EDP

COMPANY REPORT

UTILITIES

07 JANUARY 2015

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Shedding Light on EDP

Between deregulation and austerity measures

- We recommend a holding position on EDP given our price target for FY15 of €3.14 per share, which reflects a potential downside of 1%, compared to the current market price.
- EDP's generation segment is shifting towards liberalised activities due to the Iberian liberalisation process. In order to have an improvement of its margins, EDP needs a generation mix mainly composed by its hydro plants, which in 2015 should represent 50% of the company's Iberian installed capacity.
- EDP's enterprise value continues to be a highly dependent on its regulated segments, which could be a risk. Iberian governments obsession to decrease their tariff deficit may put EDP on a weak position.
- 2015 should be the turning year for Brazilian's Pecém plant, since it should operate all year without any technical problems. Therefore, the coal plant should give a significant contribution to EDP Brasil's enterprise value.
- EDP's top class dividend yield near 6%, continues to be one of the flagships of the company. However, the high dividend policy should have a negative impact on the company's deleveraging objective in 2017.

Company description

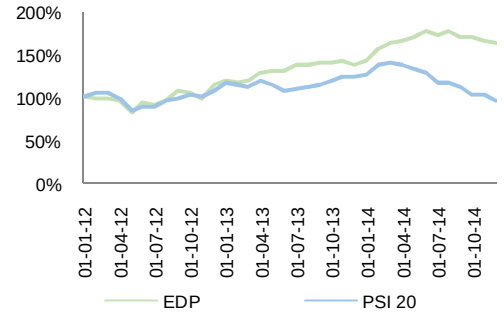
EDP-Energias de Portugal is the major Portuguese utilities company. The company's activity is focused in the generation, distribution and supply of energy. The group also has a strong presence in Brazil through EDP Brasil, in which the group has a 51% stake. EDP has renewable assets in its portfolio through EDP Renóvaveis, which is present in 12 countries.

Recommendation:	**HOLD**
Vs Previous Recommendation	-
Price Target FY15:	**3.14 €**
Vs Previous Price Target	-
Price (as of 6-Jan-14)	**3.10 €**

Reuters: EDP.LS, Bloomberg: EDP.PL

52-week range (€)	2.68-3.75
Market Cap (€m)	11350
Outstanding Shares (m)	3656.5

Source: Bloomberg



Source: Bloomberg at 31/12/2014

(Values in € millions)	2013	2014E	2015F
Revenues	5551	5266	5322
EBITDA	3617	3608	3578
Net Profit	1194	1041	1057
EPS	0.28	0.25	0.26
P/E(x)	12.4	11.0	10.4
EV/EBITDA (x)	8.51	8.63	8.65
DPS	0.185	0.185	0.185
Dividend Yield	6.9%	5.9%	5.9%

Source: Company Report, Analyst Estimates

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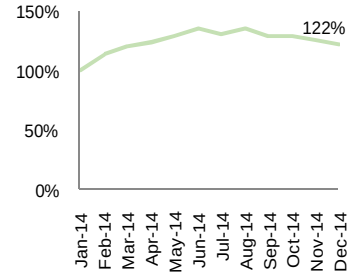
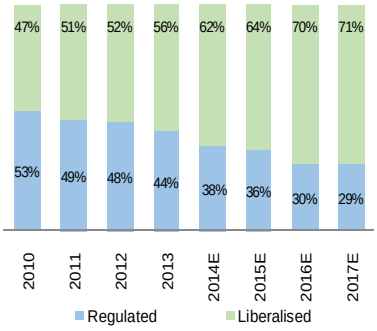
Investment Case

Figure 1 - EDP Stock Market Performance in 2014(%)



Source: Bloomberg, at 31/12/2014

Figure 2 - Installed Capacity in Iberia: Regulated vs. Liberalised (%)



Source: EDP and Analyst Estimates

We initiate our coverage on EDP with a price target of €3.14. EDP is the main player in the Portuguese utilities sector and one of the biggest Iberian utilities companies. We estimate that over the 2015-2017 period, EDP's EBITDA will grow at CAGR of 0.7%. In Iberia, EBITDA growth will come mainly from the liberalised generation segment due to its hydro capacity increase, which will be based on the addition of new plants and on the integration of former CMEC ones (figure 2). In Brazil, we expect growth to come from the generation and supply segments. Still in Brazil, it is important to refer that the Pecém coal plant is already operating after a problem on the plant generator, which stopped its production during part of 2014. Therefore, if no further problem arises, we expect Pecém to have a significant contribution on EDPB's enterprise value.

On EDP's EV, we expect Iberian regulated segments to rule with a 51% share on total EV, while EDPB and EDPR weight on the total EV should be 22% and 10%, respectively. Liberalised activities in Iberia have a 18% weight in the company's EV. So, EDP's value will be mainly driven by regulated activities, however the Iberian liberalisation process will give more importance to liberalised activities. EDP's strength might be also its weakness, since the company's EV could be affected by adverse regulation both in Iberia and Brazil.

Regarding EDP's financial position, we expected an improve with the Net Debt/EBITDA of 3.5x in 2017E, including regulatory receivables, and a dividend yield of 6%. The Net Debt/EBITDA is close to the company's 2017 target of 3.0x, however in our view, it might not be compatible with the company's current dividend policy of €0.185 dividend per share floor. In fact, EDP's dividend yield is the top of the class when compared with the one from its peers or its average, as figure 2 demonstrates.

Figure 3 - Multiples Comparison

		EDF	Endesa	EOAN	Gas Natural	GDF	Iberdrola	RWE	Average	EDP
P/E	FY14	10,8	11,2	15,7	14,7	15,4	15,9	11,6	13,6	12,4
	FY15	10,9	15,7	15,4	14,0	14,1	15,1	11,8	13,8	10,9
	FY16	10,9	14,3	15,5	12,8	13,3	14,1	12,4	13,3	10,4
Dividend Yield	FY14	5,6%	4,7%	3,6%	4,4%	5,2%	4,9%	3,9%	4,6%	5,9%
	FY15	5,6%	5,2%	3,6%	4,6%	5,3%	4,9%	3,9%	4,7%	5,9%
	FY16	5,7%	5,5%	3,7%	5,0%	5,5%	5,1%	4,0%	4,9%	5,9%

Source: Analyst Estimates and Bloomberg Consensus

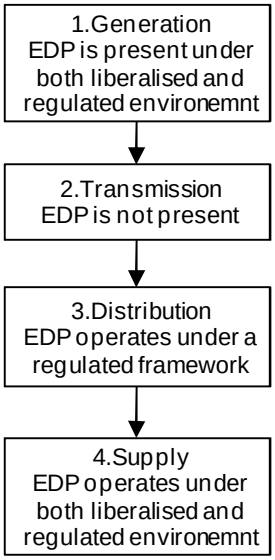
Company Overview

Figure 4 - EDP Peers (€Mn)

Peers	Market Cap
Endesa	16.5 Bn
Iberdrola	34.7 Bn
Gas Natural	20.0 Bn
EDF	40.9 Bn
GDF Suez	45.0 Bn
EON	26.6 Bn
RWE	14.8 Bn

Source: Bloomberg, at 06/01/2015

Figure 5 - EDP Peers



EDP is a Portuguese vertically integrated utilities company founded in 1976, after the nationalization and merger of 13 utilities companies. The company's main mission was to provide electricity to the Portuguese territory, improving and expanding its existing distribution network. After restructuring the company, the Portuguese government created in 1994 the EDP group. In June of 1997, the first of eight privatisation phases took place, with the company's IPO taking place in the Lisbon Stock Exchange. This operation consisted on the transfer of 29.99% of EDP's share capital. Since then other seven phases occurred, with the last being the sale of 21.35% of EDP's share capital by Parpública – Participações Públicas (SGPS), a state owned company, to China Three Gorges (CTG).

Listed since 1997 in the Lisbon Stock Exchange, EDP currently has a market capitalization of €11.4 Bn[1]. It is the main company in the Portuguese utilities sector and one of the top players in the Iberian market. The group operates in three out of four activities that belong to the electricity value chain(figure 5). In Iberia the electricity generation could operate under the regulated framework, through special regime producers, or under the liberalised environment. On the transmission phase, electricity is transported from the generating plant to the distribution grid. This is the only phase of the value chain where EDP is not present. The third phase is the distribution, which is responsible by carrying electricity from the transmission system to the consumer. The fourth stage of the value chain is the supply that makes the bridge between the distributor and the consumer. EDP's main competitors are the Spanish utility companies, Endesa, Iberdrola and Gas Natural since all operate in the same three activities of the Iberian market that EDP operates.

Figure 6 - Electricity Demand Growth per Region (%)

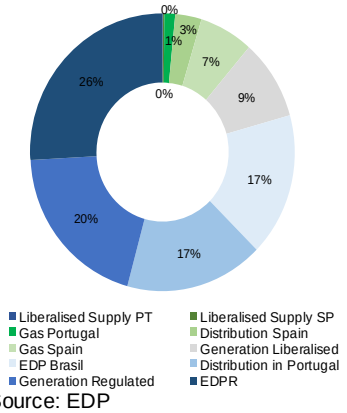
Region	CAGR 2012-2040
OECD	**0.8%**
Americas	0.9%
Europe	0.7%
European Union	0.6%
United States	0.8%
Non-OECD	**3.0%**
LatAm	2.5%
Brazil	2.6%
World	**2.1%**

Source: IEA

EDP group has a global footprint since it operates in 12 different countries. The parent company operates in Portugal and Spain. EDP Brasil operates in Brazil, while the renewable subsidiary operates in the 3 previously mentioned countries plus Belgium, Canada, France, Italy, Poland, Romania, UK and US. This geographical diversity could be a positive point for the group since it has exposure to markets in different growth stages. According to IEA, European Union's electricity demand is expected to experience an annual growth rate between 2012 and 2040 of 0.6%, which is the growth rate present on figure 6. In fact, OECD countries are expected to grow only 0.8%. On the other hand, non-OECD countries are expected to grow 3%, with Brazil expected to grow 2.6%. EDP's current portfolio allows the group to have a strong presence in developed

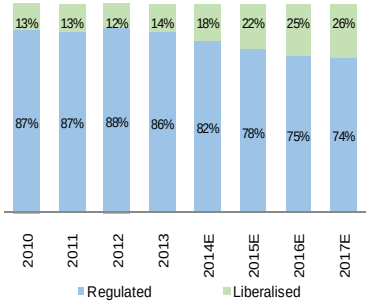
[1] Source: Bloomberg at 06/01/2015

Figure 7- 2013 EBITDA Breakdown (%)



