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EDP - Energias de Portugal S.A.

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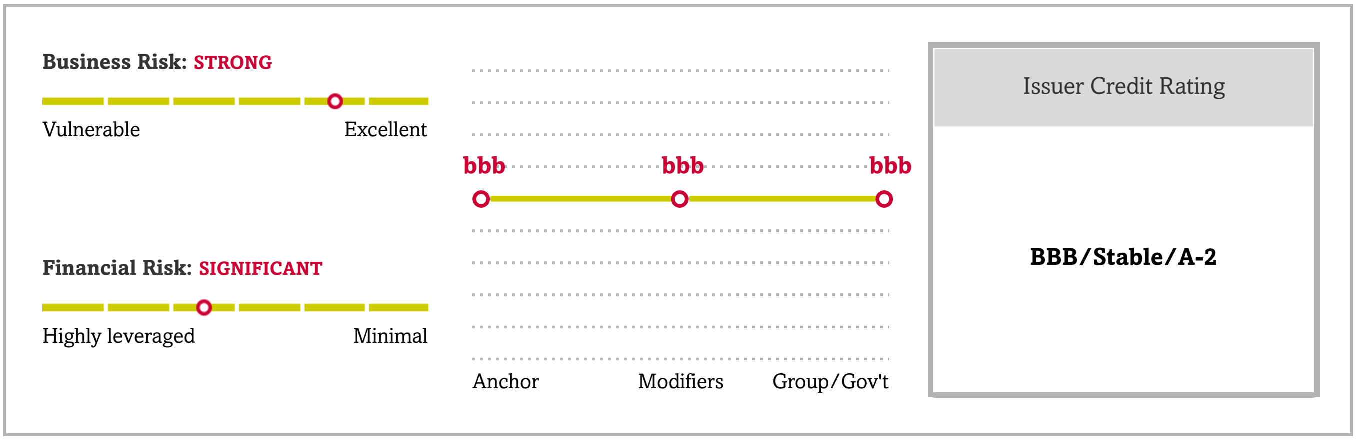


Credit Highlights

Overview

Key strengths	Key risks
High share of cash flows (89% of 2022 EBITDA) stemming from networks (33% of 2022 EBITDA) and long-term contracted activities (56% wind and solar).	Ambitious capital expenditure (capex) plan (€6.2 billion annually in 2023-2026, up from €4.8 billion annually compared to previous business plan) with a focus on new renewables fueled by asset rotation. There is some execution risk, although we note that strong negotiations should mitigate supply chain disruptions and rising costs of materials and shipping.
Dominant electric utility in Portugal, with fully regulated activities (networks) in Spain, Brazil, and Portugal (33% of 2022 EBITDA).	Exposure to regulation risk in Iberia (20% of 2022 EBITDA is regulated power distribution activities), which we see as less credit supportive than other European frameworks.
Significant geographic diversification, with 49% of EBITDA generated outside of Iberia, mainly in Brazil, the U.S., and Canada.	Remaining exposure to thermal generation (5.4 gigawatts [GW] as of 2022, up 12% on 2021) and to merchant risk, mainly through hydro and energy activities in Iberia and Brazil.
A low-carbon and modern generation fleet, with about 79% of capacity coming from renewable sources (mainly wind and solar).	Exposure to foreign exchange risk in Brazil and the U.S., mitigated by the company's net investment hedge policy and by financial ring-fencing in Brazil.
S&P Global Ratings-adjusted debt to EBITDA expected to remain close to 3.9x (from 4.4x in 2021) thanks to disposals and a supportive financial policy. Strengthened liquidity position to address hedging needs given volatile commodity prices.	Presence of some minorities at EDP Renovaveis (EDPR), mitigated by EDPR being almost fully internally funded.

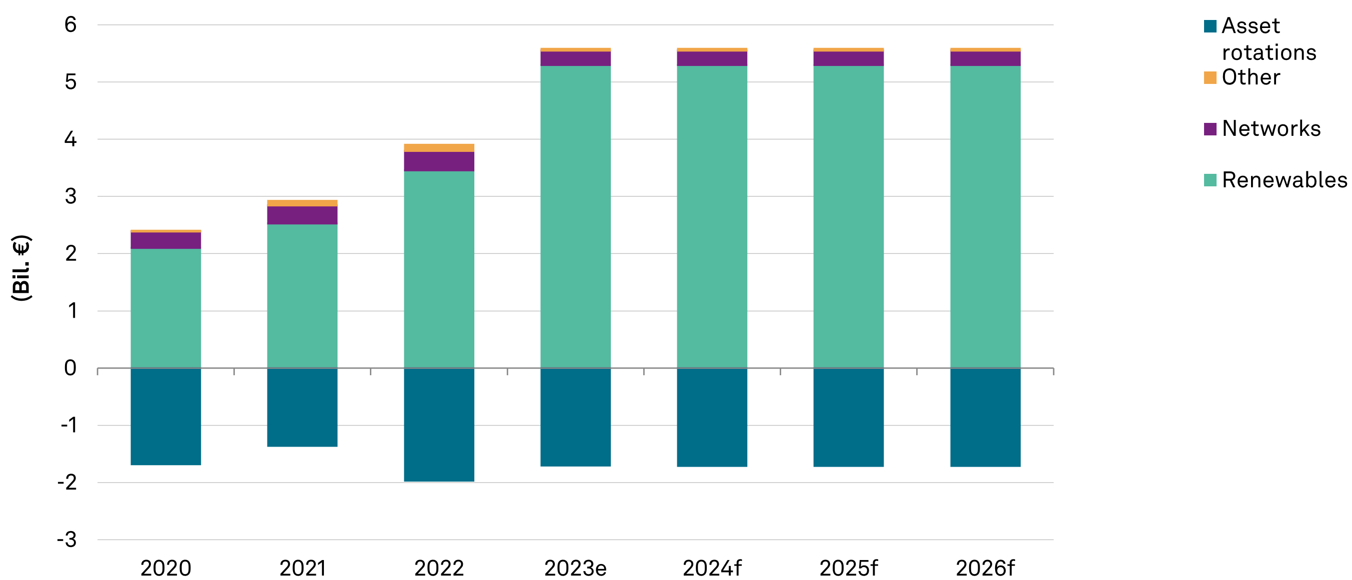
Due to strong results and ongoing supportive hydro conditions in Q3 2023, we forecast funds from operations (FFO) to debt close to 19% by year-end 2023. This is because we forecast a recovery of integrated margins in Iberia, following the decline in electricity and gas sourcing costs since last year. At this stage, we think Iberian earnings will be supported by improved volumes (thanks to hydro notably) and higher captured prices. Furthermore, based on its solid experience, we think EDP will continue to deliver on its ambitious strategic plan, which includes adding 18GW of renewable capacity globally by 2026 (5.2GW under construction as of September 2023 and 9.3GW secured).

We expect S&P Global Ratings-adjusted FFO to debt to remain between 19% and 20%, with little headroom for the 'BBB' rating. Despite net adjusted debt increase to about €18.5 billion-€19.0 billion by the end of 2023, we forecast adjusted EBITDA to grow by about 13% at €4.7 billion. We forecast annual free operating cash flow (FOCF) to remain negative at €2.0 billion-€2.5 billion on average over 2023-2025, on the back of annual average investments of about €6 billion, dividend distribution of about €0.9 billion, and structurally negative working capital mainly because of tax equity credits EDP receives in the U.S. to develop renewables. Asset rotations of €1.7 billion-€1.8 billion of mainly renewable assets will limit negative annual discretionary cash flow to €2.9 billion-€3.4 billion.

We also note EDP's commitment to the current 'BBB' rating. If EDP encounters any operational or financial underperformance in its current plan, we would expect it to take credit-supportive measures such that FFO to debt remained above 19% and debt to EBITDA below 4.0x.

Chart 1

EDP evolution of expansion capex and asset rotation



Note: Expansion capital expenditure (capex) includes financial investments. Capex--Capital expenditure. e--Estimate. f--Forecast. Sources: Company disclosures, S&P Global Ratings.

