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03 PERFORMANCE

3.1. GROUP'S FINANCIAL ANALYSIS

INCOME STATEMENT

EURO MILLION	2018	2017	Δ %	\triangle ABS.
Gross Profit	5,099	5,391	-5%	-292
Operating costs	1,609	1,671	-4%	-63
Other Income/(Costs)	-174	270	-	-444
EBITDA	3,317	3,990	-17%	-673
EBIT	1,584	2,318	-32%	-734
Net Profit for the period	876	1,441	-39%	-565
Net Profit attributable to EDP equity holders	519	1,113	-53%	-594
Non-controlling interests	357	328	9%	29



EBIT €1,584M -32% VS. 2017

NET PROFIT (ATTRIBUTABLE TO EDP EQUITY HOLDERS) .

€519M

-53% VS. 2017

EBIT was 32% lower YoY, at $\leq 1,584$ million, mainly impacted by EBITDA performance and by the provision of ≤ 285 million following the notification of DGEG about an order of the Secretary of State for Energy from 29-Aug on the financial impact of an alleged overcompensation of the CMECs.

- Net financial results and results with joint-ventures and associated amounted to -€543 million (€254 million higher vs 2017), benefiting from a 30 bp YoY decline in average cost of debt (to 3.8% in 2018) and lower average net debt.
- Income tax expense increased €89 million YoY to €100 million in 2018.
- Non-controlling interests reached €357 million in 2018, increasing 9% YoY, reflecting the share of non-controlling interests in net profit growth at EDP Brasil.
- Net profit attributable to EDP equity holders amounted to €519 million in 2018 (vs. €1,113 million in 2017).

CAPEX

 CAPEX

 €2,031M

 +18% VS. 2017

 MAINTENANCE

 €637M

 -10% VS. 2017

- Capex amounted to €2,031 million in 2018, representing an increase of 18% vs. 2017;
- Expansion capex was 69% of total capex and was mostly dedicated to the construction of new renewables' capacity and transmission lines in Brazil;
- Capex in wind & solar capacity amounted to €1,275 million in 2018, of which 59% was applied in North America, 27% in Europe and 13% in Brazil;
- Capex in transmission lines in Brazil is ramping up, with €73 million invested in 2018, as the execution of the capex plan for developing 5 transmission lines up to 2022 is proving ahead of schedule;
- Maintenance capex amounted to €637 million in 2018, and was mostly absorbed by regulated networks in Brazil and Iberia (67% of total). The decline in 2018 is mainly supported by the de-consolidation of gas distribution in Iberia (€24 million capex in 2017) and weaker BRL/EUR rate underlying capex.

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NET DEBT



Net debt stood at €13.5 billion at Dec-18, which represents a €0.4 billion reduction relative to Dec-17. This decrease was due to the contribution of operational activity and to tariff debt sales (allowed a €0.6 billion reduction of regulatory receivables). Contributing to the opposite side, the main impacts were the annual dividend payment to EDP shareholders (\in 0.7 billion) and the net expansion activity (€0.4 billion).

The chart below portrays the net debt's evolution during 2018, highlighting the most important financing operations during the period.

NET DEBT (€M)



MAIN HIGHLIGHTS BY DECEMBER 2018:

- Gross debt average maturity at 4.8 years;
- Centralized policy for financial debt at EDP,S.A. and EDP Finance BV (approximately 85% of gross debt), while the remainder is divided between EDP Brasil and EDP Renováveis;
- During 2018, the average cost of debt stood at 3.8% (vs. 4.1% in the previous year), while close to 56% of gross debt is kept at fixed interest rate.





Regarding EDP's rating, there was no change during the year 2018.

	LONG	-TERM	SHOR	T-TERM	OUTLOOK	DATE
S&P	↑	BBB-	Ŷ	A-3	Stable	08/08/2017
Moody's	\rightarrow	Baa3	\rightarrow	P3	Stable	03/04/2017
<u>Fitch</u>	→	BBB-	\rightarrow	F3	Stable	05/12/2018

3.2. SHARE PERFORMANCE

EDP is a listed company, whose ordinary shares are publicly traded in the NYSE Euronext Lisbon. In 2018, EDP share was traded in 19 stock exchanges (including Euronext, Turquoise and Chi-X Europe) and 8 OTC markets (including BATS Chi-X Europe and BOAT).



Source: Bloomberg

SHARE

EDP stock price was 3.049€ at the end of 2018, 5.7% above the price registered at the end of 2017 (2.885€). Based on the payment of dividends to shareholders held on May 2nd, 2018 (0.19€ per share), which implied a dividend yield of 6.6% (considering end of 2017's closing price), EDP generated a total shareholder return for 2018 of 12.2%, assuming immediate reinvestment of the dividends received into new shares.

OWNERSHIP STRUCTURE

As of 31 December, 2018, the majority of EDP share capital was owned by foreign institutions.



Source: Interbolsa

In terms of shareholder structure changes, it is worth noting that Capital Group does no longer have a qualified shareholding in EDP's share capital nor voting rights. Additionally, State Street Corporation and Paul Elliot Singer became qualified shareholders, with 2.40% and 2.51% stakes, respectively. On 6th February, 2019, State Street Corporation comunicated a decrease in its qualified shareholding to 1.99%.

SHAREHOLDER'S STRUCTURE



SHAREHOLDER VALUE

EDP believes that a transparent relationship with investors and the market involves the definition of clear criteria and reasonable objectives for the dividend distribution policy, as the growing demands of the investor community, faced with the instability of the capital markets in recent years, have made clear.

The creation of shareholder value is sustained in the ability of the company to increase its net income, dividends and share prices. It is supported by the sum of strategic decisions affecting the sustainability of the Group's business activities assuming strategic importance the low risk profile of EDP.

DIVIDEND

EDP has followed a sustained policy of dividend distribution that seeks to reconcile strict compliance with the relevant provisions of the law and Articles of Association and division among all its shareholders of a significant portion of the value created by the Group, in keeping with the specific conditions of the company and market.

On the Capital Markets Day, held on May 5th, 2016, EDP communicated the current dividend policy, comprising a new floor at €0.19 per share on the dividend going forward. The announced dividend policy dictates that the dividend should continue to evolve in tandem with recurring net profit per share within a payout ratio interval of 65% to 75%.

Accordingly, for the 2017 financial year, the Executive Board of Directors of EDP submitted to the approval of the General Meeting of Shareholders of April 5th, 2018, a proposal for the appropriation of the net profit of 694.7 million euros to be distributed to shareholders in the form of dividends. The proposal was approved by a majority of votes (100%) at the General Meeting and a gross dividend of €0.19 per share was paid on the May 2nd, 2018.



SHARE & MARKET PERFORMANCE

The year 2018 was marked by a downturn in the equities market in Europe. The Eurostoxx 600 index presented a negative return of -12.1%, mainly penalized by slowing momentum on the eurozone economy, by Brexit uncertainty and by growing trade tensions between the United States and China. The European Utilities sector was the one with the best performance of the Eurostoxx 600, with 5.4% annual return, triggered by higher appetite from investors to more defensive sectors. Additionally, the increase in CO₂ price and the improved visibility regarding energy and climate targets for 2030 in Europe also promoted a valorization of the sector. In Portugal, the total shareholder return of the PSI20 index decreased by 8.6%, affected by the same variables of the European index. EDP's total shareholder return in 2018 was +12.2%, outperforming both PSI20 index and DJ Euro Utilities index.