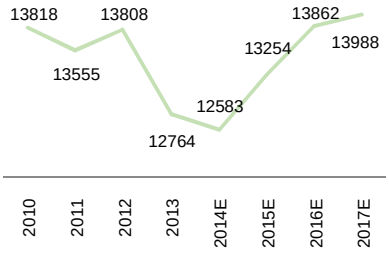
Source: EDP

Figure 8 - EBITDA Breakdown by Source (excluding EDPR) (%)



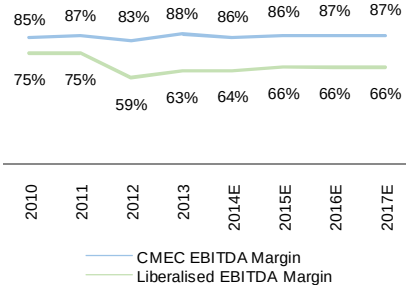
Source: EDP and Analyst Estimates

Figure 9 - Installed Capacity in Iberia (MW)



Source: EDP and Analyst Estimates

Figure 10 - CMEC Vs Liberalised EBITDA Margins (%)



Source: EDP and Analyst Estimates

markets, which are less volatile and, at the same time, be present on emerging ones, which should experience a higher growth rate that generally is accompanied by higher volatility. All in all, EDP is trying to diversify its revenues by geography, which could be an advantage if no instability occurs on the emerging countries the group is exposed to. Otherwise it could be a problem for the group.

EDP operations are currently divided in Generation, Distribution, Supply, Gas, Brasil and Renewables business segments. Figure 7 shows the 2013's EBITDA breakdown. It is easy to understand the importance of EDPR since it is the biggest segment of the group, followed by the regulated generation with 20%. In fact, 86% of EDP's EBITDA in 2013 came from regulated activities, excluding EDPR and including EDP Brasil. The scenario of dominance of regulated activities has been decreasing since 2012 (figure 8). Over the following years is expected that liberalised activities will increase its weight on EDP's revenues due to the deregulation in Iberia.

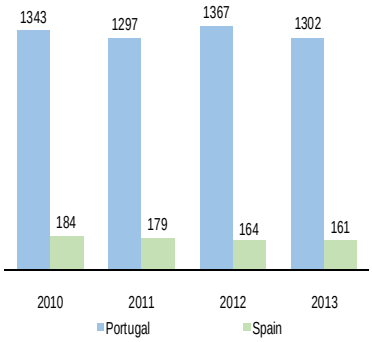
In Iberia, EDP operates in the generation business through its subsidiaries, EDP Produção in Portugal and Hidroeléctrica del Cantábrico (HC) in Spain. Both companies operate in the liberalised and regulated generation. The regulated unit of electricity generation is composed by the PPA/CMEC (CMEC-costs with the maintenance of contractual equilibrium) and by the special regime contracts. The CMEC system was approved by the European Commission in 2004 and it preserves the NPV of the PPAs, a real pre-tax ROA of 8.5%. This regime started in 2007 and will finish in 2027, notwithstanding its conditions will be reviewed in 2017.

Currently, EDP has an installed capacity (excluding wind) in Iberia of 12,583 MW, however this value will increase by 1,405 MW until 2017 to 13,988 MW, figure 9. Since 2010, the weight of the regulated segment has been decreasing in the generation business (figure 3). In fact this trend will continue, as the CMECs contracts finish, the hydro installed capacity passes automatically to the liberalised segment. Moreover, EDP can only increase the installed capacity on the special regime, never on the CMEC side since it was not foreseen on the memorandum. This change will have a negative impact on EDP's EBITDA because the EBITDA margins in the liberalised generation are lower than the ones obtained on the regulated market. Figure 10 demonstrates that in 2013 the CMEC's margins were 88%, against 63% registered on the liberalised business. Figure 33 shows the hydro plants that will pass to the liberalised side.

EDP Distribuição and HC Distribución are responsible for the distribution of electricity in Portugal and Spain, respectively. Electricity distribution is a

regulated business, in which the remuneration is established by a Return on Regulated Asset Base (RoRAB) defined by the country's regulator. The Portuguese regulator, ERSE, established a RoRAB of 9.5% for 2014 and 6.75% for the period between 2015 and 2017. The Spanish regulator, CNE, established on the RDL 9/2013 that the RoRAB for the period 2014-2020 should be equivalent to a premium of 200 basis points over the 10 year Spanish bond yield. According to EDP, this scheme yields a RoRAB of 6.5%. The Royal Decree Law (RDL) 9/2013 was enforced on July 14th 2013 and from that date until the end of 2013, it paid a spread of 100 basis points. The value of the yield was calculated according to an average of the 10 year Spanish bond yield on the secondary market during the three months preceding the date on which the royal decree was enforced.

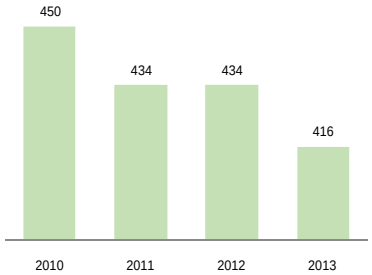
Figure 11 - Gross Profit of Distribution in Iberia (€Mn)



Source: EDP

In Portugal, EDP currently has 225 thousand kilometres of distribution grid and in 2013 it distributed 43,858 GWh of electricity. In Spain, the group has 23 thousand kilometres of distribution grid and in 2013 it distributed 9,147 GWh of electricity. The distribution segment is a mature business, so it is not expected any further expansion investment. Regarding its gross profit, it has been decreasing in both countries over the past years (figure 11). In Portugal, the 2012 gross profit was an exception since the real RoRAB for the year was 10.05%, while in 2013 it was 8.56%. Unlike to the current Portuguese remuneration rate that is linked to the 10 year Portuguese bond yield, the 2012-2014 rate was linked to the Portuguese Republic 5-year CDS, which suffered a major decline in 2013. In the future, it is expected a smaller decrease and, then, a stabilization of both gross profits since there will be no room for further controlled costs' efficiency improvement, in our view. In fact, ERSE reduced the efficiency factor of EDP Distribuição from 3.5%, in the 2012-2014 period, to 2.5% for the 2015-2017 period since the company is close to the efficiency levels targeted by the regulator. In figure 12, it is possible to observe the controlled costs decrease trend.

Figure 12 - EDP Distribuição OPEX (€Mn)

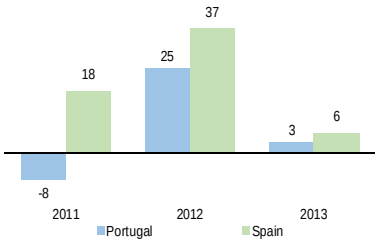


Source: EDP

In the Iberian electricity supply business, EDP also has the liberalised and the regulated segments, though the last one is predicted to finish its activity in 2015. As it was required by the European Directive, since January 1 of 2007, the role of the last recourse supplier has been undertaken by EDP - Serviço Universal. This company has the duty of selling electricity at the regulated tariff price to all clients that demand such service. The last recourse supplier must manage the different forms of contracts in order to acquire energy at the lowest cost. In 2016 the Portuguese supply segment will be completely liberalised.

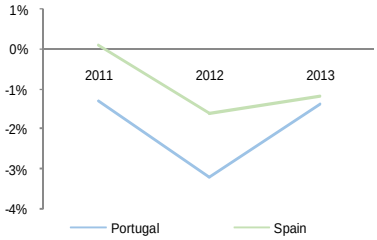
The liberalised segment is controlled by EDP Comercial in Portugal, while in Spain it is ran by HC Energía. With the shift to the liberalised market, the electricity supply segment is becoming less dependent on the regulated

Figure 13 - Supply EBITDA (€Mn)



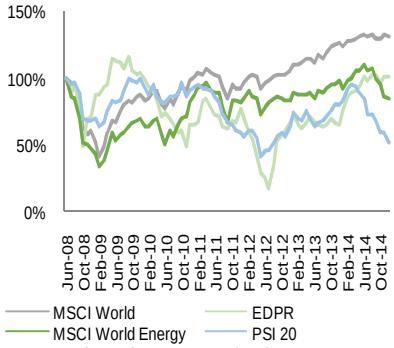
Source: EDP

Figure 14 GDP evolution in Iberia (%)



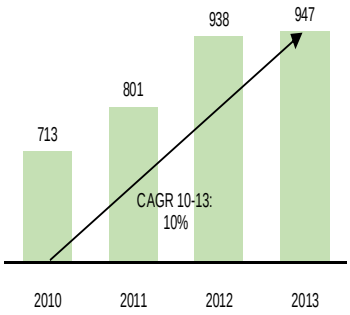
Source: IMF

Figure 15 - EDPR vs PSI 20 vs MSCI World vs MSCI Energy sector, since its IPO (%)



Source: Bloomberg, at 31/12/2014

Figure 16 - EDPR EBITDA (€Mn)



Source: EDPR

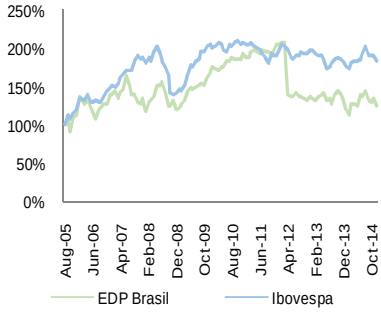
electricity tariff. Currently, EDP has a market share of 45% in Portugal and it is expected to sell almost 15,500 GWh in 2014. During the liberalization process, EDP's market share in this segment has been decreasing, as well as gross margins. In the future it is expected a stabilization of the market share and a reduction of the current's gross margin. In Spain, EDP has a current market share of 9% and it is expected to sell almost 17,000 GWh in 2014. Unlike Portugal, the Spanish supply market has been liberalised since 1997, so the company's gross margins have already stabilize and are not expected to suffer major changes in the future. In figure 13, it is possible to observe a higher volatility on the Portuguese business in comparison to the Spanish one, which is justified by its lower development stage. Nevertheless, it should be mentioned that both Iberian countries suffered an economic recession between 2011-2013 (figure 14), which negatively affected electricity demand and, consequently, its supply.