Results for the first nine months of 2023 demonstrated positive business development, mostly thanks to domestic unregulated activities that support EDP's financial performance. EDP's generation and supply activities benefit from increased power generation in 2023 compared with 2022. This includes notably restored hydro levels, with hydro production in Iberia rising 58% in Q3 2023 compared with Q3 2022. It has also benefitted (to a less extent) from about 0.9GW of new installed onshore wind and solar photovoltaic (PV) renewable capacity over the past 12 months. We forecast that the resultant higher electricity output will be sold at prices significantly above historical averages despite prices coming down from peak levels in mid-2022. In addition, we expect the higher output will reduce the shortage in generation, which should translate into higher profitability for this segment compared with 2022 (when EDP had to reprocure power at higher prices in Portugal amid extreme drought conditions).

EDP reported €3.8 billion in EBITDA as of Q3 2023, with a strong likelihood of S&P Global Ratings-adjusted EBITDA reaching €4.5 billion–€5.0 billion in 2023 despite weaker-than-expected results from EDPR due to a few nonrecurring items: weaker wind resources, lower average selling price, delays in U.S. and Colombia, and extraordinary taxes in Eastern Europe. We will monitor any potential effect on EDP's credit metric in case the company encounters lower-than-expected capacity additions or returns on its renewable projects.

Regulatory receivables further increased to €1.2 billion, potentially weighing on 2023 cash flows. As of Sept. 30, 2023, EDP's regulatory receivables increased by another €300 million to €1.2 billion versus H1 2023. This is after EDP had already sold €300 million of the 2022 tariff adjustment related to the activity of purchasing and selling electricity from generators with guaranteed remuneration. This was done through a direct bilateral sale. EDP plans to sell the 2024 tariff deficit. We expect this will include 2022 and 2023 tariff adjustments, closer to the year's end once the company has more visibility on the final amount after the regulator proposes the 2024 tariff, which will define the amount that can be sold. We expect the remaining amount to be sold to be about €1.2 billion-€1.3 billion. We understand that the regulatory receivables stem from EDP's role as last resort supplier of the Portuguese electricity system. The large increase in regulatory receivables arose from H1 2023 electricity prices that landed lower than the regulator had expected. We do not adjust the debt for securitized receivables because the supplier of last resort activity is fully passed-through nonrecourse activity by EDP and we understand that the company is constitutionally authorized to mandate recovery. We currently factor the securitization of an estimated €1.2 billion of regulatory receivables by year-end in our base case and will monitor the successful execution, since any delay or lower amount could increase working capital weighing on net debt at year-end 2023.

The buyout of EDP Brazil minorities completed in Q3 2023 is mildly credit positive because it reduces cash flow leakage. EDP successfully completed the buyout of EDP Brazil, with the intent to take the company private via a €1 billion equity investment (100% achieved by August 2023). EDP recorded 100% earnings contribution from EDP Brazil for the first time, enhancing its Q3 2023 earnings. We expect this transaction to reduce cashflow leakage to minorities, positively contribute to earnings growth, and allow for stronger focus on renewables and transmission and distribution buildouts.

Renewable growth execution is on track, with average capacity additions of about 6.5GW, notably 2.5GW in 2023 and about 4.0GW in 2024. We understand growing capacity additions for 2023 and 2024 are on track to deliver expected returns. EDPR secured about 2.5GW of capacity additions for 2023, impacted by U.S. solar delays. Solar panel suppliers have experienced challenges with Uyghur Forced Labor Protection Act legislation on imports into U.S. However, these will be operationally resolved, meaning that 0.9GW of solar capacity postponed from 2023 will be installed in 2024.

Outlook: Stable

The stable outlook reflects our expectation that EDP's FFO to debt will remain between 19% and 20% and debt to EBITDA below 4.0x over the 2023-2026 period, and that the group will continue investing in regulated activities and renewables in a balanced way while maintaining a financial policy oriented toward a 'BBB' rating.

Downside scenario

We could lower the ratings if, over 2023-2024, EDP's FFO to debt drops significantly below 19% or adjusted debt to EBITDA remains above 4.0x. One or more of the following scenarios could lead us to take a negative rating action:

- EDP experiences a material operational setback, such as lower-than-expected profitability from installed assets or material delays in construction that are not compensated by supportive credit remedy measures;
- Increased presence of minorities, which would result in higher-than-expected cash flow leakage;
- A material heightening of country risk in Portugal and (secondarily) Brazil, including adverse regulatory or fiscal effects); and
- Inability to achieve the €7 billion asset rotation target over 2023-2026 without any measures to reduce capex.

Upside scenario

We view an upgrade as unlikely, given the company's current financial policy and ambitious investment plan. That said, rating upside would require EDP to achieve FFO to debt above 25% under its current business risk profile.

Our Base-Case Scenario

Assumptions

- Economic growth in Portugal decelerates in 2023, but medium-term prospects to remain strong, minimizing affordability issues and allowing for a moderate increase in system revenues.
- A higher short-term price environment with electricity prices subsequently decreasing on a gradual basis, benefitting EDP for its unhedged generation. Average wholesale prices are forecast at about €120 per megawatt hour (/MWh) in 2024, gradually decreasing thereafter. From 2026, we expect the electricity price to fall rapidly to about €50/MWh.
- S&P Global Ratings-adjusted EBITDA of €4.6 billion-€4.8 billion in 2023 before increasing to €4.8 billion-€5.0 billion in 2024, off EDP's accelerated renewables buildout of about 4.5GW per year. Networks profits remain stable.
- We do not include any foreign exchange hit.
- Negative working capital mainly due to tax equity credits received.
- Cash taxes averaging €280 million per year over 2023-2025.
- Cash interest paid to increase to about €860 million on average annually, resulting from the material interest rate increase causing the average cost of debt to rise to 4.3% from 2.9%.
- Gross capex and financial investments of about €6.1 billion per year over 2023-2026, of which about 85% on renewables development and 15% on networks.
- Dividends (including dividends to minority shareholders) averaging €900 million per year over 2023-2025.
- Disposals of €1 billion over 2023-2025, beyond asset rotation totaling about €7 billion between 2023-2026.
- About €1 billion in proceeds annually from tax equity credits in the U.S.

Key metrics

EDP Energias de Portugal S.A.--Key metrics

	2021a	2022a	2023e	2024e	2025e
EBITDA (bil. €)	3,288.9	4,167.7	4,600-4,800	4,800-5,100	5,000-5,200
FFO (bil. €)	2,668.6	3,185.1	3,400-3,600	3,700-3,900	3,900-4,100
Capex and Inv. (bil. €)	3,260.6	3,454.1	5,800-6,400	5,800-6,400	5,800-6,400
Dividends (mil. €)	931.0	999.8	880-1,000	880-1,000	880-1,000
Debt (bil. €)	14,581.2	16,846.3	18,500-19,000	19,500-20,000	20,000-20,500
FFO/debt (%)	18.3	18.9	18.5-19.5	19.0-19.5	19.5-20.0
Debt/EBITDA (x)	4.4	4.0	3.8-4.0	~4.0	3.8-4.0