Average Daily Turnover (€ million) Total Volume of Shares (million shares) Daily Average Volume (million shares)

Source: Bloomberg

FACTORS INFLUENCING CHANGE IN EDP SHARE PRICE

EDP's 2018 performance in the stock markets was impacted not only by the regulatory, political and operational environment, but was also strongly influenced by the announcement of the tender offer from CTG, on May 11th, at a price of 3.26€ per share. At operational level, it is worth to note the improvement of hydro storage levels, as well as the increase in electricity demand in Iberia. Furthermore, the increase of CO₂ price in Europe benefits particularly utilities with higher share of low carbon technologies in the generation mix, as it is the case of EDP. At regulatory level, it is important to highlight the negative impact of several measures in Portugal, in particular the provision for alleged overcompensation on CMEC (285 million euros) related to innovative subjects.

1,514

5.96

	Focused growth: renewables and networks in Brazil	 In 2018, EDP continued to focus on renewables, with the addition of +0.6 GW of wind capacity Entrance in Greece Entrance into operation of the first transmission line in Brazil EDP Brasil acquired a 23.56% stake in CELESC
INTERNAL FACTORS	Portfolio reshuffling	 Sale of small-hydro plants in Portugal and Brazil Sale of 80% of social capital related to a 499 MW portfolio of onshore wind assets in the United States Sale of stakes in wind offshore projects in the United Kingdom and France
	Debt management	 Sale of 1.3 billion euros of tariff debt in Portugal Tax equity partnerships in the US by 0.4 billion dollars in December First green bond issuance in Oct-18, by the amount of 600 million euros and maturing in Oct-25
	Efficiency	 OPEX reduction in Iberia by 3% in nominal terms and in Brazil by 1% in real terms OPEX V savings achieved at 62 million euros (10% above target)
	Potential Tender offer	 Tender offer proposal announced by CTG at May 11th at a 3.26€/share led to a strong valuation ERSE decision at the end of the year about the remedies imposed to Datang (a Chinese State-owned company) to buy Generg signals lower probability of CTG tender offer success
EXTERNAL FACTORS	Political framework	 Change in government in Portugal since October 17th, with the transition of the energy folder from the Economy to the Environment Ministry (afterwards renamed to Ministry of Environment and Energy Transition), gave a new emphasis to the need to attract investments to the energy sector, in order to reach climate targets committed by the country In Spain, the new minister of Ecological Transition also gave a new emphasis to put the energy transition in the political agenda New government in Brazil more favorable to private investment
	Regulatory changes in Portugal	 Unfavorable regulatory decisions about final CMEC value (related to 2017-27 period) and about alleged overcompensation of CMEC plants due to the inexistence of availability tests in the past Regulatory model for the low-voltage concession still under discussion
	Energy markets	• The increase in the price of CO_2 allowances in the European market was the main driver for the overall raise in electricity wholesale prices in Europe
	Power demand	• Improvement in the economic context led to an increase in electricity demand in Iberia, in particular in Portugal where demand rose by 2.5%

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3.3 MARKETS AND REGULATION

3.3.1 FUELS IN THE WORLD AND EUROPE

The average price of oil **rose substantially between 2017 and 2018**, with Brent increasing from 54 to 71 USD/bbl. During the first three months, the prices registered an **increasing trend**, rising from 66 USD/bbl at the beginning of the year to reach a maximum of 86 USD/bbl in the beginning of October, driven by a **slowdown in production of several members of the Organization of the Petroleum Exporting Countries (OPEC)**, including Venezuela and Angola. The last trimester saw the price fall to about 54 USD/bbl at the end of the year, similar to prices in September 2017. The sharp decrease in oil price was due to an excess of supply created by the increase in world production and a more moderate economic growth.

The price of natural gas registered very distinct trends in the European and North America markets. In Europe (NBP), the price of gas registered an **increasing trend in 2018**, with an annual average of 23 €/MWht, driven by a **lower supply** in Europe, **high demand** (associated with the requirements of injection for underground storage), higher **uncertainty in oil prices** and a **higher coal substitution cost** in the electricity market. The last trimester was characterized by a slight decrease in price, contrary to what commonly occurs based on the seasonality of consumption, due to the elevated levels of storage and an increase in supply.

Coal prices increased in 2018, continuing the trend started in 2017, with the price of API#2 reaching values **above 100 USD/ton** and closing the year with an average of 92 USD/ton. The high prices are mainly justified by several countries (including China) **making it difficult to license new mines** or **restricting their operation**, making it impossible for supply to keep up with demand growth. The last few months have seen a drop in price due to China's ban on coal imports.

The average price of CO₂ licenses in the European market saw a strong increase in 2018, compared to 2017, with a strong growth in the first three trimesters, followed by a stabilization until the end of the year. The increase in prices reflects the potential impact of the revision of the Emissions Trading System, following the final approval by the European Council in February 2018.



ANNUAL AVERAGE PRICE EVOLUTION OF FUELS AND CO2

Source: Reuters, Agents

3.3.2 EUROPEAN ENERGY POLICY

CO2 MARKET

The **revision of the European CO₂ market** (RCLE-UE) has its final approval by the European Council in February 2018. The objective of the final agreement is to restore the balance between the supply and demand of emissions allowances and mitigate the risks of relocation of carbon intensive industries. Concerning the balancing of supply and demand, the revision defined the increase of the rate of reduction of available licenses to 2.2%/year starting in 2021, and strengthen the Market Stability Reserve through the increase of the intake rate to 24% for five years, starting in 2019, and the reduction of the maximum number of allowances that may be in the reserve to the volume auctioned in the previous year, eliminating the remaining licenses, starting in 2024. Mitigation of the risks of relocation will be made through the allocation of free licenses for specific sectors and the creation of development funds that support innovation and investments in low carbon technologies.

DECARBONIZATION AND RENEWABLES The political negotiations on the Clean Energy for all Europeans legislative package, presented by the European Commission at the end of 2016, were completed in 2018. This package aims to accelerate the European energy transition, reflecting the energy and climate policy objectives set by the European Council in October 2014 in concrete legislative proposals. The approval by the European Council and the European Parliament of one directive and three regulations is what is missing to finalize the package, which should be completed by the second quarter of 2019. Following the final adoption of each directive and its publication in the Official Journal of the European Union, the Member States have 18 months to transpose their content into national law. The package sets as targets for 2030 achieving 32% of renewable energy, through the Renewable Energy Directive, and 32.5% of energy efficiency, through the Energy Efficiency Directive. Both values may be revised in 2023 to ensure alignment with the Paris Agreement. Although the directives do not set national targets, the Regulation on the Governance of the Energy Union should help ensure that the objectives are met. It is expected that this package leads to an emissions reduction of 45% by 2030, compared with 1990, which is above the European Union target of 40%.

ELECTRICITY MARKET

The directive and regulation related with the electricity market design were the last to be agreed, in December 2018. One of the key points of the Directive on common rules for the internal market in electricity is the need for Member States to allow consumers to actively participate in the electricity market, be it through the sale of excess electricity generated for self-consumption, the participation in demand side management mechanisms or by joining energy communities. In addition, the directive confers several rights to consumers, providing them a larger flexibility for their participation in the market. The **Regulation on the** internal market for electricity defined a set of rules that markets must abide by. Some of the most relevant topics include the allocation of responsibilities to renewables for the deviations they create, the change in dispatch rules, the need for at least 70% of interconnection capacities to be made available for commercial exchanges and the establishment of conditions for the implementation of capacity mechanisms. The participation in capacity markets is conditioned by an Emissions Standard, except for contracts signed before 2020. This standard establishes that new power plants may only participate if they emit less than 550 gCO₂/kWh, and existing plants that emit more than 550 gCO₂/kWh may only receive payments from July 1st, 2025 if they emit less than 350 kgCO₂/Kwh/year.



