). EDPR hedges its exposure to interest rates via project finance, adjusting the level of interest coverage.

Financial Risk | Interest rates (FR1)

EDPR's financing policy has insignificant exposure to variable interest rates since long-term debt is mainly contracted with fixed rates. However, when the company is refinancing, exposure to interest rate rises. Much of the debt acquired by EDPR comes from EDP (54%), which has been reducing its cost of debt through green bonds. Mitigation: EDPR aims to maintain a balanced maturity profile, detecting good opportunities for debt restructuring. When debt is contracted with variable rates, the company uses financial instruments to swap from floating to fixed rates. Additionally, projects have their individual financial strategy.

Appendix 24: Sensitivity Analysis

Terminal Growth

WACC	1.3%	1.4%	1.5%	1.6%	1.7%
4.2%	26.3	26.8	27.3	27.9	28.7
4.3%	25.1	25.5	26.0	26.5	27.2
4.4%	23.9	24.3	24.7	25.3	25.8
4.5%	22.9	23.3	23.7	24.1	24.6
4.6%	22.0	22.3	22.6	23.1	23.5

CAPEX/MW (€k)

WACC	780	785	790	795	800
4.2%	30.0	28.7	27.3	26.1	24.8
4.3%	28.5	27.3	26.0	24.8	23.6
4.4%	27.2	26.0	24.7	23.7	22.5
4.5%	25.9	24.8	23.7	22.6	21.5
4.6%	24.8	23.8	22.6	21.6	20.6

Avg. EV/MW (€M)

WACC	1.32	1.34	1.36	1.38	1.40
4.2%	25.0	26.3	27.3	28.9	30.1
4.3%	23.8	25.0	26.0	27.4	28.7
4.4%	22.6	23.8	24.7	26.2	27.3
4.5%	21.6	22.8	23.7	25.0	26.1
4.6%	20.7	21.8	22.6	23.9	25.0

ASP (€/MWh)

WACC	47.2	49.2	51.2	53.2	55.2
3.8%	32.2	33.5	34.7	35.8	36.9
4.1%	26.7	27.8	28.8	29.8	30.8
4.4%	22.9	23.8	24.7	25.6	26.5
4.7%	20.0	20.9	21.7	22.5	23.3
5.0%	17.8	18.6	19.4	20.1	20.9

EUR/USD

WACC	1.11	1.13	1.14	1.15	1.16
4.2%	29.1	28.2	27.3	26.4	25.5
4.3%	27.7	26.8	26.0	25.1	24.3
4.4%	26.4	25.6	24.7	24.0	23.2
4.5%	25.2	24.4	23.7	22.9	22.1
4.6%	24.1	23.4	22.6	21.9	21.2

Cost of Debt (ESG Analysis)

WACC	1.5%	1.8%	2.1%	2.3%	2.6%	3.1%
3.8%	35.2	35.1	35.0	34.9	34.8	34.7
4.1%	29.4	29.3	29.2	29.1	29.0	28.8
4.4%	25.3	25.2	25.1	25.0	24.9	**24.7**
4.7%	22.2	22.2	22.1	22.0	21.9	21.7
5.0%	19.9	19.8	19.7	19.6	19.5	19.4

Appendix 25: APAC's Terminal Growth Sensitivity

Sunseap provides a stable platform for EDPR's growth in APAC. Throughout our analysis we have named the different key aspects by which this strategic acquisition is beneficial for EDPR's expansion in the highest growth potential region in the world. Since it is a new geography for EDPR, its value lies mainly in the terminal period. The terminal growth rate assumed is the GDP growth for APAC until 2050, which we consider conservative. To stress this variable, we conducted a sensitivity analysis and achieved a price target range between €23.7/sh and €28.4/sh.

APAC's Terminal Growth

1.9%	2.4%	2.9%	3.4%	3.9%
23.7	24.1	24.7	25.9	28.4

Appendix 26: Australia

Australia (€M)	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030T	TV
Revenues	10	18	36	64	104	145	189	235	283	
Core OPEX	(2)	(6)	(10)	(17)	(24)	(30)	(36)	(42)	(48)	
Other operating costs	(1)	(1)	(2)	(4)	(6)	(9)	(11)	(14)	(17)	
Other operating income	0	1	1	3	4	6	7	9	11	
EBITDA	7	12	25	46	78	112	149	188	229	
D&A and provisions	(1)	(3)	(4)	(9)	(15)	(20)	(25)	(30)	(35)	
EBIT	6	9	21	37	64	93	124	158	194	
Tax Rate	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
NOPAT	4	7	15	26	44	65	87	110	136	
+ After-tax profit from AR strategy	-	-	-	18	18	18	18	18	18	
+ D&A and provisions	1	3	4	9	15	20	25	30	35	
- Change in NWC	(8)	(7)	(14)	(21)	(32)	(33)	(35)	(36)	(39)	
- CAPEX	34	57	57	182	182	158	158	158	158	
FCFF	(21)	(41)	(24)	(108)	(73)	(22)	6	36	70	53
WACC	5.4%	5.3%	5.3%	5.3%	5.4%	5.5%	5.5%	5.5%	5.5%	5.4%
Enterprise Value	820		EV/MW = 13.7x						g = 1.77%	

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Level of Risk[1]	SELL	REDUCE	HOLD/NEUTRAL	BUY
High Risk	0%≤	>0% & ≤10%	>10% & ≤20%	>20% & ≤45%
Medium Risk	-5%≤	>-5% & ≤5%	>5% & ≤15%	>15% & ≤30%
Low Risk	-10%≤	>-10% & ≤0%	>0% & ≤10%	>10% & ≤20%

[1] The recommendation table was adapted for purposes of the CFA competition.