In the gas segment, EDP operates as a distributor and supplier of gas in the Iberian market, under a regulated and liberalised framework. The supply activity is recent in Portugal since it only started in 2009. In 2013, the group sold in Portugal 5,315 GWh of gas and had a market share of 15%. In the same year, in Spain, EDP sold in 28,553 GWh of gas and had a market share of 5%. On the distribution business, EDP had in 2013, 4,484 kilometres of grid in Portugal and 9,996 kilometres of grid in Spain. On the same year, EDP distributed 6,938 GWh of gas in Portugal and 51,535 GWh in Spain.

EDP is experiencing businesses in different maturity stages. The supply business in Portugal is a recent one that has been growing even with the fierce competition of Galp Energia. In Spain due to its small structure it has been losing market share, in fact since 2011 EDP dropped 6% from 11% to 5% in 2013. This negative trend has two main reasons: first, as it happened with electricity supply, the economic recession in Iberia led to lower gas demand, consequently the supply business was also affected. The second reason was EDP shifting its gas sales to the retail market where margins are more attractive and the volumes are lower than on the industrial segment. Regarding the distribution business, it is a mature business in both countries, like the electricity distribution one, so further expansion investment is not expected.

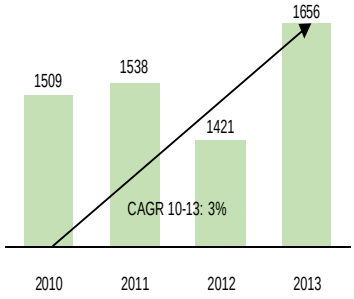
EDP Renováveis (EDPR) is the company of the EDP group responsible for the renewable energy segment. Listed in the Lisbon Stock Exchange since June 2008, with an initial price of €8 per share. EDPR is a reference company in the renewable's industry, more specifically on wind sector, where it is one of the main producers. Currently, EDPR has two qualified stakes, its main shareholder EDP that owns 77.5%, and MFS - Investment Management that owns 3.1%. The

Figure 17 - EDPB vs Ibovespa, since its IPO (%)



Source: Bloomberg, at 31/12/2014

Figure 18 - EDP Brasil's EBITDA in 2013 (R$Mn)



Source: EDPB

Figure 19 - EDP' Shareholder Structure

CTG	21%
Capital Group	10%
Oppidum	7%
SARL	4%
Grupo BCP	2%
Sonatrach	2%
Qatar	2%
José de Mello	2%
Blackrock	2%
Treasury Stock	1%
Free Float	46%
Total	100%

Source: EDP

remainder 19.4% corresponds to the company's free float. In figure 15, it is possible to observe EDPR's share price performance against the PSI 20, the MSCI world and the energy sector index, since EDPR's IPO. EDPR had a better performance than the PSI 20 and the MSCI world energy sector, but worse than the MSCI index. EDPR currently operates in 12 countries, in 2 different continents. The company has an installed capacity of 8,565 MW and in 2013 its EBITDA reached €947 Mn. EDPR is a high growth company (figure 16), its EBITDA has been growing at a CAGR of 10% from 2010 to 2013.

EDP started its operations in Brazil in 1996 with a minority stake acquisition in the company Cerj. In 2000, EDP founded its Brazilian subsidiary, EDP Brasil, and in 2005 it was listed in the São Paulo Stock Exchange. Currently, EDP owns 51% of EDP Brasil that has a market capitalisation of $R4.273 Bn[2].

EDP Brasil operates in the electricity generation, distribution and supply businesses. The distribution segment is regulated, like the ones in Iberia, and it only operates in the states of Espírito Santo and São Paulo through Escelsa and Bandeirante, respectively. EDP Brasil will increase its current installed capacity of 2,157 MW in 2013 to 2,685 MW in 2018, with three new hydro plants-Jari, Cachoeira-Caldeirão and São Manoel. In figure 18, it is possible to observe EDPB's EBITDA evolution, which has been growing at a CAGR of 3% in the 2010-2013 period. The 2012 EBITDA drop came as a result of, the delay of the coal plant (Pecém) and regulatory negative impacts on the distribution business. All in all, EDP Brasil offers to EDP the exposure to a growing economy.

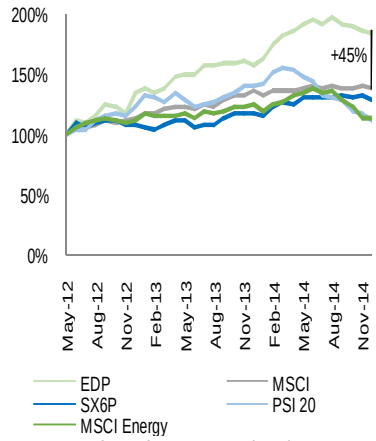
Shareholder Structure

EDP share capital has a total of 3,656,537,715 shares with a nominal value of €1 each. As it is possible to observe in figure 19, CTG is the main shareholder with a 21.35% stake followed by the Capital Group Companies with 10.13%. This US fund with around one trillion of USD under management, notified EDP on March 7 2014 that it held a qualifying shareholder position in EDP. The biggest Portuguese shareholder is Millennium BCP pension fund with a stake of 2.44%.

Since its incorporation in 1994, EDP went through eight privatization phases, with the last being the sale of Parpública' stake of 21.35% to CTG. The Chinese company acquired the 780,633,782 shares at €3.45 per share, which implied an equity valuation of €12.614 Bn. On May 11 2012, date in which CTG and Parpública notified EDP about the operation, the share price close the day at €1.85, which implied an equity valuation of €6.758 Bn. So, CTG offer price implied a premium of 87% to market price. Since the CTG acquisition in May

[2] Source: Bloomberg at 31/12/2014.

Figure 20 - EDP Performance since CTG's Partnership (%)



Sources: Bloomberg, at 31/12 /2014

2012, EDP performance has beaten all indexes, European, worldwide and industry specific ones (figure 20). In fact, EDP's performance is 45% above the MSCI index, which demonstrates that the CTG partnership was positively viewed by the market.

CTG is China's largest clean energy group with an ambitious renewable energy expansion plan worldwide. In 2010, CTG had 25.4 GW of installed capacity and it plans to have 90 GW in 2020, which 70 GW are in hydro plants and 20GW in wind. The profitable offer allied with a strategic partnership with CTG was a decisive factor that separated this offer from the rest. EDP and CTG established a strategic partnership based on three main pillars: i) CTG commitment to invest €2 Bn in the acquisition of minority stakes and co-investment in renewable projects; (ii) a Chinese financial institution commitment to provide a €2 Bn credit facility to EDP for a maturity up to 20 years; (iii) EDP and CTG will jointly develop new growth opportunities worldwide. The first pillar of the agreement already allowed EDP to use half of the €2 Bn in its first wind block in Portugal, as well as in wind and hydro projects in Brazil. This agreement had an important objective regarding EDP's financial position, EDP's net debt/EBITDA should be 3.0x by 2015E. However, this target was already changed to 3.0x of net debt/EBITDA in 2017E, net debt includes the regulatory receivables.

CTG is fully supported by the Chinese Government, having a credit rating of A$^-$ by S&P, way better than EDP's BB+. This fact should allow EDP to have lower finance costs when using CTG's credit line to finance new projects, however as this fact did not change EDP's credit rating it was not considered on the WACC calculation for valuation purposes. Through this partnership, EDP should be able to enter in new markets with the financial support of CTG, while CTG will get exposure to other markets besides China.

Valuation

In order to value EDP, we applied the sum-of-the-parts (SOP) methodology, in which we evaluate each segment individually. We separate EDP according to the following segments: Regulated Generation, Liberalised Generation, Electricity Distribution in Portugal and in Spain, Electricity Supply in Portugal and Spain, Gas in Portugal and in Spain (liberalised and regulated units), Generation and Supply in Brazil, Electricity Distribution in Brazil and EDPR. We evaluate all the segments, with the exception of EDPR, through a DCF-WACC approach. We evaluated EDPR at market values. Concerning the non-operating items and provisions, we used their book value. Regarding EDP's stakes in BCP and in REN, we used their market values, as we believe that the market prices are the ones that better reflect the current firm valuation. Our DCF model forecasts the

Figure 21 - EUR-BRL Exchange Rate, Forecasts through the International Fisher Effect

Inflation	2014E	2015E	2016E	2017E
European Union	0.5%	0.9%	1.2%	1.4%
Brazil	6.3%	5.9%	5.6%	5.0%
EUR-BRL	**3.03**	**3.18**	**3.32**	**3.44**

Sources: IMF

Figure 22 - EDP's Peers

Liberalised

Comparables	Country	Beta Levered	D/E	t	Beta Unlevered
Endesa	Spain	1,00	58%	30%	0,71
Gas Natural	Spain	1,12	65%	30%	0,77
Iberdrola	Spain	1,14	67%	30%	0,78
EDF	France	1,11	71%	33%	0,76
EON	Germany	1,17	48%	30%	0,87
GDF Suez	France	1,14	59%	33%	0,82
RWE	Germany	1,14	65%	30%	0,78
Average of the Industry					0,78
Beta Levered					1,61

Regulated

Comparables	Country	Beta Levered	D/E	t	Beta Unlevered
Enagas	Spain	0,97	62%	30%	0,67
REE	Spain	1,00	58%	30%	0,71
REN	Portugal	0,60	194%	23%	0,24
Average of the Industry					0,54
Beta Levered					1,11

EDP Brazil

Comparables	Country	Beta Levered	D/E	t	Beta Unlevered
Centrais Electricas Brazil	Brazil	1,08	337%	25%	0,31
CIA Paranaense	Brazil	0,86	38%	25%	0,67
CIA Energética MG	Brazil	0,82	56%	25%	0,57
CPFL Energia	Brazil	0,73	78%	25%	0,46
Tractebel Energia	Brazil	0,86	12%	25%	0,78
Average of the Industry					0,56
Beta Levered					1,15

Source: Bloomberg at 31/12/2014, KPMG for the Tax Rates

Figure 23 - EDP's Credit Rating

Agency	Rating
S&P	BB+
Moody's	Ba1
Fitch	BBB-

Source: EDP

company's performance for the next three years, at current prices, with the values in Euros. In the Brazilian segments we estimated the cash flows in the local currency, then convert them to Euros through the EUR-BRL rates in figure 21, in order to discount and sum them to the enterprise value.