To guarantee the contribution of the **mobility and transport** sector in achieving the objectives of the Paris Agreement, the European Commission launched in November 2017 the **Clean Mobility Package**. Within this context, several objectives to support the reduction of emissions in transport were agreed upon in trilogue (European Commission, Parliament and Council) in December 2018. **Emissions Standards** were imposed to **new light-duty passenger vehicles**, which should emit on average **37.5% less in 2030 than in 2021**, and **new light-duty commercial vehicles**, which should emit on average **31% less**. An intermediate target of 15% reduction by 2025 was also established for both types of vehicles. The reduction effort will be distributed by car makers based on the average mass of vehicles sold, with the possibility of allowing lower emissions reduction to each car maker depending on their sales of low emissions vehicles. The minimum share of low emissions vehicles that allow a car marker to qualify for a lower emissions reduction was established for 2030 as 35% for new light-duty passenger vehicles and 30% for new light-duty commercial vehicles and for 2025 as 15% for both types of vehicles.

3.3.3. IBERIA

MACROECONOMIC CONTEXT

In 2018, the **Portuguese economy** registered once again a **slightly higher growth** than the average of the Eurozone countries. The consensus of different projections (Government, Bank of Portugal, IMF and European Commission) points to a growth of **2.2%** in 2018, compared with the expected GDP growth of **2%** in the **Eurozone** (IMF). In **Spain**, the growth in 2018 was of **2.5%**, representing a steep deceleration of the country's economic growth. In both countries, the main vectors of growth were **exports**, **private consumption** and **investment**.

The **average inflation rate** in Portugal registered a decrease to 1.2% compared with 1.6% in 2017, due to the weak growth of food and non-alcoholic beverages prices, which compensated the increases in transport, housing and energy goods. In Spain, the inflation was 1.8%, even though it was over 2% for most of the year, mainly due to the fall in fuel prices in the last months of the year.

EVOLUTION OF INFLATION IN PORTUGAL AND SPAIN



(%, 2007 - 2018)

The **labor market** also evolved favorably in the Iberian economies, registering moderate increases of employment (around 2% over the same period in both economies) and significant reductions in the number of unemployed. The unemployment rate in November stood at 6.6% in Portugal and 14.7% in Spain (respectively 8.1% and 16.5% in the previous year).

EVOLUTION OF THE ELECTRICITY SECTOR

The economic recovery registered in 2018 reflected in an increase of electricity consumption in Portugal and Spain, compared to 2017:

- +2.5% consumption growth in Portugal (+1.7% adjusted for temperature and useful days effects)
- +0.4% consumption growth in Spain (+0.3% adjusted for temperature and useful days effects)

Regarding electricity generation, 2018 was an **average hydrological year** with a **production index** (IPH) of **1.05 in Portugal** and **1.3 in Spain**, contrary to 2017 which was a dry year (IPH of 0.47 in Portugal and 0.5 in Spain). The **higher generation from hydro** resulted in a **decrease of residual thermal demand** in Iberia from 104 TWh in 2017 to 83 TWh in 2018. The growth of consumption and maintenance of nuclear power plants was mainly compensated by the increase in generation from renewables, particularly hydro, and imports.



ELECTRICITY GENERATION IN PORTUGAL AND SPAIN (TWH)

The significant growth of **fuel and emissions allowances prices** led to an **increase of the electricity wholesale price** in Iberia to 57 EUR/MWh, remaining between some european markets, such as Italy and France. The markets with higher shares of renewables, namely Scandinavia and Germany, continued to register the lowest wholesale prices in Europe.

EUROPEAN WHOLESALE ELECTRICITY MARKET PRICES (€/MWH)



1 – Includes Norway, Sweden, Finland, Denmark, Estonia, Latvia, Lithuania Source: EnergyMarketPrice, Nord Pool.

REGULATORY CONTEXT

PORTUGAL

On August 27th, the Decree-Law n.º 69/2018 determined the concentration of oversight competences of the whole energy sector in one single entity, the Entidade Nacional para o Sector Energético (ENSE), which results from a restructuring of the Entidade Nacional para o Mercado dos Combustíveis (ENMC) and also aggregates the competences of the Autoridade de Segurança Alimentar e Económica (ASAE) and the Direcção Geral de Energia e Geologia (DGEG).

Regarding **electricity generation**, the Ordinance n.º 93/2018 of April 3rd, determined the postponement of the auction for the assignment of the National Electricity System's security reserve (also known as Capacity Mechanism), "until the Portuguese State receives the unequivocal pronouncement by the European Commission regarding the compatibility of the SEN security reserve mechanism with the Community provisions on State aid in the energy sector".

The 2019 State Budget Law (LOE 2019) provides that, until the end of the first quarter of 2019, the Government shall review the mechanism provided for in Decree-Law n.º 74/2013 ("clawback"), dated June 4th, adapting it to the new rules of MIBEL, with the objective of creating harmonized regulatory mechanisms that reinforce competition and protect consumers. The Order n.º 895/2019, which establishes the suspension of this mechanisms for a period of six months, with effect from October 1st 2018, was published already in January 23rd 2019.

Also within the scope of LOE 2019, it was also established that the rate corresponding to 25% of the addition on CO₂ emissions, applicable to coal and coal coke used for electricity generation, is now the result of the difference between a reference price of 20 \leq /tCO₂ and the arithmetic average price of the emissions allowances auctions between October of the year n-2 and September of the year n-1, with a maximum limit of 5 \leq /tCO₂.

Decree-Law n.° 109-A/2018, of December 7th, changed the allocation of the Extraordinary Contribution from the Energy Sector (CESE), through the Fund for the Systemic Sustainability of the Energy Sector (FSSSE), with the aim of accelerating the reduction of the electricity tariff deficit: 1/3 for the financing of social and environmental energy sector policies related to energy efficiency measures; and 2/3 to reduce the National Electricity System's tariff deficit. With LOE 2019, the CESE will also be applied to renewable energy sources covered by guaranteed compensation schemes and renewable source cogeneration with an installed power of 20 MW or more (does not include the allocation by public tender).

Ordinance n.º 62/2018, of March 2nd, approved the regulation for the attribution of generation licenses or acceptance of prior notice, by lottery, for the electricity generation under special regime and in the general remuneration system. This was due to the need to change the legal regime, namely for solar power, where several projects without guaranteed compensation have been approved by the Government.

In the **electricity distribution** business, the *Programa* de Acções e *Estudos* to be developed by ERSE (with DGEG and the Associação Nacional de Municípios Portugueses) was approved in the scope of the public tender procedures related to concessions of municipal electricity distribution networks (Resolution of the Council of Ministers n.º 5/2018 of January 11th). To

this end, ERSE launched a public consultation which ended in September, and based on which it submitted a proposal to the Government, with the aim of launching the tender process in early 2019.

Concerning **electricity supply**, the provision of LOE 2019 specifies that the Government is authorized to apply the reduced VAT rate on electricity (PC <= 3.45 kVA) and natural gas (BP <= $10\ 000\ m^3$ /year).

Regarding the **electricity sector tariff deficit**, the tariffs foresee an ex-ante deficit of €3,217 million by the end of 2019, which corresponds to a reduction of €436 million from 2018. The evolution of the deficit and the tariff evolution considered for 2019 (of -3.5% for transitional BTN tariffs and +0.1% for the transitional tariffs of the remaining levels of tension) benefited from three extraordinary events:

- Return to the National Electricity System of €140 million that the producers in special regime allegedly benefited cumulatively, under the terms defined by the Administrative Rule n.º 69/2017, of February 16th, although no order was issued by the member of the Government responsible for the energy area with the definition of this value;
- Inclusion of €90 million of the €285 million resulting from the Dispatches of the Energy Secretary of State of August 29th and October 4th, where the partial nullity of the annual adjustments calculations of the CMEC and their respective homologous acts (innovative aspect of the availability of such plants) was declared, by integration of the information n.° 111/DSPEE/2018 of the DGEG, a decision questioned by EDP for lack of legal basis;
- Deduction of the over-cost with generation in special regime of €154 million from FSSSE transfers, related to the payment of CESE in 2018 by the various agents of the sector.