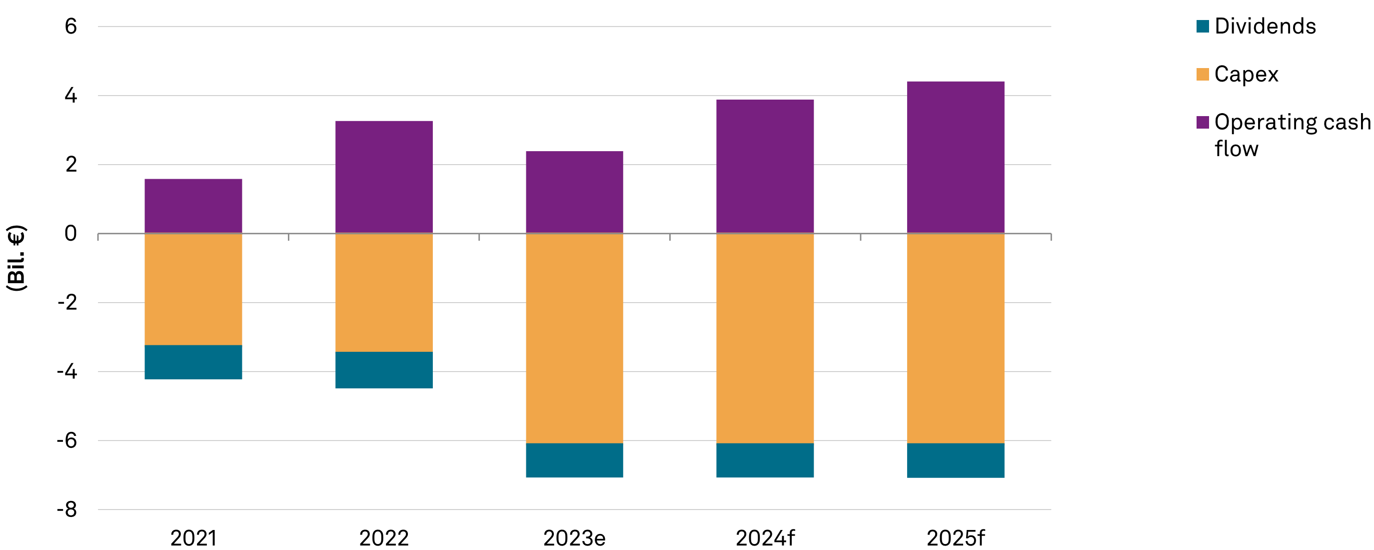
a--Actual. Capex and Inv.--Capital expenditure, includes financial investments. e--Estimate. FFO--Funds from operations. FFO--Funds from operations. All data is adjusted by S&P Global Ratings.

We expect EBITDA contribution from EDP's renewable generation base to exceed €3.6 billion by 2024 while the share of regulated EBITDA will remain at about 30%. EDP's renewable business line currently represents about 56% of the group's EBITDA. With the acceleration of investments into its renewable build-out of about €21 billion gross between 2023-2026, we forecast EDP to reach EBITDA contribution from its renewable business of about €3.1 billion in 2023 and €3.6 billion by 2024. At the same time, we forecast that the share of regulated EBITDA will remain at about 30% for the next two years.

We expect EDP maintain FFO to debt at about 19%-20% in the coming two years in a period of increased investments. We expect EDP's FFO to debt to remain close to 19% in 2023 and then slightly strengthen to above 19% in 2024 and remain there through 2025, which is above our 19% downside rating trigger for the rating level, albeit with very little to no headroom. The uplift is mainly supported by strong growth in EBITDA from its renewables and higher realized electricity prices. Capex, on the other hand, will continue to pressurize credit metrics at an annual average of €6.1 billion between 2023 and 2025, resulting in negative free cash flow of about €2.0 billion-€2.5 billion for the next two years. We do not include in EBITDA about €300 million-€400 million in annual capital gains from asset rotations. Adjusted debt to EBITDA should therefore remain close to 3.9x on 2023-2025.

Chart 2

Free operating cash flow evolution*



Capex--Capital expenditure. e--Estimate. f--Forecast. *Excluding asset rotations. Source: S&P Global Ratings.

Company Description

EDP is a vertically integrated utility company. It is the largest generator, distributor, and supplier of electricity in Portugal, and the third-largest electricity generator on the Iberian Peninsula.

EDP is one of the largest wind power operators worldwide. Through its subsidiary EDPR, the group develops and operates wind and solar energy generation in four regional hubs, North and Latin America, and, more recently, in the Asia-Pacific region with the Sunseap acquisition.

In Brazil, EDP is the fifth-largest private operator in electricity generation, with two electricity distribution concessions (EDP São Paulo and EDP Espírito Santo). It is Brazil's fourth-largest private supplier in the liberalized market, and carries out power transmission there.

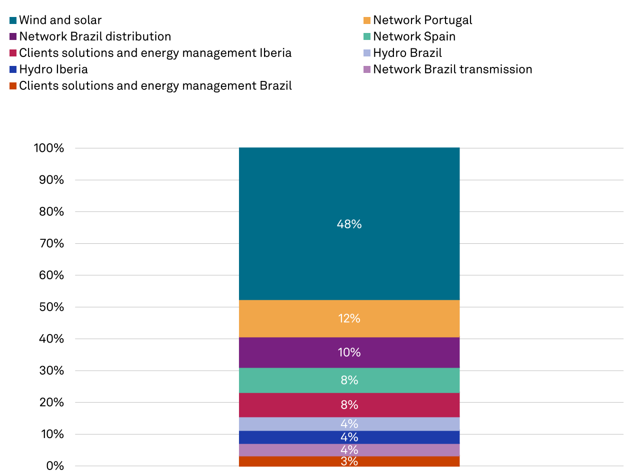
EDP reports its operations under the following two business segments:

- Renewables (56% of 2022 EBITDA), client solutions, and energy management (EM) (11%): This segment includes EDP's hydro, wind, and solar power assets across all geographies. EDP's renewables capacity accounts for 79% of total installed capacity, equivalent to 20.7GW. Client solutions and EM include EDP's supply activities in Iberia and Brazil, thermal generation, and EM businesses.
- Networks (33%): This segment includes EDP's electricity distribution activities in the Iberian Peninsula (25%) and Brazil, transmission lines in Brazil, and electricity last resort supply activity in Portugal. As of Dec. 31, 2022, EDP had an installed capacity of 26.2GW and generated 61.4 terawatt hours of electricity in 2022, about 74% of which came from renewables.

Chart 3

EBITDA detailed by segment

2022

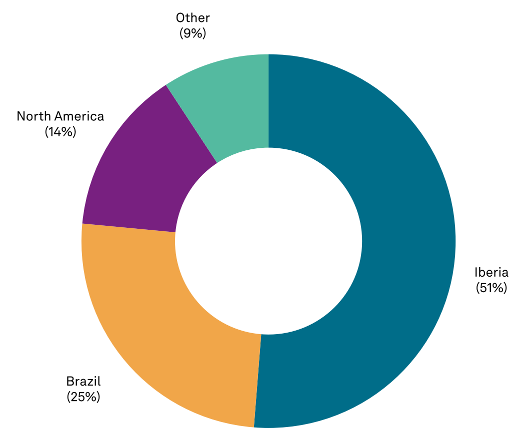


Sources: Company disclosures, S&P Global Ratings.

Chart 4

EBITDA by geography

2022

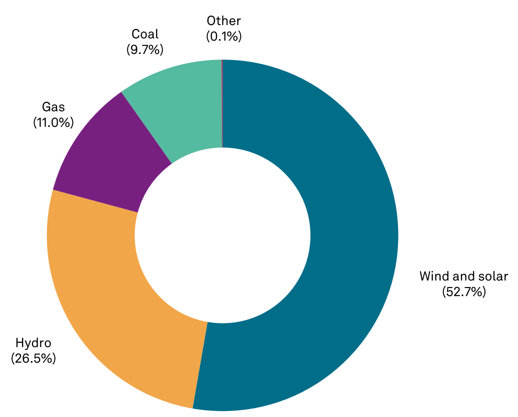


Sources: Company disclosures, S&P Global Ratings.

Chart 5

Installed capacity

Total installed capacity of 26.2GW as of December 2022

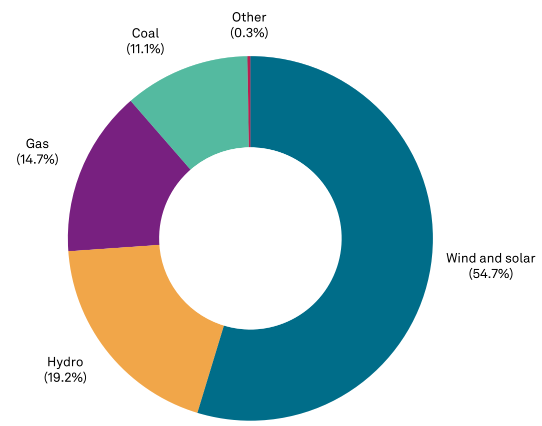


Other includes cogeneration and waste. GW--Gigawatt. Sources: Company disclosures, S&P Global Ratings.