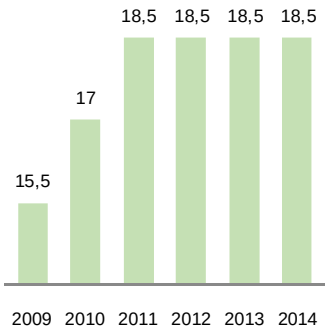
As it was previously mentioned, we evaluate EDP by its core areas in order to better evaluate the company. As a result, we also had to compute different WACCs, since each unit as its own implicit risk. So, we computed five costs of capital for the different areas.

Firstly, we calculated the cost of equity through the capital asset pricing model (CAPM) approach. We started by estimating the risk-free rate, we chose 10 year bonds yields with a high credit rating. We used the yield of the 10 year US bond as risk free for all operations, and then convert it into Euros. As far as the market risk premium is concerned, we assumed a rate of 5.8%[3], according to empirical research. Regarding the industry beta, we choose different groups of comparable companies according to each segment (figure 22). So, we selected a group of companies for the regulated, liberalised businesses and for the Brazilian activities. After, we computed an average of the unlevered betas of each comparables group, which we levered with EDP's target debt-to-equity ratio at market values. All used levered betas result from individual regressions between each company's excess returns and a well-diversified market portfolio excess returns, the MSCI World. As the tax rates are not the same in Portugal and Spain, we had to calculate a different cost of capital for the business' operating each country. Secondly, we computed EDP's cost of debt. Instead of using the CAPM methodology, as we did with the cost of equity, we used the approach that has in consideration the perceived risk taken by investors. In other words, we used a formula that takes into consideration the company's credit rating and not its target capital structure. In order to calculate the cost of debt, we used the referred risk-free rate plus a credit spread measured by the average of the last 24 months of EDP's 10 year CDS quoted in Euros. Figure 23 has EDP's credit rating in the three credit agencies. According to Moody's, a Ba1 company has a probability of default of 1.37% and a recovery rate of 62.20%[4].

Thirdly, the target capital structure implied in the WACC was obtained through EDP's guidance. As it was mentioned, EDP plans to obtain a 3.0x net debt/ EBITDA in 2017, including regulatory receivables. Besides this objective, EDP has a strict dividend policy that is based on a dividend per share floor of €0.185, which in our view is not possible to achieve with the debt target. In the end, we

[3] Santa-Clara, Pedro; Yan, Shu (2004). Jump and Volatility Risk and Risk Premia: A New Model and Lessons from S&P 500 Options. Massachusetts: NBER.
[4] Sharon Ou (2011). *Special Comment: Corporate Default and Recovery Rates, 1920-2010*. New York: Moody's Investors Services. All.

Figure 24- EDP's Dividend per share (€)



Source: EDP

chose the dividend policy since one of the company's flagships is its high dividend yield. Moreover, EDP's established this dividend policy in 2011 and maintained it, even with the 3.0x net debt/EBITDA objective in 2015 planned on the strategic agreement (figure 24). Nevertheless, we reached a net debt/EBITDA of 3.5x in 2017, close to its previous objective that will allow a deleveraging of the group.

Figure 25 - WACC Assumptions (all values are in Euros)

	Portugal		Spain		Brazil
	Liberalised Activities	Regulated Activities	Liberalised Activities	Regulated Activities	Brazil Activities
Cost of Debt					
Risk-free Rate	2,13%	2,13%	2,13%	2,13%	2,13%
Spread	2,96%	2,96%	2,96%	2,96%	2,96%
PD	1,37%	1,37%	1,37%	1,37%	1,37%
RR	62,2%	62,2%	62,2%	62,2%	62,2%
Cost of Debt	4,51%	4,51%	4,51%	4,51%	4,51%
Cost of equity					
Risk-free Rate	2,13%	2,13%	2,13%	2,13%	2,13%
MRP	5,80%	5,80%	5,80%	5,80%	5,80%
Sector Beta	1,61	1,11	1,61	1,11	1,15
Cost of equity	11,45%	8,56%	11,45%	8,56%	8,79%
WACC					
Cost of Equity	11,45%	8,56%	11,45%	8,56%	8,79%
Cost of Debt	4,51%	4,51%	4,51%	4,51%	4,51%
Corporate Tax	23%	23%	30%	30%	25%
Target D/(D+E)	51%	51%	51%	51%	51%
Target E/(D+E)	49%	49%	49%	49%	49%
WACC	7,36%	5,96%	7,20%	5,79%	6,02%

Source: Analyst Estimates

On our sum-of-the parts, we included the energy tax applied to all Portuguese companies in the energy sector. The contribution tax figures in the 2015's Portuguese State Budget document, as it did in 2014. This tax is a rate of 0.85% that focuses on the company's fixed assets. It is expected to have a negative impact of €78 Mn in our valuation.

We computed the holding costs, which are the adjustments that occur between the group' segments. Regarding the income statement, we computed an adjustment rate, which is an average of the past four years, implied in the consolidated income statement. We used this method since the rates were stable in the past, so we estimate that they should continue this way in the future. Regarding the balance sheet, we adequate the holding structure to the target consolidated one, which we deem fair and considered it on the WACC computations. On the valuation, we used the same approach of the core business areas, however we used a specific cost of capital. As the holding is not a regulated nor liberalized segment, but rather the group as a whole, we decided to use EDP's beta against the MSCI world. All in all, our valuation points for a value of €3.14 per share, already considering two scenarios, leading to a **Hold recommendation**.

Figure 26 - Valuation Summary (€Mn)

Operating Segment	Methodology	Base Case	Weight	Bearish Case	Weight
Regulated Generation	DCF	3227	9%	3113	9%
Liberalised Activities in Iberia	DCF	6152	18%	6151	18%
Distribution in Portugal	DCF	9554	27%	9551	27%
Distribution in Spain	DCF	1345	4%	1345	4%
Gas	DCF	3627	10%	3626	10%
EDP Brasil	DCF	7802	22%	7687	22%
(-) Holding Costs	DCF	-222	-1%	-214	-1%
EDP Renewables (@77.5%)	Market Value	3653	10%	3653	10%
Total Enterprise Value		***35138***	***100%***	***34912***	***100%***
Participations					
BCP(@2%)	Market Value	71		71	
REN(@3,5%)	Market Value	45		45	
(-) Non-Operating Items	Book Value (2015E)	-2266		-2266	
(-) Net Debt	Book Value (2015E)	-17201		-17203	
(-) Minority Interest	Book Value (2015E)	-3823		-3767	
(-) Provisions	Book Value (2015E)	-386		-386	
(-) Energy Tax	Market Value	-78		-78	
Total Equity Value		***11501***		***11330***	
Total number of shares outstanding (Million)		3657		3657	
Equity Value per share		***3,15***		***3,10***	
Probability of each scenario		90%		10%	
Final Price		3,14			

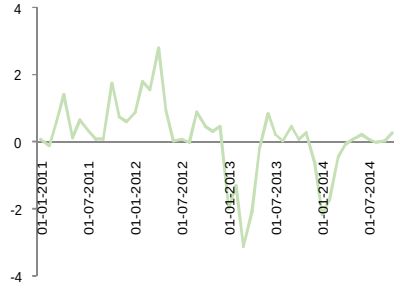
Source: Analyst Estimates

Electricity Market

Market Overview

Operating since 2007, the Iberian Electricity Market (MIBEL) is a jointly initiative of the Portuguese and Spanish Governments to have an integrated Iberian electricity market. The agreement between the two countries for the creation of MIBEL was achieved after the European Union directives issuances for the liberalisation of electricity markets. Under MIBEL it became possible for any consumer to acquire electricity under a free competition regime, from any producer or retail in Iberia. MIBEL structure is based on only one market operator OMI (*Operador de Mercado Ibérico*). OMI is divided in two divisions, OMEL, the Spanish division, which is responsible for the management of the daily and intraday market, and OMIP, the Portuguese division, which is responsible for the management of the derivatives market.

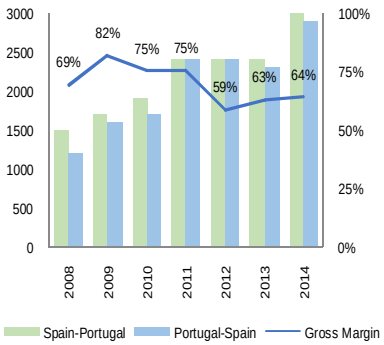
Figure 27 - Spread (PT-SP) €/MWh: 2011 - 2014 (October)



2013 Spread:0.61
2014 Spread (October):0.38
Source: OMEL
Note: Spread values are in absolute terms

As it was mentioned, MIBEL's objective is to have an unique price during the entire year. However, there are some periods of the day where it is not possible to have a single price since the grid does not support the energy flows between the two countries. During these periods, there is a market splitting, in which MIBEL is separated in two markets, a Portuguese and a Spanish one. This implies a specific price in each market, and the difference of them is called a spread. In figure 27, it is possible to observe two interesting aspects. First, the

Figure 28 - Interconnection Capacity, 2008-2014 (YTD)



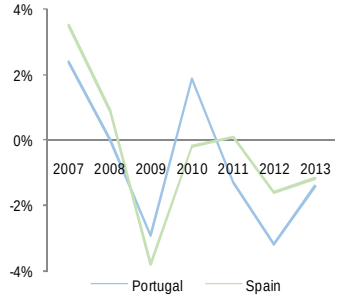
Source: EDP and REN
Note: Gross Margin referred to 9m14 results

spread between the two countries has been shrinking, which is a consequence of the increasing number of interconnection points between the two countries (figure 28). Secondly, the Portuguese average price has been lower than the Spanish one, which goes against the prices pre MIBEL period. In figure 28, it is possible to observe the increase of the interconnection capacity between Portugal and Spain. It is possible to observe that Spain has a higher export capacity than Portugal, however when compared to 2008, the difference has been decreasing. This interconnection increase has contributed to reduce the Iberian spread, since both countries will consume first the cheaper energy sources, as we will latter explain on the liberalised generation. Figure 28, also shows that EDP's gross margin decreased with the increasingly Spanish competition due to the interconnection capacity increase. Nevertheless, it is important to refer that the generation gross margin is very dependent on the generation mix. The 2012 gross margin drop was not a consequence of an interconnection increase, but rather a more costly generation mix for EDP.