SPAIN

It is expected that the Spanish electricity sector finished 2018 with a light tariff surplus, as in previous years (\in 151 million in 2017 and \in 421 million in 2016). The financial stability of the last years has allowed the Government, through the Royal Decree-Law 15/2018 and with effects from October 2018, to definitely eliminate the tax on hydrocarbons for the generation of electricity with natural gas and temporarily suspend the tax on electricity generation (7%), in order to mitigate the impact that high fuel and CO₂ prices were causing on the electricity market price. To guarantee the tariff balance for the year 2018, the sector expects to account in the tariff up to \in 750 million of the emissions allowances auctions. Similarly, to guarantee the tariff balance in 2019, up to \in 1,000 million of these auctions may be accounted for in the tariff, through Royal Decree-Law 25/2018.

In regulatory terms, the impulse given to **self-consumption** is highlighted, through the publication of the Royal Decree-Law 15/2018, which eliminates since 2018 surcharges on self-consumed electricity. The same decree opens the door for future development of shared self-consumption, which is expected to start to be applied during the year 2019, as soon as the corresponding regulatory framework is published.

On the other hand, as regards the electricity market, the availability service provided by coal-fired and combined-cycle plants was terminated in July 2018. It is also worth highlighting the launch of the continuous intraday market since June 13th.

To reduce the price of electricity for industrial consumers, a number of measures have been taken. The Royal Decree-Law 20/2018 creates the figure of the closed distribution network and the Government is urged to approve a Status of Electro-Intensive Consumer that groups the aids granted to this type of consumer.

With regard to the **protection of vulnerable electricity customers**, the Government extended in 2018 the protection given to vulnerable consumers through Royal Decree-Law 15/2018. This decree established, on the one hand, the increase in the amount of energy that each customer entitled with social allowance and, on the other hand, a new system to prevent the supply cut of certain vulnerable consumers who cannot pay their bills, which is added to the existing mechanism for clients at risk of social exclusion. Under the current financing mechanism, EDP was responsible for funding 3.69% of the cost of social benefits of the system in 2018.

Concerning **sustainable mobility**, the liberalization of electricity recharging is to be highlighted, which, since the Royal Decree-Law 15/2018, may be provided by any entity without the need to establish themselves as charging managers.

In 2018, the contribution to the **National Energy Efficiency Fund** remained in line with previous years, with EDP having an obligation to contribute financially to this Fund with €6 million.

3.3.4 EDPR MARKETS

MACROECONOMIC CONTEXT

In the European Union (EU), the latest estimates by the European Commission point to a GDP growth in 2018 of 2.1%, showing a slowdown in the economy compared to 2017. This deceleration was registered in some of the major economies, such as Germany (due to the small growth in private consumption, reduced external demand and weak industrial production, mainly in the automotive industry), Italy (due to weak domestic demand and high interest rates), France (mainly due to the negative impact of protests on industrial production) and the United Kingdom (due to uncertainty regarding Brexit). For the next few years economic growth is expected to remain moderate.

Growth in the United States was substantially higher than in the EU, reaching 2.9% in 2018, according to the latest estimates, well above the growth of 2.2% in 2017. Economic growth was supported by strong domestic consumption, a strong labor market, tax cuts and investment incentives. Despite the risks created by the US-China trade war, its impact in 2018 is expected to have been limited due to an increase in exports in the months prior to the implementation of tariffs in international trade. However, the US economy is expected to slow down in the coming years, with more moderate but higher economic growth rates than in the EU.

Inflation in the Eurozone closed 2018 at 1.6%, below the European Central Bank target levels of 2%, mainly as a result of the drop in oil prices in recent months, lower than expected growth in energy prices and slower growth of exports during the year. In the US, inflation was 2.4% at the end of 2018, the highest value since 2011. The growth reflects the depreciation of the dollar, the price increase in energy products and imported products due to the implementation of foreign trade taxes.

EVOLUTION OF RENEWABLES IN THE WORLD

The wind capacity additions in the World totaled approximately 52 GW in 2018, a number very close to that of the previous year, which fixed the total installed capacity of this technology at approximately 592 GW. Regarding Solar PV energy, the market will have grown at a slower pace than previous years, with new capacity additions estimated at around 102 GW.



REGULATORY FRAMEWORK

Europe 2050 long-term strategy

On November 28, 2018, the European Commission (EC) presented its strategic long-term vision for a "prosperous, modern, competitive and climate-neutral economy by 2050". This strategy extensively underlines the opportunities for swift and ambitious energy and climate action, which is expected to bring broad social, economic and health benefits to Europeans. This policy document sets a path towards climate neutrality and includes analysis of current policy measures and future scenarios that cover all sectors producing greenhouse gas emissions.

Not surprisingly, the energy sector plays a central role in making Europe climate-neutral. Maximizing the deployment of renewables and the use of electricity is deemed critical by the strategy to fully decarbonize Europe's energy system. According to the document, by 2050, more than 80% of electricity would be coming from renewable energy sources and wind energy is expected to represent 51-56% of it.

Spain

On October 6, were introduced, through the publication of Royal-Decree Law 15/2918, several measures aiming at limiting electricity cost for consumers and serving as a first step towards the long-term energy transition targeted by the Government. The implemented measures include, among others, the suspension of the 7% generation tax during a period of 6 months, the facilitation of self-consumption and the administrative extension until March 2020 of the connection rights for the renewable plants awarded in last year's auctions.

France

On June 20, the French Government announced that France's first six offshore wind farms would proceed after parties agreed to lower the tariffs they had secured in 2012 or 2014. This agreement unblocks the projects that had been in a stalemate after the government had reported that projects could be re-tender if an agreement was not found.

In September, the results of the second onshore wind auction were announced. France awarded a total of 118 MW to five projects, less than one-fourth of the 500MW capacity on offer. The average winning price was not disclosed.

The government enacted on December 1 two measures aimed at speeding up onshore deployment. These measures remove one level of jurisdiction in the appealing processes, this is, when projects are challenged in the courts.

Belgium

The Government of Wallonia approved in March the so-called "Pax eolienica" which is a set of 15 measures aimed at fostering wind energy development in the region, among which the government is considering the reduction of the support for new onshore projects.

On September 29, the Energy commission of Wallonia approved a decrease in the number of Green Certificates granted by MWh (value of the parameter Keco) to new projects from 1 to 0.86 starting in January 2019.

Poland

On June 29, the Polish Parliament. approved a set of amendments to the Renewables Act ("RES Act") and to the Wind Farm Investment Act ("WF Act"). The amendments of the RES Act do not include any relevant change towards operating assets Green Certificate ("GC") scheme and focus mainly on operative changes and clarifications to the new tender scheme. The amendments of the WF Act include a return to the initial taxable base of the Real Estate Tax as of January 2018 and the extension of validity of the Building Permit.

A wind and solar joint auction for projects exceeding 1 MW in size was held on November 5. All contracted power went to wind, with 31 wind projects selected, at an average price of PLN 196/MWh (around 45.4€/MWh). EDPR secured a 15-year long-term contract for a 38 MW project.

Romania

On June 26, Law 198 convalidating Government Emergency Ordinance 24/2017, amending Law 220/ 2008 was finally approved. The final set of amendments included among others: (i) a potential change to a Feed-in-Premium scheme for operating assets; (ii) a gradual increase in the maximum allowed impact to final consumers (currently of maximum 11.1€/MWh); (iii) the removal of the loss of GC from positive unbalances; (iv) the pro-rata allocation of GCs sold in the centralized platforms when the supply exceeds demand; and (iv) modifications in the postponement of solar PV GCs.

Greece

Renewables projects in Greece are supported by 20-years feed-in premiums (Contracts-for-Difference - CfD) awarded through auctions. The first full-scale renewables auction was held on July 2, with 277 MW of capacity awarded. The 171MW of wind capacity went to seven projects, with a 45MW project being awarded to EDPR. The rest of the capacity (106 MW) went to solar PV projects.