Chart 6

Production mix

Total net generation of 61.4TWh as of December 2022

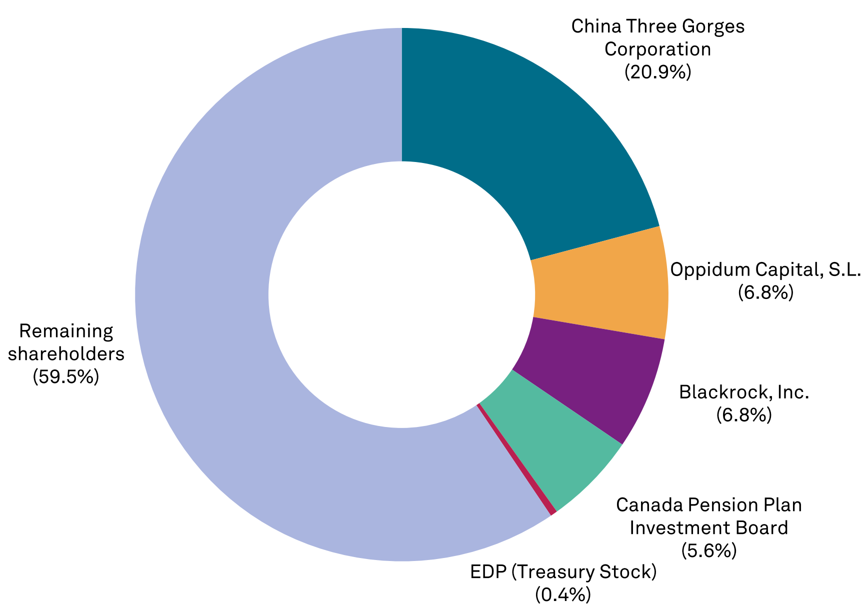


Other includes cogeneration and waste. TWh--Terawatt hour. Sources: Company disclosures, S&P Global Ratings.

Chart 7

Shareholding structure EDP

As of Dec. 31, 2022



Sources: Company disclosures, S&P Global Ratings.

Peer Comparison

Table 1

EDP - Energias de Portugal S.A.--Peer comparison

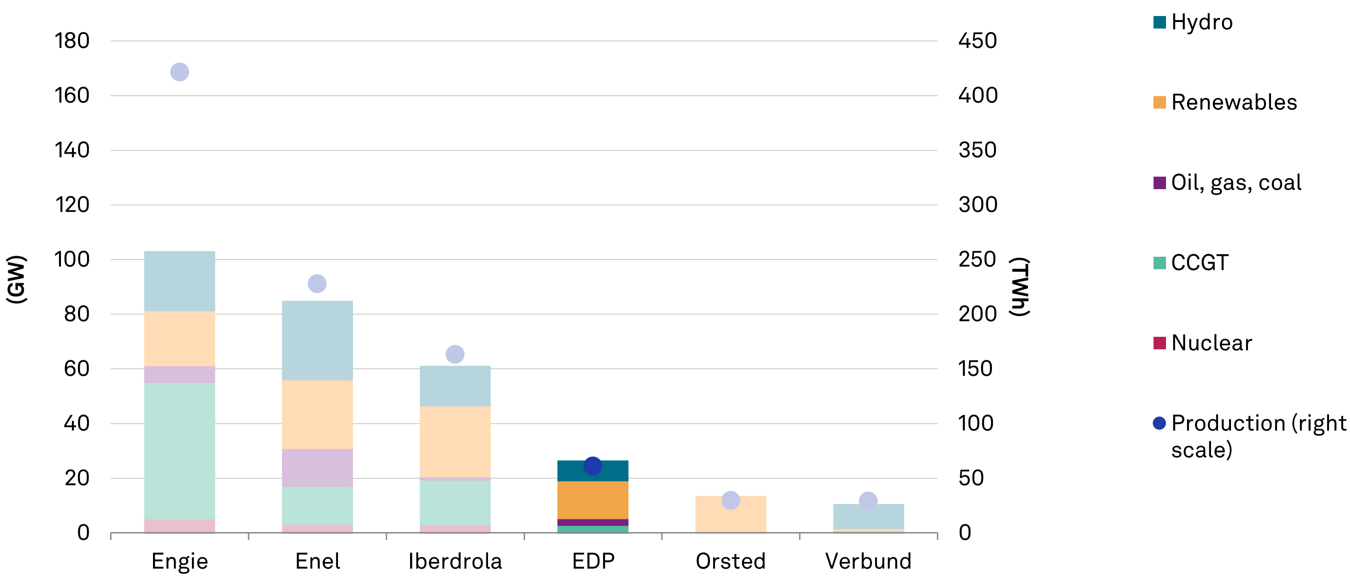
Industry sector: Energy

	EDP - Energias de Portugal S.A.	Enel SpA	Iberdrola S.A.	Engie S.A.	Verbund AG	Orsted A/S
Ratings as of July 17, 2023	BBB/Stable/A-2	BBB+/Negative/A-2	BBB+/Stable/A-2	BBB+/Stable/A-2	--/--/--	BBB+/Stable/A-2
	--Fiscal year ended Dec. 31, 2022--					
(Mil. €)						
Revenue	20,879.3	138,549.0	53,949.0	93,865.0	10,319.6	17,783.1
EBITDA	4,167.5	17,345.0	12,407.0	12,967.0	2,240.9	2,840.9
Funds from operations (FFO)	3,184.9	13,141.5	9,522.5	10,450.0	1,855.0	2,218.3
Interest expense	732.5	3,058.5	2,355.5	1,806.0	79.0	436.3
Cash interest paid	775.2	2,269.5	1,829.5	1,013.0	42.8	452.9
Cash flow from operations	3,231.9	8,965.5	8,726.1	7,643.0	1,870.3	1,570.6
Capital expenditure	3,454.1	13,193.0	7,634.0	6,226.0	1,224.6	4,437.0
Free operating cash flow (FOCF)	(222.2)	(4,227.5)	1,092.1	1,417.0	645.6	(2,866.4)
Discretionary cash flow (DCF)	(1,314.1)	(9,240.0)	(2,186.4)	(1,577.0)	167.8	(3,647.6)
Cash and short-term investments	4,898.6	10,964.0	4,642.0	15,558.0	399.3	5,562.4
Debt	16,908.3	83,887.6	48,469.0	42,089.5	3,325.0	7,100.0
Equity	15,709.6	40,007.0	53,989.0	37,588.5	8,323.0	11,512.7
Adjusted ratios						
EBITDA margin (%)	20.0	12.5	23.0	13.8	21.7	16.0
Return on capital (%)	7.7	8.6	8.4	10.6	17.3	9.1
EBITDA interest coverage (x)	5.7	5.7	5.3	7.2	28.4	6.5
FFO cash interest coverage (x)	5.1	6.8	6.2	11.3	44.3	5.9
Debt/EBITDA (x)	4.1	4.8	3.9	3.2	1.5	2.5
FFO/debt (%)	18.8	15.7	19.6	24.8	55.8	31.2
Cash flow from operations/debt (%)	19.1	10.7	18.0	18.2	56.2	22.1
FOCF/debt (%)	(1.3)	(5.0)	2.3	3.4	19.4	(40.4)
DCF/debt (%)	(7.8)	(11.0)	(4.5)	(3.7)	5.0	(51.4)

EDP's closest peers are the large European integrated utilities. Although EDP compares very favorably in terms of the low carbon footprint of its fleet--being focused on wind and solar--it is much smaller than peers. It has a 33% exposure to regulated networks at the year-end 2022, similar to Engie's share, but its network activities are supported by a weaker regulatory framework than France and Italy, notably for Engie and Enel. Nevertheless, EDP operates largely in low-risk countries in Iberia, the U.S., and Canada, with some exposure to Brazil (a higher-risk country), whereas Enel is exposed to higher country risk through its larger presence in Brazil and Italy.