Tariff Deficit in Iberia

The tariff deficit is the major problem that Iberian countries are facing on the energetic sector. In 2013, Portugal and Spain faced an accumulated tariff deficit that reached 3% of their GDP[5]. As GDP influence the electricity consumption by consumers, the economic recession contributed to aggravate the deficit since the sharp fall in electricity demand required an increase of electricity prices to compensate the lower volumes, which did not happen in any of these countries. It is estimated that Spain has an accumulated tariff deficit of €30 Bn at the end of 2013, which is the highest deficit among European Union member states. Portugal should have a deficit between €3.7 - €4.4 Bn[6] in 2013, which represents a substantial increase from the €2.85 Bn in 2012[7].

Figure 29 - GDP change between 2007-2013 in Portugal and Spain (%)



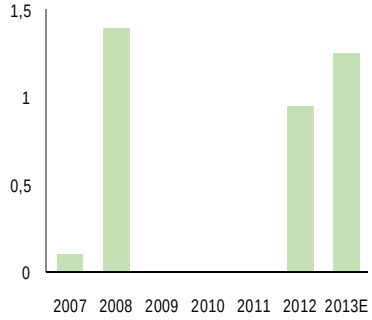
Source: IMF

An electricity tariff deficit can be generally defined as a shortfall of revenues in the electricity system, which emerges when the tariffs of the regulated components on the retail electricity price are below the true costs incurred by the regulated companies. In the Spanish case, the majority of the tariff debt was created from regulated costs, which increased significantly over the last years. These costs include the transmission and distribution costs, the support to renewable and co-generation production, the extra-peninsular costs (compensation to Spanish Islands for their higher electricity cost), and the interests paid over the tariff deficits of previous years. In Portugal, the tariff deficit

[5] See the European Commission document: *" Electricity Tariff Deficit: Temporary or Permanent Problem in the EU?"*, Asa Johannesson Linden, Fotios Kalantzis, Emmanuelle Maincent, Jerzy Pienkowski.
[6] EU points for a deficit of €3.7 Bn, while the Government expects €4.4 Bn.
[7] According to ERSE (2012).

In 2008, the implied wholesale price was €50/MWh, while the average purchase price on the wholesale market was €73/MWh

Figure 30 - Evolution of the tariff deficit in Portugal, 2007-2013 (€Bn)



Source: ERSE

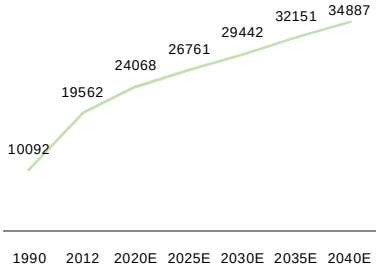
started in 2007 and 2008 with the mismatch between the current wholesale price and the price implied in the tariff. Moreover, with the subsidies to renewable and conventional electricity production, the tariff increased (figure 30). Between 2009 and 2011, the Portuguese government launched an aggressive plan of almost €800 Mn, to support renewable electricity. However, the government postponed the tariff payments to the utilities companies to 2012. The legal framework in both countries allow those entities that have the tariff deficit burden to transform it into fixed-income securities. These securities are backed by payment rights, repaid by electricity consumers. This mechanism allowed EDP to securitize and issue part of its Portuguese regulatory receivables.

In order to reduce the current deficits, both Portugal and Spain governments are adopting aggressive measures that affect different players of the energy sector. In Spain, the government suspended the benefits to the majority of new renewable energy installations since early 2012 and included, in 2013, a new tax on the electricity generation. Moreover, the regulator is committed to reducing the remuneration of the renewables activities, instead of a fixed rate, the remuneration rate will be 300 basis over the yield of the 10 year Spanish bond. In Portugal, the government intends to eliminate the tariff deficit until 2020. In order to accomplish this ambitious objective, the government introduced several new measures, from which we highlight, the restructuring of the CMECs' agreement with EDP, the revision of the remuneration scheme for co-generation, like in Spain, and a cut on the benefits for Renewable energy installations. Moreover, the government introduced a new energy tax of 0.85% on the net assets of energy companies. All these changes on the regulatory business creates instability on the regulated markets, since Iberian governments will create new and more aggressive measures if the current ones do not fulfil their purpose. Regarding EDP's regulated business, the regulators might penalize them. These reductions could be done either by the efficiency factor increase or by the adoption of instruments with the lowest yield, as the Portuguese government did between 2012-2014, where it chose the Portuguese 5 year CDS instead of the Portuguese 10 year bond. All in all, we believe that the regulatory businesses will suffer since both Iberian governments need to reduce the tariff deficit.

Electricity Generation

Global Overview

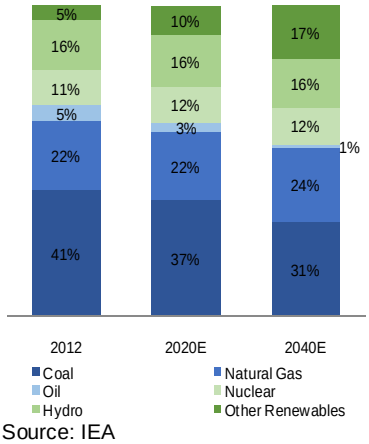
Figure 31 - World Electricity Demand: 1990-2040E (TWh)



Source: IEA

Since its birth in the 19th century, the demand by electricity has been consistently increasing. According to the lastest IEA report[8], world electricity demand will continue to grow by 2.1% every year from 2012 until 2040 (figures 6 and 31). Consequently, the world's electricity generation must increase from the 22,721 TWh in 2012 to 40,104 TWh in 2040, which represents an increase of 77%. Installed capacity will also grow from 5,952 GW in 2013 to just over 10,700 GW in 2040.

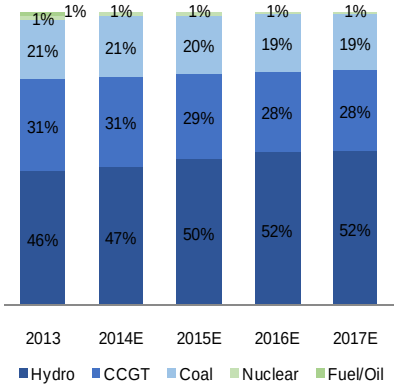
Figure 32- Breakdown of the World's Electricity Generation: 2012-2014E (TWh)



Source: IEA

In order to reduce the fossil fuels share on electricity generation the majority of the new power additions will be renewables based, according to IEA. Nonetheless, coal and gas will continue to have a significant share on the future total electricity produced because the utilisation rates of renewables plants are much lower than those of thermal ones. In Figure 32, it is possible to observe that coal will continue to be in 2040, according to IEA estimates, the major source of electricity generation with 31%, however it registers a 10% drop from its 2012 share of 41%. Natural gas will continue to be the second source of electricity generation with 24%, a 2% increase from its 2012 share. Overall, fossil fuels drop from its 68% share in 2012 to 55% in 2040. Renewables (excluding hydro generation), will have the biggest increase between 2012 and 2040. In OECD countries, renewables (including all forms generation) will jump from its 21% share in 2012 to a 37% share in 2040. In European Union, energy production from renewable sources is expected to reach a 46% share in 2040, which almost doubles its current level. This investment in clean energies comes from a long list of decarbonisation policies taken by the OECD countries. The referred policies already penalize and will continue to fine the CO_2 emissions, which could lead to an increase of the fossil fuels generation prices in OECD countries. IEA expects that OECD countries diminish its carbon emissions from 4.8 Gt[9] in 2013 to 3.2 Gt in 2040. On the contrary, non-OECD countries are expected to increase its CO_2 emissions, from 8.5 Gt in 2013 to 12.2 Gt in 2040, countries like China and India will continue to increase its emissions, even though China's aims to decarbonise its power sector. Lastly, Nuclear will keep its 12% share, even though it is a clean and cheap source of electricity, in case of an accident it has high consequences at the environmental and social levels, e.g. Fukushima accident in Japan. Thus, economic agents should remain sceptical about this source of energy.

Figure 33 - Breakdown of EDP's Iberian Installed Capacity by Source: 2013-2017E (%)



Source: EDP and Analyst Estimates

[8] See IEA, World Energy Outlook 2014.
[9] Gigatonnes

Figure 34 - EDP's New Hydro Additions in Iberia

Plant	MW	Start-up Date
Ribeiradio	81	4Q14
Baixo Sabor	172	4Q14
Venda Nova III	756	2H15
Salamonde II	207	2H15
Foz Tua	252	2H16
Total	1468	

Source: EDP

EDP's portfolio in 2013, had an installed capacity in Iberia (excluding wind) of 12.8 GW, of which 46% was from hydro generation, 31% from CCGT, 21% from coal sources, 1% from fuel and oil and 1% from nuclear production (figure 33). Over the following years, it is expected an addition of five hydro plants that together will add 1.468 MW to EDP's portfolio (figure 34). It is expected that the Iberian portfolio (excluding wind) will increase to near 14 GW in 2017, in which 52% will be hydro plants. EDP strategy follows the one adopted by OECD countries, according to IEA, so EDP should have low exposure to the decarbonisation policies planned by the European Commission. There are two disadvantages in EDP's portfolio. First, the lack of nuclear resources that besides being a clean energy source, may present a very high load factor close to 100%, if the company decides so. Secondly, even though hydro plants are a low cost energy source (figure 42), they are highly dependant on the weather conditions, which are difficult to forecast, so its utilization rates are very volatile. EDP's Iberian gross margin could suffer, if Iberia suffers a dry period since EDP would have to generate from its coal and CCGT plants that have higher costs.

Regulated Generation

Until 2007, Portuguese electricity generation was mainly under the regulated scenario, the PPA contracts, which granted a fixed remuneration independently of the volume consumed. The gross margin was calculated through a 8.5% real pre-tax Return on Assets (ROA) plus the annual depreciation and contracted costs (operational and maintenance costs), then, the sum had to be updated by inflation. Moreover, if there were adjustments to be made from the previous year tariff, it would fall in the gross margin. However, with the decree-law 240/2004, all the PPA contracts had to be extinguished until 2007. In order to keep part of the benefits from the PPA contracts, EDP reached an agreement with the Portuguese state and a new kind of contracts was created, the CMEC (Costs with the Maintenance of Contractual Equilibrium). This new agreement, which started in 2007, preserved the NPV of PPAs and provided liquidity to the recent Iberian liberalized market, MIBEL. These CMEC contracts also gave to EDP the option to securitize its tariff deficit.