A second auction round was held on December 10, in which 222 MW of renewables contracts were awarded. Seven wind projects with a total capacity of 160MW were awarded, while the remaining capacity went to solar PV projects. The weighted average bid for onshore wind projects was 58.60 euros/MWh, a 16% reduction compared with the previous auction. EDPR secured a 10-year CfD for a 15MW wind project.

Brazil

On April 4, Brazil held its first reverse auction of 2018 for power from renewable sources (Leilão A-4). As a result, 39 projects with a total capacity of 1,024.5 MW were allocated. In total, 806.6 MW of solar PV (at a marginal price of 118.4 BRL/MWh), and 114.4 MW of wind (at a marginal price of 67.6 BRL/MWh). The rest of the capacity was granted to hydro and biomass projects.

An A-6 auction was held on August 31, in which long-term PPAs were awarded for 669,5 MW of clean energy capacity, including 538,8 MW of wind. The average auction price for wind was 90,45 BRL/MWh. EDPR secured 20-years PPAs for two wind farms with registered capacity of 176 and 253 MW.

United States of America

On June 22, the IRS released Notice 2018-59, which provides guidance to determine when a solar project begins construction for ITC purposes and specifies that projects have until 2024 to be placed in service and qualify for the ITC at levels above 10%. The ITC percentage for a solar project is determined based on the year in which construction of the project begins – provided the solar project is also placed in service before Jan 1, 2024 – as follows: (i) before Jan 1, 2020, 30%; (ii) in 2020, 26%; (iii) in 2021, 22%; and (iv) any time thereafter (regardless of the year in which the solar project is placed in service), 10%. Similar to the IRS guidance regarding the wind PTC, establishing the beginning of construction is deemed by (i) engaging significant physical work or (ii) paying or incurring 5% of the ultimate tax basis of the project. Thus, if a developer safe harbors 5% of project Capex in 2019, the project will be qualified for a 30% ITC if the construction is concluded before Jan 1, 2024. Similarly, if a developer safe harbors 5% of project Capex in 2021, the project will be qualified for a 22% ITC if the construction is concluded before Jan 1, 2024.

Canada

Historically, new Canadian renewable supply is largely determined by provincial procurements. While some provinces already produce much of their electricity through renewable sources (largely due to hydro power), Alberta, Saskatchewan and Ontario have taken steps to increase renewable energy generation. Alberta's climate leadership plan includes a December 31, 2030, coal phase-out, a price on carbon and a requirement for 30% of electricity generation to come from renewables by 2030. Alberta is pursuing a Renewable Energy Program to develop 5 GW of renewable electricity generation capacity by 2030. SaskPower, the principal electric utility of Saskatchewan, has a target of 50% renewable generation capacity by 2030. New Brunswick has committed that 40% of in-province electricity sales to come from renewable sources by 2020. Nova Scotia

has set emission caps for its electricity sector, and has also committed up to 50% of electricity will come from renewable sources by 2020.

On June 21, Canada adopted the Greenhouse Gas Pollution Pricing Act including a federal carbon pollution pricing system. This system includes both an output-based pricing system as well as a regulatory charge on fuels. Each province submitted plans which were assessed against the requirements of the federal benchmark. While the ultimate impact of this is unclear, any increase in emissions pricing favors zero emissions resources like wind and solar PV.

Mexico

Mexico redesigned its energy sector beginning with the constitutional amendment in 2013 and ending with implementation by end of 2018. The reforms brought about the end of state-owned vertically-integrated monopolies and opened the door to significant opportunities for private sector participation across the supply chains for oil and gas and for electricity. Mexico's energy reforms advanced significantly in 2016 implementing changes that will provide remuneration for all forms of generation including wind and solar. The key mechanisms of interest to renewable developers are the implementation of the wholesale electricity market, long-term supply auctions, and financial transmission rights. Mexico has conducted three long-term supply auctions in order to procure new renewable electricity.

However, newly elected President Andres Manual Lopez Obrador announced the general guidelines for electricity generation policy stating that there would be a change of regime. President Obrador called for a technical and administrative audit of the electricity market to CFE, a public utility company. The measures to resolve what he called the country's "energy dependence in the purchase of electricity" would not be taken in the short term, but the new administration would be elaborating a plan based on the findings of the CFE study. While the long-term ramifications of President Obrador's actions are difficult to forecast, it seems prudent to consider the possibility that changes will occur in the way new wind and solar supply is contracted and remunerated.

3.3.5 BRAZIL

MACROECONOMIC FRAMEWORK

2018 was marked by economic and political uncertainties, both nationally and internationally. On the national political scene, the presidential elections, which culminated in Jair Bolsonaro's victory, brought renewed energy with increased expectations of economic growth. The truckers strike of 2018 directly impacted the country's economic activities, despite the improvement in macroeconomic indicators, with inflation¹ at 3.75% (below the target of 4.5% for the year) and historically low interest rates² of 6.50% p.a.. GDP³ grew 1.1% during the first nine months of the year.

It was in this favourable environment that formal employment also improved. According to CAGED,4 employment in Brazil up until November increased by 2.27%, with the creation of 858,000 new jobs. The service sector has stood out with a positive balance of 512,000 jobs, followed by the manufacturing sector, with 122,000 jobs.

ENERGY FRAMEWORK

The year was marked by challenges, reflecting the adverse water situation, with the wet season (January to April) still critical for the Southeast submarket (SE/CO). Reservoir recoveries were compromised as a result of critical flow levels, with the wet season closing with 44% Stored Energy (EARM), 2% higher than in the same period of 2017. In spite of periods of heavy rainfall, the Southeast (SE/CO) ended the year with just 90% of the Average Long Term (MLT) Accumulated Natural Energy (ENA) and

¹ Source: Brazilian Institute of Geography and Statistics — IBGE. National System of Consumer Price Indices IPCA and INPC - December/2018.
² Source: Central Bank of Brazil. Meta SELIC on 12/31/2018.

³ Source: Brazilian Institute of Geography and Statistics — IBGE. Quarterly National Accounts. July/September 2018.

⁴ Source: CAGED/MTE. November/2018

27.6% of Stored Energy (EARM). ENA remained below average in the Northeast, which ended the season with 49% MLT and 40% EARM. This scene was reflected in the annual average PLD, which was R\$ 288/MWh in the Southeast SE/CO and R\$ 274/MWh in the northeast, peaking at R\$ 505/MWh for all submarkets in August. The average GSF (Generation Scaling Factor) for 2018 was 81.6%, with a minimum of 55.8% in September.

REGULATORY FRAMEWORK

As in previous years, 2018 was one of major regulatory developments, beginning with Provisional Measure No 814 of December 2017, which addressed possible solutions to the hydrological risk of producers on open market contracts, followed by approval for the privatisation of Eletrobras' assets, and the cost of subsidies and charges (CCC/CDE, expansion of the Low Income, Electricity for All Program) and the energy price increase due to the reopening of the Angra 3 nuclear power plant. The Provisional Measure sought to reduce the effect of one of the electricity sector's main problems, linked to the GSF, but it ceased to be effective in June as a consequence of other proposals related to subsidies and to Angra 3, which led to significant increases in energy tariffs.

In relation to the GSF, several attempts have been made to reach an agreement on settling liabilities in the Free Market Environment (FME); however, the free market proposals have not yet received support from the agents. In this context, the APINE injunction protecting agents from paying the MCP exposure was lifted in October. Liabilities are still being discussed, but agents in the hydro sector started paying settlements for the ensuing months. In addition, a bill was passed in Senate at the end of December 2018 that sought to bring about a resolution for the debts of producers with open market contracts and the new make-up of the MME listed as a priority the need to address the issue of liabilities by the end of February (Chamber of Deputies PL 10985/2018; Senate PL 209/2015).