Chart 8

EDP and peers installed capacity and generation
Electricity, 2022



Net production for Iberdrola. CCGT--Combined cycle gas turbines. GW--Gigawatts. TWh--Terrawatt hours. Source: Company disclosures. S&P Global Ratings.

Business Risk: Strong

A high share of EDP's cash flow stems from long-term contracted asset-based operations and regulated networks. These activities represented 89% of 2022 EBITDA (with long-term contracted generation operations 56% and regulated network activities representing 33%) and provide a stable and predictable source of cash flow generation that supports our assessment of EDP's business risk profile as strong. EDP benefits from a favorable remuneration scheme for the majority of its renewable (wind and solar) generation portfolio, which has a low exposure to merchant risk, with electricity generation increasing by 11% to 33.5 terawatt hours (TWh) (2022) at an average selling price of €65/MWh (compared to €54/MWh in 2021). EDP has slightly reduced its more volatile hydro generation to 26% of installed capacity in 2022 from 32% in 2018, thanks to numerous hydro asset disposals between 2020 and 2021 and the recent disposal of Mascarenhas in 2022.

We view networks as less risky than long-term contracted asset-based operations because they are less exposed to long-term technological risk, although we recognize the strength of EDP's renewable operations, which provide long-term earnings visibility. Growth will come mainly from contracted activities, under EDP's 2023-2026 strategic plan: About 85% of total capex will be allocated to renewables, clients, and EM, while the remaining 15% will be invested into electricity networks. With EBITDA from electricity networks expected to remain at about €1.5 billion per year until 2026, we expect their relative contribution to decrease to 26% as renewables grow.

EDP's power networks are covered by mostly supportive regulatory frameworks in Iberia and long-term contracts in Brazil. Network activities represented 33% of EDP's EBITDA in 2022, which we anticipate will slightly reduce to 26% over the business plan horizon to 2026.

- We assess monopolistic power distribution networks in Iberia as having a strong/adequate regulatory advantage because remuneration is fully secured. We assess regulatory frameworks as mostly supportive in Portugal (42% of the regulatory asset base [RAB]) and Spain (27% of 2022 RAB; see "Why We See Spain's Electricity And Gas Regulatory Frameworks As Mostly Supportive", published May 11, 2017).
- In Portugal, the regulatory framework for electricity is in its nineth period, having started in January 2022 and ending in December 2025. The regulator Entidade Reguladora dos Serviços Energéticos' (ERSE) has published the final decision on the new electricity framework for the new regulatory period. The period was lengthen to four years from three previously, increasing predictability of earnings (see "Portuguese Electricity Regulatory Update Will Have Limited Financial Impact On Main Operators REN And EDP," published Feb. 23, 2022).

EDP also operates a distribution network (operated by subsidiaries EDP São Paulo and EDP Espírito Santo) and transmission lines in Brazil--14% of 2022 EBITDA--through its fully owned subsidiary EDP – Energias do Brasil, which was recently delisted. Although growth in its Iberian networks is limited with a 1% increase in connection points year-on-year, EDP is expanding its transmission assets in Brazil. Generally, we see the Brazilian regulatory framework allowing for a reasonable return on investments and adequate compensation for distribution and transmission activities (see "Regulatory Framework Generates Stability In Brazil's Electricity Sector", published Aug. 26, 2019).

EDP's generation mix is dominated by long-term contracted onshore wind with decreasing merchant and thermal exposures. EDP's renewable generation, which represents about 85.4% of the group's production as of Q3 2023, provides an additional source of predictable and relatively low-risk cash flow streams. Such generation is contracted at an average of 16 years, whereby EDP's purchase price agreements (PPAs), representing about 40% of its contracted revenue, have the longer average tenure (15 to 20 years)..

About 90% of EDPR's revenue either comes from contracted activities and PPAs or is hedged, versus 10% that is exposed to merchant power. We will closely monitor the evolution of EDPR's merchant portfolio in the coming years.

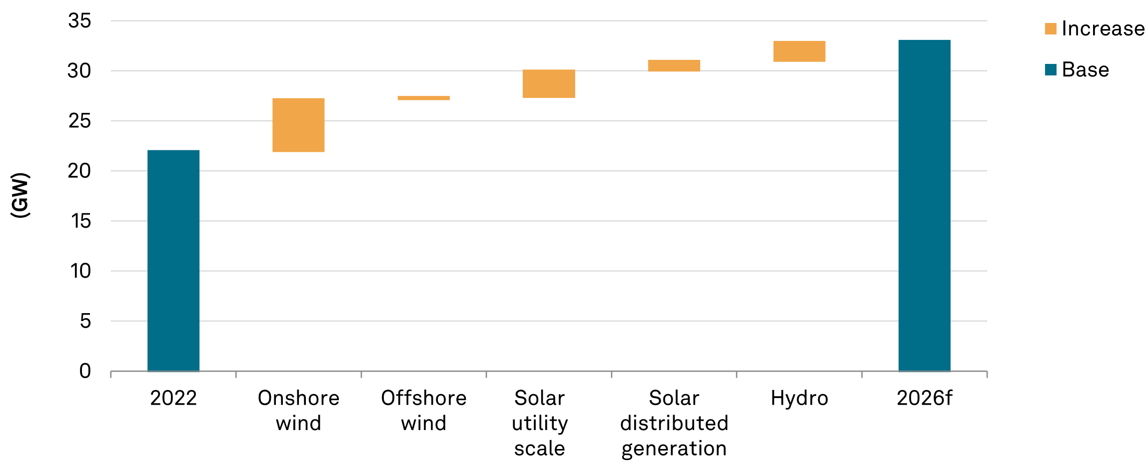
EDP's share of merchant generation is diminishing to the benefit of an expanding and more-contracted generation fleet (wind and solar plants contracted under PPAs) as EDP aims to become coal free by 2025. Hydro generation recovered in Q3 2023 (up 58% year on year) to 5.6TWh from a low point in Q3 2022, implying lower thermal generation expected for 2023.

We view positively the acceleration of investments in renewables, reinforcing EDP's position as a leading asset developer in onshore wind and solar. EDP's strategic plan covers gross investments of €25 billion for the energy transition over 2023-2026. Of this, €22 billion is aimed at expansion and €3 billion relates to maintenance, mostly in networks with digitalization upgrades. As a result, EDP expects EBITDA to increase by 12% over 2023-2026 to €5.3 billion as it reaches 33GW (compared to 22GW as of May 2023) of installed capacity, of which 47% will be onshore wind, 24% solar, 17% hydro, and the remaining 12% alternative technologies (including offshore wind, storage, and distributed solar). The company expects 93% of its generation to then come from renewables. As part of this plan, EDP acquired a 70% stake in the German solar development platform Kronos in July 2022 to develop solar projects in Germany and Netherlands (while also updating solar projects in place). Similar to the acquisition of Sunseap in Q4 2021, this strategic expansion fits well into EDP's renewable business strategy.

Chart 9

Until 2026, most of EDP's new renewable capacity will come from solar photovoltaic and wind

EDP's renewable deployment understrategic plan



f--Forecast. GW--Gigawatt hours. Source: Company documents.

EDP's solid experience should mitigate the risks associated with its plan. EDP also plans to install about 4.5GW of renewables per year over 2023-2026, up from about 4GW annually under its previous 2021-2025 plan. This is ambitious and entails some execution risks, in our view--mainly the authorization process slowing the deployment of renewables capacity. EDP has a good execution track record and a relatively sizable already-secured pipeline. We also expect the RepowerEU plan to facilitate permitting in European countries. We understand that more than 40% of the planned 18GW capacity has been secured from a long-term contracting perspective. In addition, the bulk of capex is concentrated on increasingly mature technologies, with 40% on a solar utility scale and 40% on onshore wind, where the group has built a strong track record.