Figure 35 - CMEC Calculations Assumptions

CMEC Assumptions	
Average Wholesale Electricity Price	€50/MWh
Brent Price	$63/bbl in 2010
Coal Price	€43/ton CIF in 2010
Cash Flow Discount Rate	Portugual Government Bond (Maturity June-14)+25bps

Source: EDP CMEC Memorandum

In order to keep the stable cash-flow streams that previously existed with the PPA contracts, the new CMEC contracts were established in a compensation scheme dependant on the effective market demand. So, if the real market conditions were below the ones defined by the PPA threshold, EDP has to receive the difference. On the contrary, if the PPA threshold exceeds the real market conditions, EDP has to pay a compensatory fee. The CMEC contract main assumption was an average wholesale electricity price of €50/MWh (figure

Figure 36 - Plants Under the CMEC Memorandum

Plants	MW	End of PPA
Hydro		
Alto Lindoso	630	2024
Miranda	369	2013
Aguieira	336	2024
Valeira	240	2024
Bemposta	240	2013
Carrapatelo	201	2024
Picote	195	2013
Frades	192	2027
Pocinho	186	2024
Regua	180	2024
Castelo de Bode	159	2015
V.Nova/Paradela	144	2015
Torrão	140	2024
Fratel	132	2020
Vilarinho Furnas	125	2022
Crestuma-lever	117	2024
Cabril	108	2015
Alto Rabagão	68	2015
Caniçada	62	2015
Tabuaço	58	2024
Bouçã	44	2015
Salamonde	42	2015
Pracana	41	2024
Caldeirao	40	2024
Raiva	24	2024
Touvedo	22	2024
Coal		
Sines	1180	2017
Fuel-Oil		
Setúbal	946	2012
Carregado	710	2010
Barreiro	56	2009
Total	6987	

Source: EDP CMEC Memorandum

Figure 37 - CMEC Gross Profit, 2010-2027E

Source: EDP and Analyst Estimates

35). As it was previously observed, the average wholesale price of €50/MWh stayed well below the realised one in 2008, which was €73/MWh. The realised differences should be paid by all electricity consumers through TPA tariffs included in the consumer final tariff. The contracts terms are annually revised from July 2007 to June 2017. At June 30 of 2017, the contract will have its final market condition revision that will endure until December 2027. This final revision in 2017 may put EDP's cash flow stability at risk, if the next government plans to pursue the current objective of eliminating the tariff debt until 2020. In fact, the CMEC contracts created a considerable part of the Portuguese tariff deficit and its conditions benefit EDP's cash flow stability, a fact that is not aligned with the country's objective. Therefore, a severe correction could happen since several entities, including the competition authority, defend that the gross profit should reflect the real market conditions.

Besides the CMEC contracts, there is another regulated generation system, which is the Special regime system. Under this regime, any operator may sell electricity to last recourse suppliers that are required to purchase electricity, under the article 55 of the decree-law 172/2006. The special regime can also sell the electricity to other suppliers operating in the market. In any case, the operator will receive the tariff applicable to the special regime generation. EDP had in 2013, an installed capacity of 370 MW under this regulated segment.

Valuation

As it was previously mentioned, EDP's gross margins are regulated by CMEC contracts since 2007 and could only be affected by adverse regulation of the Portuguese state. In Figure 36 it is possible to observe the total installed capacity of the CMEC contracts, which in 2007 was near 7,000 MW, currently, in 2015 it stands at 4,471 MW. As plants finish its CMEC contracts, the segment gross profit decreases (figure 37). When the plants finish their PPA concession, they automatically fall into the liberalised segment, with the exception of the thermal plants that are decommissioned after the end of the concession. On our valuation we kept the 8.5% ROA until 2027 since so far the regulator did not give any indication about a possible rate change. Moreover, as figure 37 demonstrates the majority of the CMEC contracts value was already paid to EDP and the regulator did not take any measure against it so, in our view, the remaining 10 years of the agreement will not bring any difference regarding the contracts terms. Nevertheless, there is regulatory risk for EDP because if Portugal's economic situation does not improve as expected, a ROA rate cut could appear on the 2017 revision. The operational costs are estimated to drop in the same proportion as the plants pass to the liberalised regime or are decommissioned. The same

happens with Capex, net working capital (NWC) and operating assets and liabilities, which only includes deferred tax assets, should decrease as the plants become liberalised.

In the special regime, we considered that the load factors would be an average of the past ones. Regarding the gross profits, we believe that these will stabilize, since the last recourse unit will finish in 2015[10] and we do not believe that the legislation will continue to defend these small operators as it did in the past. So, we estimate that prices will grow in line with inflation. As presented in figure 38, the regulated segment has an overall value of €3,227 Mn and weighs 9% in the enterprise value. In the terminal value calculation, it was only considered the cash-flow related to the special regime generation since CMEC contracts finish in 2027. Below, it is possible to observe the segment cash-flow map.

Figure 38 - Cash Flow Table Regulated Generation

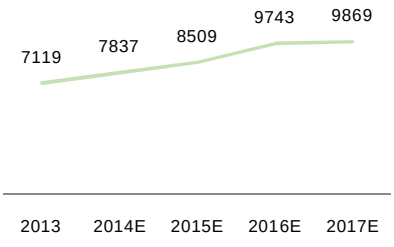
Operating Business	**2010**	**2011**	**2012**	**2013**	**2014E**	**2015E**	**2016E**	**2017E**
EBIT	663	630	592	513	461	451	416	395
(-) Notional Income Taxes	-176	-167	-157	-136	-122	-120	-110	-105
(+) Tax Adjustment	-306	-238	-235	-182	0	0	0	0
NOPLAT	181	225	200	195	339	332	305	290
(+) Depreciations	214	210	210	213	199	187	176	165
Operating Gross Cash Flow	394	435	411	408	537	519	481	456
(-) Capex		-103	-234	-35	-51	-47	-44	-35
(-) Change in NWC		-180	101	4	10	0	7	0
(-) Change in Operating Assets & Liabilities		-7	-22	-24	-56	0	-39	0
Total Free Cash Flow to the Firm		**144**	**256**	**352**	**440**	**472**	**405**	**420**
Discount Factor						1,00	0,94	0,89

g	2%
CMEC 2018-2027	1139
Perpetuity Value	859
Segment Value	3227

Source: Analyst Estimates

Liberalised Generation

Figure 39 - Liberalised Portfolio Evolution, 2013-2017E (MW)



Source: EDP and Analyst Estimates

The liberalisation of the electricity market redistributed the value between EDP's liberalised segments. The liberalised generation was a segment that in the first years of MIBEL did not have a big weight in EDP's group. In 2007, it only had an installed capacity of 4,095 MW, way below the 7,000MW of CMEC contracts. In 2013, this segment had an installed capacity of near 7,120 MW, while in 2015 it is expected to pass the 8,500 MW barrier (figure 39). The increase of 1,555 MW comes as result of the passage of the hydro plants from CMEC contracts to the liberalised part, but also of EDP's investment on new hydro plants (figure 34). EDP's goal is to have its generation mix mainly composed by hydro plants

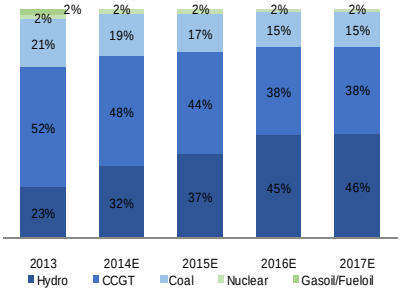
[10] 31/12/2015, for those clients that have a power inferior to 10.35 kVA

because it is a source of energy that has a low correlation with the oil price and has low CO_2 emissions.

As any other liberalised competitive market, the price depends of the supply and demand curves. Nevertheless, in the MIBEL case, it is a more complex process since electricity is not a commodity that is possible to accumulate in a battery and used afterwards when needed. In fact, producers generate electricity from its different sources, which afterwards will go to the Iberian pool at the residual price because MIBEL is subject to a pre-establish hierarchy. In this scheme, the special regime production is the first one to be sold, if it is sufficient to cover demand, the price is established and the remaining energy is not sold. If the supply is not enough to fulfil demand, other sources of energy are added to the pool, having in consideration its marginal cost. At this point, where supply is equal to demand, the market price is established. Generally, the electricity generated by hydro and nuclear sources are the first ones to be sold due to its lower costs. As it is possible to observe in figure 41, hydro and nuclear are the sources with lower costs, €4/MWh and €5/ MWh, respectively. The coal and CCGT have much higher costs, €40/MWh and €106/ MWh, respectively. These sources of energy require huge amounts of fuel so its costs are much higher than the hydro plants ones. As coal and CCGT use fossil fuels these plants produce higher CO_2 emissions than the hydro or nuclear ones, which could result in CO_2 emission fees, if its emissions are higher than the free allowances granted by the European Union. Therefore, EDP will always prefer to use first its installed capacity in hydro and nuclear, not only because of its lower costs but also by its low CO_2 emissions. In 2013, EDP produced 13,321 GWh, which represents a stabilization of production when comparing with the 2012 production of 13,185 GWh. In figure 42 it is possible to observe the composition of 2013 generation, even though coal was the more significant source of electricity, hydro increased its weight on the generation mix from 16% in 2012 to 32% in 2013. In figure 43, we have the generation mix for 2012, which was mainly composed by coal and CCGT, a fact that contributed for a lower EDP's gross margin (figures 10 and 28). The 2013 hydro increase, due to the verified rainy weather conditions, allowed EDP to raise its gross margin in 2013 in Iberia.