As part of the structural measures discussed in 2017 at MME Public Consultation No. 033, the main measures were not voted on in the National Congress. Some administrative and regulatory measures have been taken, such as reducing the power of a consumer installation so that it can purchase energy on the free market (2.5 MW from July 2019 and 2.0 MW from January 2020). Another important initiative taken in 2018 was structuring the pricing process on an hourly basis, which is expected to come into operation in 2019, and will bring new momentum to the short-term market. Finally, as a result of a working group created by the government, a decree was published that abolished tariff subsidies for rural consumers, public water services, sewerage and sanitation, public irrigation services, and rural electrification cooperatives over a five-year period. It also abolished the accumulation of subsidies for rural and irrigation customers.

With regard to regulations on new technologies, the National Electricity Agency (ANEEL) has promoted a wide-ranging public debate on its regulatory role in the electricity sector for the introduction of electric vehicles into the Brazilian market. Following a process of public consultations, an international workshop, several meetings and public hearings, the regulator came to the conclusion that the electric mobility sector is an unregulated activity. Consequently, it will have to establish procedures to ensure distributors comply with requests for the installation of the charging stations and publish a Normative Resolution to avoid any interference with the distribution of electricity.

Tariffs were also a topic this year, with the introduction of new criteria in April. ANEEL changed the operating flags to take into account the hydrological risk issues defined through the operating history of the National Interconnected System (NIS) and the definition of the cost of hydrological risk where there is an indirect relationship between the GSF and the PLD. The composition of these two variables means the estimated revenue with proposed values is closer to the costs incurred. Thus, the yellow flag remains a R\$ 1 per 100 kWh consumed and fractions, while the red flag at level 1 is R\$ 3 per 100 kWh and R\$ 5 per 100 kWh at level 2.

To mitigate the impact of energy over-contracting by distributors, ANEEL has created the Surplus Sales Mechanism (MVE), which allows distributors to allocate up to 15% of the energy outsourced to the Free Market Environment (ACL) through seller defined fixed-price sales.

Finally, to ensure the supply of electricity in emergency situations, such as when intermittent energy sources reduce generation, ANEEL has created the Supplementary Order for Maintenance of the Operating Power Reserve. This service system is defined as the supply of power generating units from centrally ordered power plants in order to preserve the operating power reserve in the participating Automatic Generation Control hydroelectric power plant in any subsystem.

3.4 BUSINESS AREA ANALYSIS

3.4.1 GENERATION AND SUPPLY IBERIA

3.4.1.1 FINANCIAL PERFORMANCE

EBITDA from Generation & Supply Iberia advanced by 37% YoY to €762 million, mainly impacted by:

SUPPLY IBERIA

GENERATION AND

EBITDA: €762M +37% VS. 2017

- Average sourcing cost benefited from higher output on the back of the recovery of the hydro resources in Iberia;
 - Increase in average selling prices, almost in line with the increase in the market electricity final price;
 - Adverse impact from weak energy management results, due to the hedge position closed in 2017.

3.4.1.2 OPERATIONAL PERFORMANCE

GENERATION ACTIVITY

- Generation increased 85% as result of increased operating hours in hydroelectric power plants, due to the available water resources in Portugal being 5% higher than the long-term historical average;
- The overall generation portfolio in Iberia (excluding wind and solar) encompasses a total of 13.5 GW, of which more than 50% in hydro capacity;
- Generation in 2018 increased 2% YoY (+0.8 TWh) to 34.6 TWh reflecting a sharp rebound of hydro resources to normalized levels in 2018 (IPH of 1.05 in Portugal and 1.3 in Spain), which enabled a 6.3 TWh YoY increase in hydro output. This increase was, however, partially offset by a lower generation at our coal (-2.8 TWh) and CCGT (-2.7 TWh) plants;
- In Portugal, in Dec-18 EDP sold 100% of Small Hydro, S.A., which owns 7 mini-hydro plants and 100% of the capital of Pebble Hydro - Consultoria, Investimentos e Serviços, Lda., which in turn holds 14 mini hydroelectric plants. The impact in EDP Group's portfolio amounts to 80 MW;
- Additionally, in Jul-18, EDP sold the equity participation held in EDP Produção Bioeléctrica, S.A.



NET ELECTRICITY GENERATION (GWh)



SUPPLY ACTIVITY

- For EDP customer relationship management is crucial, which has given a strong focus to the improvement of the quality of the services provided. EDP has been building a position of notoriety in the energy market, with the aim of being an engaging and innovative company in which customers review themselves. As a reflection of this commitment to customer relations, in 2018 EDP achieved a global customer satisfaction level of 78% in line with the defined target;
- In December 2018, EDP's portfolio had 5.3 million electricity customers, mainly in the residential and SME segments (around 43% of total consumption). The customer portfolio remained stable compared to the previous year;
- Electricity supplied in the liberalized market fell by 5% yoy to 31TWh in 2018, mainly as result of the decrease in the volume of electricity supplied to final customers in Spain;
- In the gas sector, the customer portfolio registered a slight increase of 1% over 2017;
- The volume of gas traded in the Iberian Peninsula in 2018 was 18.8 GWh, an increase of 1% over the previous year, mainly reflecting the increase in sales in the residential market in Spain;
- In the services sector, the strong commitment to a portfolio with a diversity of solutions for energy efficiency, microgeneration, electric mobility and technical assistance, allowed the B2C customer portfolio to grow by 6% over 2017 to 1.34 million contracts / awards.

2010

2018

2017		2010	
ELECTRICITY CUSTOMERS	5,286,804		5,272,557
Portugal	4,153,315	Portugal	4,118,610
Spain	1,133,489	_Spain	1,153,947
ELECTRICITY SUPPLIED (GWh)	32,249	ELECTRICITY SUPPLIED (GWh)	30,669
Portugal	18,246	Portugal	18,119
Spain	14,003	Spain	12,549

2017

GAS CUSTOMERS	1,540,819
Portugal	657,619
Spain	883,200
GAS SUPPLIED (GWh)	18,642
Portugal	3,628
Spain	15,014

GAS CUSTOMERS	1,554,774
Portugal	659,485
Spain	895,289
GAS SUPPLIED (GWh)	18,748
Portugal	3,605
Spain	15,143

3.4.1.3 STRATEGIC ANALYSIS

	STRATEGIC PILLAR	INDICATOR	GOAL	STATUS
1	Optimization of Maintenance CAPEX in operation	CAPEX	Maintenance €0,5B Expansion €0,3B Accum. 2016-20	Maintenance €0,4B Expansion €0,3B Accum. 2016-18
2	Further efficiency improvements	OPEX/ Gross Profit (%)	-2 p.p. 2020 VS 2015	+2 p.p. 2018 VS 2015
3	Risk-controlled approach through hedging leveraging on client base and adequate management of the regulatory agenda	Sales to clients/ own generation	>100% 2015-20	108% 2018
4	Strong Improvement of free cash-flow generation	EBITDA	+16% CAGR 2015 ¹ -20	-1% CAGR 2015 ¹ -18

1 2015 EBITDA adjusted for weather and one-off gains

3.4.1.4 RISK OUTLOOK

- Political/ regulatory risk (Portugal): dispatch relative to the "innovative features" under CMEC Cessation Agreements, suspension of the "clawback" to generation for a period of 6 months, other governmental/ regulatory decisions
- Political/ regulatory risk (Spain): suspension of the 7% generation tax for a 6-month period, other governmental/ regulatory decisions
- Market design: EU directives (namely, regarding capacity remuneration)
- CO2 regulation and pricing: evolution of carbon pricing mechanisms and impact over prices and merit order (coal vs. natural gas plants)
- Hydro volumes: uncertainty regarding hydro generation levels
- Retail margin/ quota: reduction of retail margin or loss of market quota, supply of new products and services
- Asset operation and availability: damage of assets and/ or loss of profit

3.4.2 REGULATED NETWORKS IN IBERIA

3.4.2.1 FINANCIAL ANALYSIS

	EBITDA from regulated networks fell by 30% YoY, to €625 million in 2018, largely impacted by:
REGULATED NETWORKS IN IBERIA	 The sale of Naturgas Energía Distribuición and EDP Gás, in July 2017 and October 2017, respectively;
EBITDA: €625M -30% VS. 2017	 In Portugal (77% of total EBITDA in 2018), new regulatory terms applicable to electricity distribution and last resort supply as from 1-Jan-18 (-€160 million YoY), which was only partially compensated by tight cost control;
	 In Spain (23% of total EBITDA in 2018), the adoption of prudent approach to possible regulatory changes, even ahead of the end of the current regulatory period, in 2020.