EDP maintains reasonable country risk exposure supported by investment planned in less risky countries. EDP operates mostly in Portugal and Spain, its historical markets, and will direct most of its investments to Europe and the North America. Renewables capex will focus on North America (about 45%) and Europe (about 35%), with the remainder in Latin America (13%) and Asia Pacific (7%). Of the networks' organic capex, the majority will be directed in core markets Portugal and Spain, and the rest in Brazil.

EDP is the European market leader in the fast-growing solar distributed generation (DG) business with an installed capacity of 1.3 gigawatt photovoltaic (GWp) as of H1 2023 and plans to invest a further €2.5 billion until 2026. Solar DG has experienced great momentum globally in recent years and is forecasted to continue this trend. The deployed global capacity in terms of solar DG is expected to increase three-fold to 3,204GWp until 2030, representing 50% of the total deployed capacity worldwide. With EDP the current European market leader, the large potential of the solar DG business will benefit the company in the long term and allow it to foster its first-mover advantage. Currently planned investments of €2.5 billion underline management's increasing focus on this business line, and the company aims to construct 4.1GWp in additional capacity until 2026, expecting EBITDA growth of €0.3 billion with about 75% stemming from the EU, U.S., and Singapore. The favorable risk/return profile of the solar DG business line compared to standard renewables reflects the relatively short execution period with low development risks, subsequent short payback periods with strong returns, highly diversified risks, and low exposure to wholesale electricity prices. It also reflects potential additional services for EDP in the storage, e-mobility, and energy management segments. EDP aims to leverage its current position and strong track record in digitalization, sales channels, supply chain, and revenue assurance to offer diverse contracting options to its client base and therefore increase its market share globally.

Financial Risk: Significant

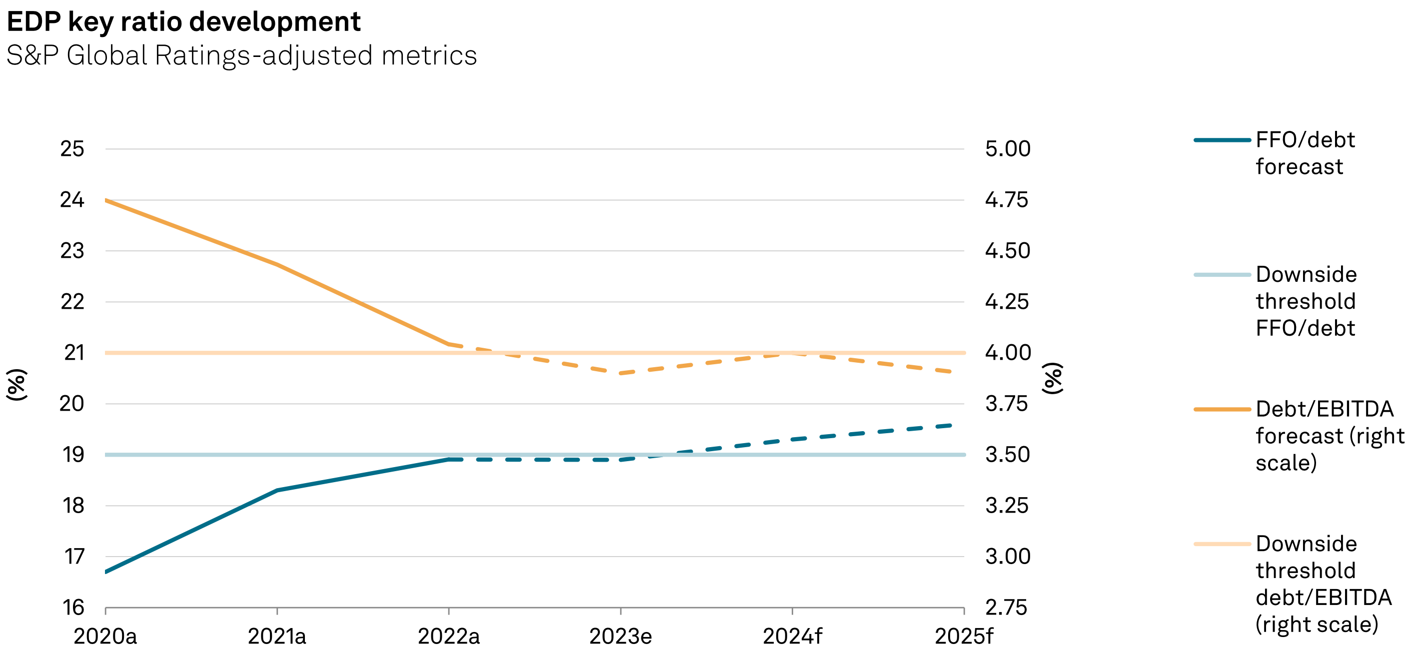
We expect EDP's FFO to debt will remain close to 19% in 2023 and then between 19% and 20% from 2024, thanks to strong EBITDA growth mitigating negative average free operating cash flow (FOCF).

EDP's annual gross investments are expected to average about €6.2 billion over 2023-2026, up about 30% on the 2021-2025 business plan. Expansion investments dedicated to the energy transition of about €23 billion will be mainly funded by:

- Organic cash flow of about €9 billion;
- A targeted €7.0 billion of asset rotations;
- Disposals targeted at €1 billion over the business plan;
- About €4 billion of additional debt; and
- €1 billion of capital increase at EDPR, which was concluded in March 2023.

We forecast EDP will generate negative FOCF off high capex while stable network earnings and organic growth in renewables push adjusted EBITDA close to €5.0 billion by 2024 and €5.1 billion-€5.2 billion in 2025. In addition to increasing investments, the company will continue to distribute €850 million-€950 million per year to its parent and minority shareholders. We expect the company to partly fund the ramp up in investments with asset rotations of about €1.7 billion per year between 2023 and 2026.

Chart 10



a--Actual. e--Estimate. f--Forecast. FFO--Funds from operations. Source: S&P Global Ratings.

In our view, EDP's financial policy remains focused on the 'BBB' rating, which is supported by the group's commitment to maintaining the rating. We see EDP's more selective investment strategy amid ongoing uncertainties as reflective of the group's prudent risk management. We expect EDP will operate with FFO to debt averaging 19%-20% over the next two-to-three years, which is our threshold for the current rating. We also note EDP's public commitment to the current 'BBB' rating. In case of material operational or financial underperformance in its current plan, we expect it to take credit supportive measures such that adjusted FFO to debt remains above 19% and debt to EBITDA below 4.0x. EDP also lowered its dividend payout to 60%-70% from 75%-85% previously, which we view as positive, notably in a period of heavy investments.

The delisting of EDP Brazil financed by a capital increase at EDP level will reduce cash flow leakage in Brazilian operations, slightly offset by the reduction of ownership in EDPR. We view EDP as a relatively complex group structure, with significant and diverse minority shareholders in most of its foreign holdings (notably EDPR, 71.20% owned, down in 2023 from 74.98%). The acquisition by EDP of all EDPR Brazil minorities is mildly positive because it reduces cash flow leakage. We note that EDPR is almost fully funded internally and financial leverage is lower than consolidated leverage, meaning the consolidated debt mainly lies at the EDP level. Moreover, with expected asset rotations that could widen the gap between pro forma and consolidated FFO to debt, we will monitor the risk of increased cash flow leakage.