EDP's installed capacity and, consequently, its generation mix is suffering from its lack of nuclear plants. Figure 44 shows that in 2013 EDP was the company with the lowest installed capacity of nuclear plants, when compared with its Iberian peers. This fact is a disadvantage for two reasons. First, in case of a dry year, EDP has to use coal and CCGT plants that are much more expensive than the nuclear ones, which will imply lower gross margins. Secondly, nuclear and hydro are the first plants to produce in order to fill MIBEL's demand. As EDP has

Figure 40 - Liberalised Installed Capacity Breakdown in Iberia, 2013-2017E (%)



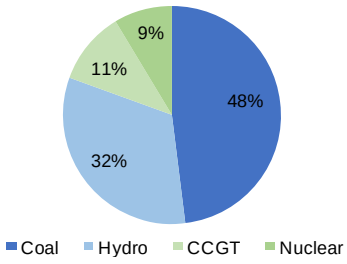
Source: EDP and Analyst Estimates

Figure 41 - Fuel Costs in 2013

Fuel Costs	€/MWh
Hydro	4
Nuclear	5
Coal	40
CCGT	106

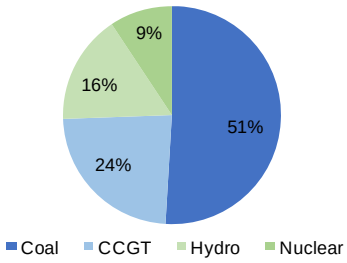
Source: EDP

Figure 42 - Generation Mix in 2013 (%)



Source: EDP

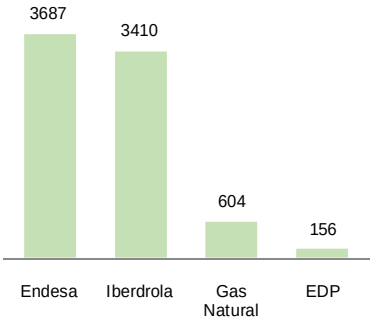
Figure 43 - Generation Mix in 2012 (%)



Source: EDP

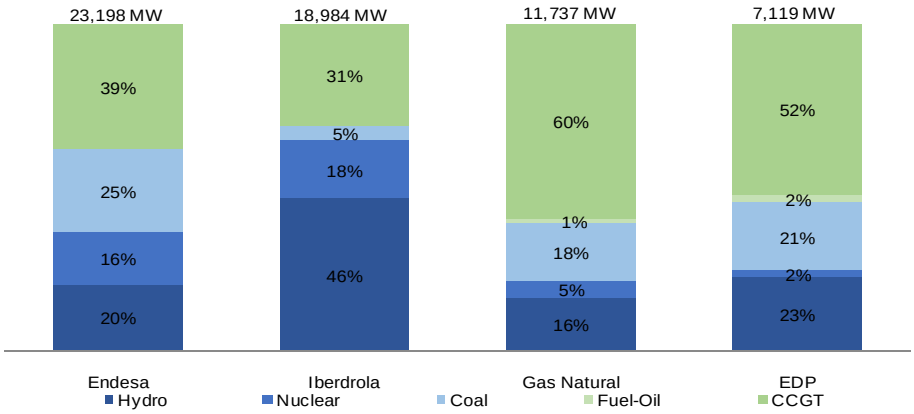
a low nuclear share in its portfolio, it will be behind its peers since these will sell all their nuclear production before EDP's fossil fuels production. All in all, this nuclear issue could result in lower volumes, especially in drought years. Figure 45 presents Iberdrola, Endesa, Gas Natural and EDP's 2013 portfolio breakdown in the liberalised segment.

Figure 44 - Nuclear Liberalised Installed Capacity in Iberia in 2013(MW)



Source: Endesa, Iberdrola, Gas Natural and EDP

Figure 45- Peers Liberalised Installed Capacity Breakdown in Iberia, 2013

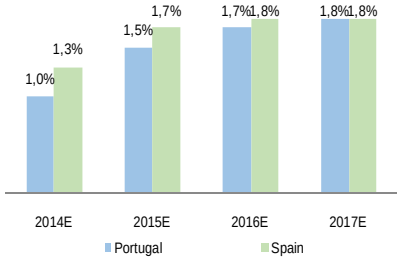


Source: Iberdrola, Endesa, Gas Natural and EDP

When comparing the four companies, Iberdrola's liberalised portfolio is the one that currently has more exposure to low cost generation sources, while Gas Natural is on the opposite end. All in all, EDP is on the right track with the increase of its hydro capacity on the liberalised segment since it is a green low cost source of energy. Nevertheless, an increase of nuclear installed capacity could be a positive point on EDP's liberalised portfolio, for the reasons above mentioned.

Valuation

Figure 46 - GDP change in Portugal and Spain, 2014E-2017E (%)

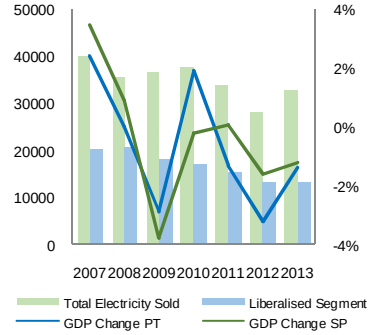


Source: IMF

In our valuation, we estimated the gross profits of each country, Portugal and Spain, as well as the installed capacity and, consequently, the generation mix. In order to estimate the appropriate electricity produced and the mix of it, we observed the estimated GDP evolution in both countries (figure 46). According to IMF, both Iberian countries appear to have recovered from its recession on the past years. As electricity demand is correlated with the GDP's evolution (figure 47), we should expect an increase on the demand side, and consequently on supply. Figure 48 shows the total electricity sold by the group (includes CMEC and Special Regime), which recovered from its 2012 drop, with the liberalised sector giving a big contribution on such recovery. In fact, in the future this segment is expected to increase its weight on the total electricity sold due to the increase of its installed capacity.

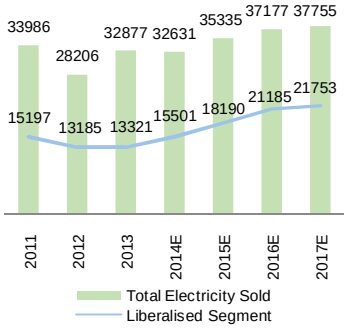
In order to forecast the gross profit we had into consideration the generation mix of the next years and the costs associated with it. EDP's production mix is related

Figure 47 - Electricity Volumes correlated with GDP change, 2007-2013, (GWh)



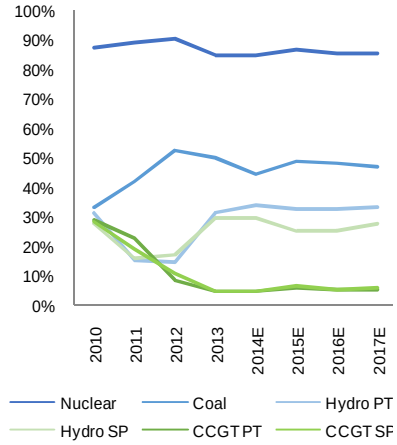
Source: EDP and IMF

Figure 48 - Total Electricity Generated and by the Liberalised Segment (GWh), 2011-2017E



Source: EDP and Analyst Estimates

Figure 49 - Load Factors by Source, 2010-2017E (%)



Source: EDP and Analyst Estimates

with the installed capacity utilisation of each source of energy, this rate is called load factor and it varies according to the source of energy, as figure 49 shows. The hydro plants load factor is highly dependent on the weather conditions verified during the year. In 2014, we estimated an increase of the load factor from 31% in 2013 to 34% in Portugal, while in Spain it should continue on 29%, due to the first nine months conditions in both countries and the historical seasonality occurred on the fourth quarter. For 2015 onwards, we assumed the average of last three years in Portugal and Spain hydrological performance. Regarding, nuclear generation we assumed a load factor similar to the one in 2013, 85%, again we based our 2014 forecast on the first nine months performance. From 2015 onwards, we assumed a load factor equal to the average of the last three years. On CCGT, we assumed a load factor similar to the ones in 2013, 4% in both countries due to the first nine months conditions in both countries. Afterwards we estimate that the load factor will be the average of the last three years, which will result in load factors below 10%, which will contribute for the maintenance of the low costs. Finally, on coal we estimate a fall of the load factor due to the increase of hydro production. In 2014, we expect the load factor to drop from 50% to 44%, while in the future we expect that the load factor will always be below 50%. As the production of hydro plants increase, we expect gross margins to remain near the 2013 levels, which were much higher than the ones registered in 2012, in Portugal it was €43/MWh and Spain was €37/MWh.

The liberalised generation segment has an overall value of €5,440 Mn and weighs 15% in the enterprise value. The majority of the value will come from its perpetuity value, around 91% since the sector will gain the installed capacity coming from CMEC contracts, which will have a big impact in 2025. Below in figure 50, it is possible to observe the segment cash-flow table. We estimate that capex should remain in line with past values since the segment is increasing its fixed assets both by the CMEC system or by the new hydro plants additions. Regarding NWC and operating assets and liabilities, which represents the deferred tax liabilities, we expect a slightly deterioration due to the increase of operations.

Figure 50 - Liberalised Generation Cash Flow Table

Operating Business	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	113	144	7	123	166	255	337	343
(-) Notional Income Taxes	-30	-38	-2	-33	-44	-68	-89	-91
(+) Tax Adjustment	-52	-54	-3	-44	0	0	0	0
NOPLAT	31	51	2	47	122	188	248	252
(+) Depreciation	236	230	236	219	225	228	230	232
Operating Gross Cash Flow	267	281	238	266	347	416	478	484
(-) Capex		-482	-274	-317	-280	-270	-260	-260
(-) Change in NWC		-203	121	-4	-29	-29	-39	-13
(-) Change in Operating Assets & Liabilities		1	42	3	27	0	12	0
Total Free Cash Flow to the Firm	**0**	**-403**	**127**	**-52**	**65**	**116**	**190**	**211**
Discount Factor						1,00	0,93	0,87

g	2%
Perpetuity Value	4964
Segment Value	5440

Source: Analyst Estimates

Electricity Distribution

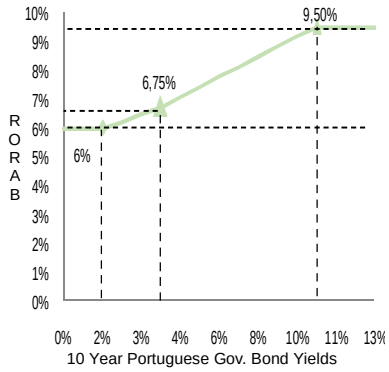
The electricity distribution business is the third element of the electricity value chain. It comes after the transmission segment, which operates in Portugal and Spain under a regulated framework conducted by REN and REE respectively. The transmission grid enables the transfer of electricity from the generating power plants to electrical substations in the electricity distribution grid. Both the distribution segment and transmission segment, are regulated activities, where ERSE and CNE define the main parameters.

In Portugal, EDP has the monopoly of the distribution segment since it has long-term agreements with all Portuguese municipalities. EDP should keep its distribution monopoly since, EDP Distribuição structure is very efficient as the efficient factor cut by ERSE implies. These two factors create an obstacle to any new potential competitor. In Portugal, EDP currently has 225 thousand kilometres of grid and in 2013 it distributed 43,858 GWh of electricity. In Spain, the group operates in seven regions (Alicante, Asturias, Barcelona, Huesca, Madrid, Valencia and Zaragoza), it has 23 thousand kilometres of grid and in 2013 it distributed 9,147 GWh of electricity. Inside the distribution business it is also possible to find the last recourse supply conducted by EDP - Serviço Universal (EDP SU), which has a negligible fraction of the supply business. In fact, EDP SU will close its operations in 2015.