3.4.2.2 OPERATIONAL ANALYSIS

- At the end of 2018 EDP had about 2.6 million smart meters installed throughout its distribution network in Iberia. Highlight to Portugal where there was a 55% YoY increase in smart meters in domestic customers.
- In 2018, for the third consecutive year, the volume of electricity distributed in Iberia increased (+2% vs 2017) to a total of 55 TWh.
- The Installed Capacity Equivalent Interruption Time (ICEIT) in Portugal registered a slight increase compared to 2017, with 61 minutes, but still below the regulator's benchmark. In Spain, EDP maintained the leadership in the service quality of the Spanish electricity sector, with a historically low ICEIT of 17 minutes. The System Average Service Interruption Frequency Index (SAIFI) in Portugal also increased compared to 2017, registering 1.61 interruptions for home and small business customers and 1.87 interruptions for business customers.
- In the losses in the electricity distribution network a positive highlight for the improvement of this indicator compared to 2017. In Portugal the level of losses reached 9.6%, still above the 9.00% regulatory reference.

2017		2018	
KM OF NETWORK	246,641	KM OF NETWORK	247,017
Distribution overhead lines	193,016	Distribution overhead lines	193,215
Distribution underground lines	53,625	Distribution underground lines	53,802
ELECTRICITY DISTRBUTED (GWh)	54,084	ELECTRICITY DISTRBUTED (GWh)	55,419
Portugal	44,753	Portugal	46,059
Spain	9,331	Spain	9,360

3.4.2.3 STRATEGIC ANALYSIS

	STRATEGIC PILLAR	INDICATOR	GOAL	STATUS
1	Selective CAPEX in smart grids	CAPEX	€1,8B Accum. 2016-20	€1,0B Accum, 2016-18
2	Further efficiency improvements	OPEX/ Gross Profit (%)	-2 p.p. 2020 VS 2015	-1 p.p. 2018 VS 2015

3.4.2.4 RISK OUTLOOK

- Low voltage network concessions (Portugal): renewal of framework, possible fragmentation and increase in system costs
- Smart-grids: level of regulatory support and initiatives
- Asset operation and availability: damage of assets and loss of profit
- Business continuity: across-the-board and prolonged interruption of operations by extreme events (e.g., natural disasters, terrorism)

3.4.3 EDP RENOVÁVEIS

3.4.3.1 FINANCIAL ANALYSIS

	EBITDA from EDP Renováveis went down by 5% YoY (-€66 million), to €1,300 million in 2018, as benefits from portfolio expansion were mitigated by:
EDP RENOVÁVEIS	• Depreciation of USD and BPL currencies versus Euro ($-\epsilon$ 35 million on ERITDA).
EBITDA: €1,300M -5% VS. 2017	 Depreciation of 03D and BRE contentions versus Euro (-C33 million on EBIDA), Weak wind resources, falling 6% short of the long-term average in 2018; Avg. selling price -7% YoY excluding the impact from forex, following regulatory developments (Romania) and the mix effect from new installed capacity; Expiration of the 10-year period of Production Tax Credits in some wind farms (-€50 million YoY).

3.4.3.2 OPERATIONAL ANALYSIS

- Wind and solar production increased by 3% in 2018, reflecting the increase in installed capacity to 11.3 GW; .
- In 2018 EDP Renováveis built 826 MW: 478 MW in the USA; 137 MW in Brazil (Babilónia); and the remaining 211 MW . were installed in Italy (77 MW), Spain (68 MW), Portugal (55 MW) and France (11 MW);
- Pursuing its sell-down strategy, EDP Renováveis sold an 80% stake in a wind onshore farm in the USA with 200 MW, . consolidating the remaining 20% (40 MW) at equity level;
- At the end of 2018 EDP Renováveis had 344 MW under construction for wind onshore farms to start operations in 2019, namely 199 MW in the USA (Prairie Queen), 50 MW in Italy (Conza and San Nicola), 47 MW in Portugal (Penacova), 29 MW in Spain (La Peña) and 19 MW in France (Paudy and Long Champs). It should be noted that, apart from Spain, all parks have long-term contracts secured.
- In terms of wind offshore, at 31-Dec there were under construction 316 MW in the United Kingdom from Moray East project and 14 MW from Windplus floating project in Portugal.

2017		2018
INSTALLED CAPACITY (MW)	10,676	INSTALLED CAPACITY (MW)
Europe	5,061	Europe
North America	5,284	North America
Brazil	331	Brazil
NET ELECTRICITY GENERATION (GWh)	27,621	NET ELECTRICITY GENERATION (
Europe	11,669	Europe
North America	15,091	North America
Brazil	861	Brazil

INSTALLED CAPACITY (MW)	11,301
Europe	5,272
North America	5,562
Brazil	467
NET ELECTRICITY GENERATION (GWh)	28,359
NET ELECTRICITY GENERATION (GWh)	28,359
NET ELECTRICITY GENERATION (GWh)	<u>28,359</u> 11,480
NET ELECTRICITY GENERATION (GWh)	28,359 11,480
NET ELECTRICITY GENERATION (GWh) Europe North America	28,359 11,480 15,644
NET ELECTRICITY GENERATION (GWh) Europe North America	28,359 11,480 15,644

3.4.3.3 STRATEGIC ANALYSIS

	STRATEGIC PILLAR	INDICATOR	GOAL	STATUS
1	Selective and profitable growth generating higher production	GWh	+10% CAGR 2015-2020	+10% CAGR 2015-2018
2	Higher efficiency and accretive capacity additions	EBITDA	+8% CAGR 2015-20201	+7% CAGR 2015-2018 ¹
3	Quality portfolio with sound cash-flow generation	RCF ²	€3,9B Acum. 2016-2020	€2,7B Acum. 2016-2018
4	Increasing profitability for EDPR shareholders	Net Profit	+16% CAGR 2015-20201	+43% CAGR 2015-2018 ¹
5	Maintaining its dividend policy	Dividend payout	25-35%	24%

¹ EBITDA and Net Profit adjusted by non-recurrent events ² Retained Cash Flow. Amount available to pay dividends to shareholders and/or to fund new investments and corresponds to EBITDA net of debt service costs, capital distributions to equity partners and taxes

3.4.3.4 RISK OUTLOOK

- Prices: uncertainty regarding wholesale prices (particularly long-term), green certificates and RECs (Renewable Energy Credits)
- Generation volumes: annual volatility in wind and solar generation
- Political/ regulatory support for renewable energies: uncertainty regarding long-term regulatory frameworks (incentives, capacity)
- Counterparty: possible default on contract obligations (long-term contracts of power purchase, contracts to buy equipment, etc.)
- FX: evolution of key currencies (USD, BRL, CAD, RON, PLN, GBP)

3.4.4 EDP BRASIL

3.4.4.1 FINANCIAL ANALYSIS



EBITDA of EDP Brasil advanced 6% YoY, to €649 million, despite the adverse change of the BRL versus the EUR, with a negative impact of €127 million. In local currency, EBITDA went up by 27% to R\$2,815 million in 2018, enhanced by:

- In distribution, 7% YoY increase in EBITDA, driven by better operational performance, increase in energy volumes and update of concession assets' value;
- In generation and supply, the successful integrated portfolio management allowed to mitigate the adverse weather impact;
- The sale of small-hydro plants in 2018, with a capital gain of R\$375 million.