Financial summary

Table 2

EDP - Energias de Portugal S.A.--Financial summary

Industry sector: Energy

	--Fiscal year ended Dec. 31--				
(Mil. €)	**2022**	**2021**	**2020**	**2019**	**2018**
Revenue	20,879.3	15,206.9	12,409.2	14,333.0	15,278.1
EBITDA	4,167.5	3,288.9	3,277.8	3,390.2	3,207.0
Funds from operations (FFO)	3,184.9	2,668.6	2,606.3	2,557.0	2,455.1
Interest expense	732.5	537.6	546.6	684.1	708.6
Cash interest paid	775.2	583.8	621.7	583.6	686.9
Cash flow from operations	3,231.9	1,552.1	1,909.0	1,741.8	2,398.2
Capital expenditure	3,454.1	3,260.6	2,339.3	2,300.7	1,674.9
Free operating cash flow (FOCF)	(222.2)	(1,708.5)	(430.3)	(559.0)	723.3
Discretionary cash flow (DCF)	(1,314.1)	(2,639.5)	(1,261.9)	(1,509.1)	(156.1)
Cash and short-term investments	4,898.6	3,222.1	2,920.0	1,481.7	1,720.3
Gross available cash	4,951.7	3,272.2	2,952.1	1,543.2	1,913.2
Debt	16,908.3	14,581.2	15,565.8	17,003.8	16,877.9
Equity	15,709.6	15,852.6	13,953.4	13,507.0	13,275.3
Adjusted ratios					
EBITDA margin (%)	20.0	21.6	26.4	23.7	21.0
Return on capital (%)	7.7	5.4	5.4	6.5	5.7
EBITDA interest coverage (x)	5.7	6.1	6.0	5.0	4.5
FFO cash interest coverage (x)	5.1	5.6	5.2	5.4	4.6
Debt/EBITDA (x)	4.1	4.4	4.7	5.0	5.3
FFO/debt (%)	18.8	18.3	16.7	15.0	14.5
Cash flow from operations/debt (%)	19.1	10.6	12.3	10.2	14.2
FOCF/debt (%)	(1.3)	(11.7)	(2.8)	(3.3)	4.3
DCF/debt (%)	(7.8)	(18.1)	(8.1)	(8.9)	(0.9)

Reconciliation

Table 3

EDP - Energias de Portugal S.A.--Reconciliation of reported amounts with S&P Global Ratings' adjusted amounts

	--Fiscal year ended Dec. 31, 2022--									
EDP - Energias de Portugal S.A. reported amounts (mil. €)										
	Debt	**Shareholders' equity**	**Revenue**	**EBITDA**	**Operating income**	**Interest expense**	**S&P Global Ratings' adjusted EBITDA**	**Cash flow from operations**	**Dividends**	**Capital expenditure**
Reported	20,022.5	8,883.4	20,650.8	4,324.7	2,305.1	706.1	4,167.5	3,777.8	953.6	3,500.0
S&P Global Ratings' adjustments										
Cash taxes paid	--	--	--	--	--	--	(258.8)	--	--	--
Cash taxes paid: Other	--	--	--	--	--	--	51.5	--	--	--

Table 3

EDP - Energias de Portugal S.A.--Reconciliation of reported amounts with S&P Global Ratings' adjusted amounts (cont.)

Cash interest paid	--	--	--	--	--	--	(729.5)	--	--	--
Cash interest paid: Other	--	--	--	--	--	--	(46.1)	--	--	--
Reported lease liabilities	1,387.8	--	--	--	--	--	--	--	--	--
Intermediate hybrids reported as debt	(1,875.0)	1,875.0	--	--	--	(46.2)	46.2	46.2	46.2	--
Postretirement benefit obligations/deferred compensation	448.3	--	--	3.3	3.3	20.1	--	--	--	--
Accessible cash and liquid investments	(4,951.7)	--	--	--	--	--	--	--	--	--
Capitalized interest	--	--	--	--	--	45.8	(45.8)	(45.8)	--	(45.8)
Share-based compensation expense	--	--	--	3.3	--	--	--	--	--	--
Dividends received from equity investments	--	--	--	74.3	--	--	--	--	--	--
Asset-retirement obligations	357.6	--	--	--	--	6.6	--	--	--	--
Nonoperating income (expense)	--	--	--	--	385.1	--	--	--	--	--
Reclassification of interest and dividend cash flows	--	--	--	--	--	--	--	(546.2)	--	--
Noncontrolling interest/minority interest	--	4,951.2	--	--	--	--	--	--	--	--
Debt: Guarantees	420.0	--	--	--	--	--	--	--	--	--
Debt: Derivatives	23.4	--	--	--	--	--	--	--	--	--
Debt: Put options on minority stakes	398.4	--	--	--	--	--	--	--	--	--
Debt: Other (situational)	676.9	--	--	--	--	--	--	--	--	--
Revenue: Derivatives	--	--	228.5	228.5	228.5	--	--	--	--	--
EBITDA: Gain/(loss) on disposals of PP&E	--	--	--	(3.7)	(3.7)	--	--	--	--	--
EBITDA: Business divestments	--	--	--	(411.4)	(411.4)	--	--	--	--	--
EBITDA: Other (situational)	--	--	--	(51.5)	(51.5)	--	--	--	--	--
EBIT: Other (situational)	--	--	--	--	(30.8)	--	--	--	--	--
Total adjustments	(3,114.2)	6,826.2	228.5	(157.2)	119.5	26.4	(982.6)	(545.9)	46.2	(45.8)

Table 3

EDP - Energias de Portugal S.A.--Reconciliation of reported amounts with S&P Global Ratings' adjusted amounts (cont.)

S&P Global Ratings' adjusted amounts

	Debt	Equity	Revenue	EBITDA	EBIT	Interest expense	Funds from operations	Cash flow from operations	Dividends paid	Capital expenditure
Adjusted	16,908.3	15,709.6	20,879.3	4,167.5	2,424.6	732.5	3,184.9	3,231.9	999.8	3,454.1

Liquidity: Strong

We view EDP's liquidity as strong, reflecting the company's proactive financing and healthy cash flow. In particular, projected sources of liquidity (predominantly operating cash flow and available bank lines) exceed projected uses (mainly necessary capex, debt maturities, and dividends) by more than 1.5x for the next 12 months and more than 1.0x in the following 12 months. EDP's strong bank relationships and proven access to the debt capital markets support our assessment of the liquidity position as strong. Furthermore, EDP's prudent financial policy, which minimizes exposure to cash collateral requirements, further supports our assessment. We do not include in our liquidity calculation proceeds from asset rotations, which we forecast to be about €1.7 billion annually. Should the group be unable to achieve its asset rotation targets, we expect gross capex would be adjusted accordingly.

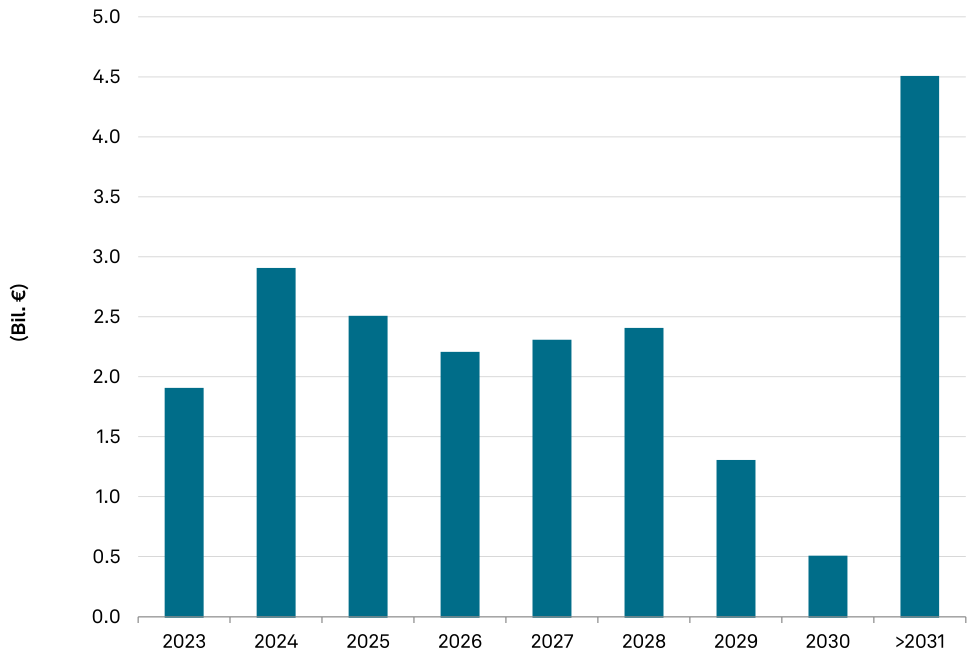
Principal liquidity sources	Principal liquidity uses
We estimate the following principal liquidity sources for the 12 months from Sept. 30, 2023: • Unrestricted cash of about €2.3 billion; • About €6.4 billion in available committed lines maturing beyond 12 months. In particular, EDP has a €3.7 billion revolving credit facility (RCF) maturing in 2027 and a €2.1 billion RCF maturing in 2025; • Forecast cash FFO of about €4.0 billion; • €1.35 senior unsecured bond issued on Oct. 4, 2023; and • About €1.99 billion from asset sales concluded after Sept. 30, 2023 •	For the same period, we estimate the following principal liquidity uses: • Debt of €3.8 billion maturing within the next 12 months; • Estimated €6.0 billion in gross capex; and • Dividends of about €880 million, including dividends to subsidiaries' minority shareholders.

Debt maturities

Chart 11

EDP's debt maturities

EDP S.A. (including EDP Brasil, Finance BV, and others), as of September 2023



Source: Company disclosures.

Environmental, Social, And Governance

The power industry bears environmental risk well above other sectors because it is at the forefront of the energy transition and faces pressure to decarbonize the generation mix. It also has above-average social risk, given its considerable influence on local communities, including on customers' electricity bills; as a local employer; as a significant contributor to local taxes; and by ensuring safe operations at generating facilities. Moreover, renewables face some environmental and social risks, since the significant acceleration of new builds requires more land and acceptance from local communities, together with workforce adequation (see "ESG Credit Indicator Report Card: Power Generators," published Nov. 18, 2021.)

However, ESG factors have an overall neutral influence on our credit rating analysis of EDP, notably as a world leader in renewable energy generation that is strongly committed to the energy transition per its latest strategic plan for 2023-2026. The plan predominantly focuses on renewable generation and phasing out coal by 2025 (9.7% of installed capacity at year-end 2022). Its generation fleet comprises 79% renewables (versus 30%-50% for closest peers). EDP aims to double its build-out of wind and solar capacity by 2026 versus its 2019-2022 plan, with an additional 18GW (mainly wind, with 5.7GW deployed and 9.4GW solar PV), resulting in a net added capacity of 11GW post asset rotation. The group stated publicly that it will reduce the intensity of CO2 emissions (scope 1 and 2) by 95% up to 2030 (compared with 2020 levels). EDP is also committed to reducing absolute scope 3 emissions by 45% over the same timeframe. In 2022, EDP generated 160 grams of carbon dioxide equivalent per kilowatt-hour (gCO2/kWh) under scope 1 and 2 emissions, up from 157 gCO2/kWh in 2020, due to high thermal availability and poor hydro performance, and still in line with best-in-class utilities. Governance uncertainties related to the previous CEO's suspension in 2020 have been resolved, with the nomination of Miguel Stilwell De Andrade as new CEO at the end of January 2021, and we currently assess EDP's management and governance as satisfactory.

Issue Ratings - Subordination Risk Analysis

Capital structure

EDP's policy is to issue most of its debt at the parent company directly, or via its financial subsidiary EDP Finance BV, and lend the proceeds to its operating companies. We calculate structural subordination at a moderate 20%, well below our 50% threshold for notching. Also, we think EDP's size, diversity of cash flow generation, and financial ring-fencing of its Brazilian subsidiary and direct ownership of a fair amount of operating assets strongly mitigate structural subordination issues.

Analytical conclusions

The issue rating on EDP's senior unsecured debt is 'BBB', in line with the issuer credit rating. We rate the hybrid bonds 'BB+', two notches below EDP's 'bbb' stand-alone credit profile.

Ratings Score Snapshot

Issuer Credit Rating

BBB/Stable/A-2

Business risk: Strong

- **Country risk:** Intermediate
- **Industry risk:** Intermediate
- **Competitive position:** Strong

Financial risk: Significant

- **Cash flow/leverage:** Significant

Anchor: bbb

Modifiers

- **Diversification/portfolio effect:** Neutral (no impact)
- **Capital structure:** Neutral (no impact)
- **Financial policy:** Neutral (no impact)
- **Liquidity:** Strong (no impact)
- **Management and governance:** Satisfactory (no impact)
- **Comparable rating analysis:** Neutral (no impact)

Stand-alone credit profile : bbb

Related Criteria

- General Criteria: Hybrid Capital: Methodology And Assumptions, March 2, 2022
- General Criteria: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- General Criteria: Group Rating Methodology, July 1, 2019
- Criteria | Corporates | General: Corporate Methodology: Ratios And Adjustments, April 1, 2019
- Criteria | Corporates | General: Reflecting Subordination Risk In Corporate Issue Ratings, March 28, 2018
- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- Criteria | Corporates | General: Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Criteria | Corporates | Industrials: Key Credit Factors For The Unregulated Power And Gas Industry, March 28, 2014
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013

- Criteria | Corporates | Utilities: Key Credit Factors For The Regulated Utilities Industry, Nov. 19, 2013
- Criteria | Corporates | General: Corporate Methodology, Nov. 19, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities, Nov. 13, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011
- General Criteria: Stand-Alone Credit Profiles: One Component Of A Rating, Oct. 1, 2010

Related Research

- EDP - Energias de Portugal 'BBB/A-2' Ratings Affirmed On Updated Strategic Plan; Outlook Stable, March 31, 2023
- EDP - Energias de Portugal S.A., July 01, 2022
- EU's Proposed Energy Market Redesign Mitigates Merchant Risks And Accelerates Renewables, April 3, 2023
- Europe's Utilities Face A Power Price Cliff From 2026; June 22, 2023
- EMEA Utilities: Credit Resilience Amid Stormy Waters, Jan. 23, 2023
- EMEA Utilities Outlook 2023: France, Italy, And Spain | Credit Quality To Withstand Fiscal And Regulatory Intervention, Jan. 19, 2023
- Portuguese Electricity Regulatory Update Will Have Limited Financial Impact On Main Operators REN And EDP, Feb. 23, 2022
- ESG Credit Indicator Report Card: Power Generators, Nov. 18, 2021
- Regulatory Framework Generates Stability In Brazil's Electricity Sector, Aug. 26, 2019
- Why We See Spain's Electricity And Gas Regulatory Frameworks As Mostly Supportive, May 11, 2017

Business And Financial Risk Matrix

	Financial Risk Profile					
Business Risk Profile	Minimal	Modest	Intermediate	**Significant**	Aggressive	Highly leveraged
Excellent	aaa/aa+	aa	a+/a	a-	bbb	bbb-/bb+
Strong	aa/aa-	a+/a	a-/bbb+	**bbb**	bb+	bb
Satisfactory	a/a-	bbb+	bbb/bbb-	bbb-/bb+	bb	b+
Fair	bbb/bbb-	bbb-	bb+	bb	bb-	b
Weak	bb+	bb+	bb	bb-	b+	b/b-
Vulnerable	bb-	bb-	bb-/b+	b+	b	b-

Ratings Detail (As Of December 14, 2023)*	
EDP - Energias de Portugal S.A.	
Issuer Credit Rating	BBB/Stable/A-2
Commercial Paper	
Local Currency	A-2
Junior Subordinated	BB+

Ratings Detail (As Of December 14, 2023)*(cont.)	
Senior Unsecured	BBB
Short-Term Debt	A-2
Issuer Credit Ratings History	
16-Mar-2021	BBB/Stable/A-2
08-Aug-2017	BBB-/Stable/A-3
30-Jan-2015	BB+/Positive/B
Related Entities	
EDP Finance B.V.	
Issuer Credit Rating	BBB/Stable/A-2
Commercial Paper	
Local Currency	A-2
Senior Unsecured	BBB
Short-Term Debt	A-2

*Unless otherwise noted, all ratings in this report are global scale ratings. S&P Global Ratings' credit ratings on the global scale are comparable across countries. S&P Global Ratings' credit ratings on a national scale are relative to obligors or obligations within that specific country. Issue and debt ratings could include debt guaranteed by another entity, and rated debt that an entity guarantees.