3.4.4.2 OPERATIONAL ANALYSIS

GENERATION ACTIVITY

- The volume of energy sales in hydro generation increased YoY by 4.8% (7,403 GWh vs. 7,066 GWh), mainly due to the higher contracting of Energest and Lajeado (+ 231GWh and + 111GWh respectively). This effect was partially mitigated by the closing of the sales contracts of the PCH's sold.
- In Brazil, in April 2018, the last group of São Manoel (175 MW out of a total of 700MW, 33% EDP) entered into operation, in partnership with Furnas and CTG.



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INSTALLED CAPACITY

NET ELECTRICITY GENERATION



DISTRIBUTION ACTIVITY

- Distributed energy grew 1.4% vs. 2017. The volume of energy sold grew slightly (0.5%) when compared to 2017. Although the residential, commercial and rural segments grew, the industrial segment decreased by 8.2% mainly due to the migration from the regulated to the free market. Energy distributed to industrial customers in the free market rose by 6.5% in 2018, from 10.4 TWh to 11.1 TWh.
- As for the quality of service in 2018, EDP São Paulo obtained a DEC of 7.8 hours and a FEC of 4.8 times, which corresponds, respectively, to a decrease of 2% and 3% in each of the indicators compared to 2017, mainly as a result of more favorable weather conditions. EDP Espírito Santo presented a DEC of 8.3 hours, a decrease of 4% compared to the previous year, and a FEC of 4.8 times, down 9% from 2017.

2017		2018	
KM OF NETWORK	91,538	KM OF NETWORK	92,160
Distribution overhead lines	91,293	Distribution overhead lines	91,906
Distribution underground lines	245	Distribution underground lines	254
ELECTRICITY DISTRIBUTED (GWh)	24,652	ELECTRICITY DISTRIBUTED (GWh)	25,007

SUPPLY ACTIVITY

- The number of customers in the regulated market rose by 2% year-on-year, resulting in an increase of approximately 1% on the electricity supplied in the last resort market.
- EDP Comercializadora obtained a 2% increase in the energy supplied (18,102 GWh in 2018 vs. 17,804 GWh in 2017) reflecting: higher volumes of energy traded in the short-term market; increase of bilateral agreements throughout 2018; increase in energy marketed to new free consumers during the year; integration of the portfolio through the hedging strategy.

2017		2018	
ELECTRICITY CUSTOMERS	3,376,425	ELECTRICITY CUSTOMERS	3,450,487
Customers in liberalised market	337	Customers in liberalised market	309
Customers in last resort market	3,376,088	Customers in last resort market	3,450,178
ELECTRICITY SUPPLIED (GWh)	31,501	ELECTRICITY SUPPLIED (GWh)	31,871
Electricity supplied in liberalised market	17,804	Electricity supplied in liberalised market	18,102
Electricity supplied in last resort market	13,697	Electricity supplied in last resort market	13,769

TRANSPORT ACTIVITY

• During 2018, the first 137km of transmission network became operational and 1,184km are still under development, and are expected to enter into operation by 2021.

3.4.4.3 STRATEGIC ANALYSIS

PILAR ESTRATÉGICO	INDICADOR	META	ESTADO
Commitment to execution		2.001//	0.000
Excelência operacional e eficiência superior	Capaciadae instalada	3,0GW	2,9GW
Foco regulatório	Dívida Líquida/ EBITDA	< 2,x	1,6x
Reforço da eficiência			_
Disciplina de Capital e Retorno para o accionista	Política de Dividendos	> 50%	60%
	PILAR ESTRATÉGICO Commitment to execution Excelência operacional e eficiência superior Foco regulatório Reforço da eficiência Disciplina de Capital e Retorno para o accionista	PILAR ESTRATÉGICO INDICADOR Commitment to execution Capacidade Instalada Excelência operacional e eficiência superior Capacidade Instalada Foco regulatório Dívida Líquida/ EBITDA Reforço da eficiência Política de Dividendos Disciplina de Capital e Retorno para o accionista Política de Dividendos	PILAR ESTRATÉGICO INDICADOR META Commitment to execution Capacidade Instalada 3,0GW Excelência operacional e eficiência superior Dívida Líquida/ EBITDA 3,0GW Foco regulatório Dívida Líquida/ EBITDA <2,x Reforço da eficiência Polífica de Dividendos >50%

3.4.4.4 RISK OUTLOOK

- Regulatory reform: pace of liberalization of retail market included in ongoing proposal to revise market design (generation, distribution and supply), maintenance of the weighted average cost of capital (WACC) for energy distribution business
- **Hydro volume:** mismatch between (uncertain) energy generation and energy sold in LT contracts, differences settled at volatile spot price (PLD)
- Price (Spot PLD): transversal impact to the business of generation, distribution and supply
- Political/ social risk: political uncertainty in new political mandate with impact at macroeconomic level and in business
- Climate change: hydro resources scarcity with impact to the business of generation (hydro and thermal)

3.5 RISK MANAGEMENT OF THE YEAR

The risk management at EDP Group looks for acting in an integrated way across 5 fundamental pillars:

		DEVELOPMENTS IN 2018	PRIORITIES FOR 2019
IN-DEPTH KNOWLEDGE ABOUT KEY SOURCES OF RISK EXPOSURE	Mapping of key risks (and representation in a structured taxonomy). Quantitative analysis of exposures (based on average and maximum loss).	 Development of a risk map with the key risks for 2019. Deep-dive of the risk map for the business of generation in Portugal. Mapping of key climate risks, according with the recommendations of TCFD (key transition and physical risks). 	Development of a tool to follow-up key emerging concerns of the management team of EDP Group, to update the exercise of emerging risks map developed in 2017. Update the annual exercise of risk map with the key risks of 2020.
DEFINITION OF MANAGEMENT STRATEGY	Support the clarification and reflection around risk-return trade-offs (and risk appetite) in key management decisions. Periodical update of the risk appetite statement disclosed in the Annual Report.	Consolidation of risk-return methodologies (marginal cost of risk).	Reflection on risk capacity and tolerance for EDP Group.
ACTIVE PARTICIPATION OF RISK IN KEY DECISIONS AND MANAGEMENT PROCESSES	Risk advice/ support for the Business Plan and Budget exercises.Support for investment decisions (inc. participation in Investment Committee).Support the definition of coverage strategies for key exposures.Analysis and advice on topics with possible impact in the risk profile of the Group.Follow-up and control of key exposures (through periodical reports at Group level and for the most relevant BUs).	Standardization of credit risk policies. Risk analysis and asset composition for the Group's Pension Fund. Support the strengthening, standardization and formalization of practices for Crisis Management and Business Continuity in selected areas (EDP Distribuição, EDP Produção, DGU, UNGE, EDP Valor, EDP Comercial, EDP Spain, EDP Renewables). Launching of pilot for integration of risk map with Budget. Study of mechanisms for mitigation of hydro volume risk.	Hedging strategy for the market risk in Iberia. Consolidation of practices for Crisis Management and Business Continuity and broadening scope to the remaining BUs.
FORMALIZATION OF RISK GOVERNANCE MODEL	Establishment of policy and principles for risk management at EDP Group.	Continuous disclosure of the risk governance model, and integration of the corporative structure with risk-officers of BUs giving visibility over key risk topics to top management.	Support the dynamization of risk- officers network and consolidation of the risk management function (in BUs with more recent risk governance models).