As a regulated activity, the regulator defines the payment scheme, which is equal in Portugal and Spain. ERSE and CNE establish the allowed revenues allocated to EDP distribution activity through a remuneration rate, which is called the Return on Regulated Asset Base (RoRAB). As an incentive to investment, the sum of the depreciations associated with the Regulated Asset Base (RAB) are

added up to the operating expense, which include services costs and labor costs. These controlled costs are summed to EDP's RAB remuneration, the sum of both blocks represent the company's gross margin. In order to control the costs incurred by the company, a price-cap mechanism was imposed. This mechanism determines the amount of the company's current costs that could be considered controlled costs. It is a simple method, in which the regulator multiplies last year's controlled costs by the difference between inflation (CPI) and an efficient factor (X) set by the regulator[11]. Not only this mechanism allows the regulator to control the company's costs, but also gives incentives to the company to be more efficient in its OPEX.

Figure 51 - EDP's RoRAB in Portugal for 2015-2017 (%)



Source: EDP

For the regulatory period that will start in 2015 and will last in 2017, the Portuguese regulator, ERSE, established a RoRAB of 6.75%. Figure 51, shows the RoRAB mechanism that has a floor of 6% and a cap of 9.5%. Note that the RoRAB of 6.75% reflects an underlying average of 3.6% for the 10 year Portuguese government bond yield and each 2.5% change in the underlying bond implies a 1% change on the RoRAB. The Spanish regulator CNE, established through the RDL 9/2013 that the RoRAB, for the period 2014-2020, should be equivalent to a premium of 200 basis points over the 10 year Spanish bond yield. It is important to note that both remuneration rates are before taxes.

Valuation

In order to value the business, we considered the regulatory mechanism described above. For Portugal, we considered the 6.75% RoRAB and for 2015 we considered ERSE's allowed revenues of €1,255 Mn as the segment gross profit. For Spain, we followed EDP's estimated RoRAB of 6.5%, since CNE does not publish any document as ERSE does. Regarding the efficient factor, we used the implicit factor given by ERSE for 2015-2017 period, which was 2.5%. Lastly, we assumed that the Capex, in both countries, was equal to the depreciations occurred. The distribution segment is a mature business, in which current EDP's current ROIC is below the RoRAB rate, so the group has no incentive for further investments. On the NWC evolution we expect a stagnation in both countries since operations will be stable. Regarding the change in operating assets and liabilities, we expect a positive evolution due to the decrease of long term receivables, which consider the past tariff deficits. We value the whole distribution segment at €10,899 Mn, with a weight of 31% of EDP's enterprise value.

[11] Controlled Costs$_n$= Controlled Costs$_{n-1}$*(1+(CPI-X))

Figure 52 - Cash Flow Table of the Portuguese Business

Operating Business in Portugal	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	317	409	419	385	421	314	281	280
(-) Notional Income Taxes	-84	-108	-111	-102	-111	-83	-74	-74
(+) Tax Adjustment	-147	-154	-166	-137	0	0	0	0
NOPLAT	86	146	142	146	309	231	206	206
(+) Depreciation	248	243	234	234	249	246	243	241
Operating Gross Cash Flow	334	389	376	380	558	477	450	447
(-) Capex		-185	-255	-419	-249	-246	-243	-241
(-) Change in NWC		-197	-159	-141	60	0	0	0
(-) Change in Operating Assets & Liabilities		-328	-478	-157	112	86	75	79
Total Free Cash Flow to the Firm		**-320**	**-517**	**-336**	**481**	**317**	**281**	**284**
Discount Factor						1,00	0,94	0,89

g	2%
Perpetuity Value	8718
Segment Value	9554

Figure 53 - Cash Flow Table of the Spanish Business

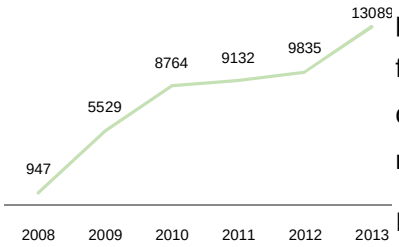
Operating Business in Spain	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	101	151	98	83	65	54	55	55
(-) Notional Income Taxes	-30	-45	-29	-25	-19	-16	-17	-17
(+) Tax Adjustment	-50	-62	-42	-32	0	0	0	0
NOPLAT	20	43	26	26	45	38	39	39
(+) Depreciation	34	31	32	34	37	38	38	39
Operating Gross Cash Flow	55	74	58	60	82	76	77	77
(-) Capex		-117	-68	-93	-37	-38	-38	-39
(-) Change in NWC		21	35	3	0	0	0	0
Total Free Cash Flow to the Firm		**-22**	**26**	**-30**	**46**	**38**	**38**	**39**
Discount Factor						1,00	0,95	0,89

g	2%
Perpetuity Value	1236
Segment Value	1345

Source: Analyst Estimates

Electricity Supply

Figure 54 - Electricity Sold in Portugal, 2008-2013 (GWh)

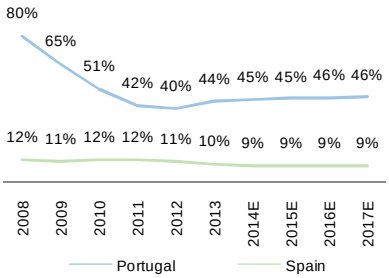


Source: EDP

Electricity supply is the fourth and last stage of the electricity value chain, it makes the bridge between the distributor and the consumer. Since 2007 it is possible to any Portuguese consumer to choose its supplier on the market. In fact, with the liberalisation process that started in 2007, this segment will be completely liberalised in 2016. The extinction of EDP SU, at the end of 2015, will represent the end of the liberalisation process.

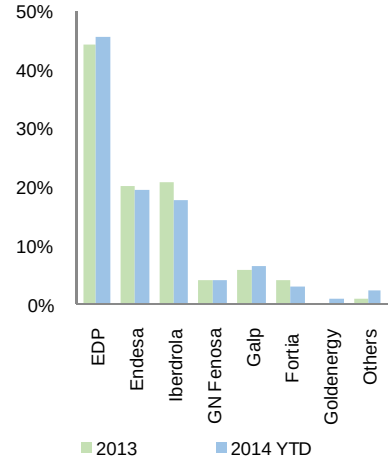
In 2013, EDP sold in Portugal 13,089 GWh and had a market share of 44%. Figure 54 indicates an increase of the volume sold due to the liberalization process. We estimate that in 2013, the total volume of electricity sold under the liberalised regime in Portugal was around 30,000 GWh, which represents a 13% growth on 2012 values. EDP's market share has been improving since 2012 (figure 55), year in which EDP recorded a market share of 40%. However, EDP will no longer record its higher market share, registered in 2008, of 80%. In 2014,

Figure 55 - EDP's Supply Market Share in Portugal and Spain, 2008-2017E (%)



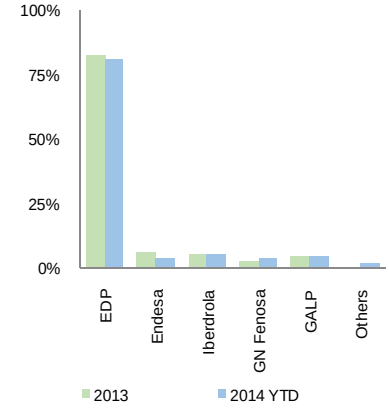
Source: EDP and Analyst Estimates

Figure 56 - Main Suppliers Market Share of the Portuguese Market (%)



Source: ERSE

Figure 57 - Main Suppliers market share of the Portuguese Domestic segment (%)



Source: ERSE

we predict that EDP will continue with its actual market share of 45%, the one registered during the first nine months (figure 56). In Spain, EDP sold in 2013 17,792 GWh and had a market share of 10%. Since 2011, EDP has been losing market share, in fact it lost 2% until 2013 and it is expected to lose another 1% until 2014. Nevertheless, it is important to note that the Spanish market is liberalised since 1997, so it is a market much more developed and mature than the Portuguese one.

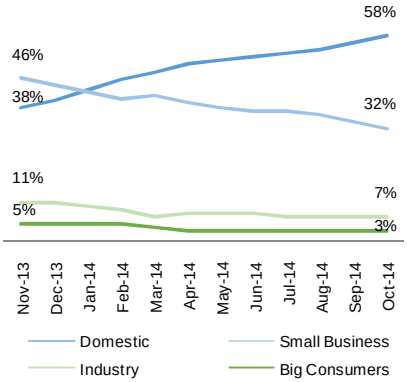
As it was already referred, electricity demand is highly correlated with the GDP evolution. Figure 45 shows that GDP is expected to grow in both Iberian countries, so it can be expected a modest increase of supply volumes in both countries. This will compensate the recession years, in which the total electricity volume stagnated in Spain, while in Portugal it grew at a slower pace than what could have been suggested by the liberalisation process.

Valuation

As this is a liberalised segment, we forecasted the gross margins in both countries, the total demand in each country, as well as EDP's market share. First, we estimate an average growth in both markets of 2% per year during the 2014-2017 period. This average growth is in line with the GDP growth expected in Portugal and Spain.

We expect EDP's market share to stagnate in Spain and have a small increase in Portugal. In Spain, we expect that the negative trend felt over the last two years to stabilize in 2015 since demand should increase and we do not expect further erosion for EDP. In Portugal, we expect EDP to remain the main player with a market share of around 45% in 2014 and 2015, while in 2016 and 2017 we expect an increase to 46%. We do not believe in EDP's market share to be further eroded as it happened in the past for one reason since EDP is the current market leader for the domestic market (figure 57). This segment has been gaining an important weight on the total volume (figure 58), being currently the number one segment in electricity consumed. In fact, this segment will increase its importance due to the end of the last recourse supplier for clients that have a power lower than 10.35 kVA in 2015. This fact will force those domestic clients to pass to the liberalised market. As EDP currently is the market leader with a 81% market share, we predict that it should continue to be the leader in this segment and its total market share should slightly increase. Regarding margins, we do not expect significant changes from 2015 onwards since EDP's market share should not have a significant change, so there is no need for a more aggressive price policy by the company. As this is not a capital intensive segment, we assumed that the Capex will be in line with depreciations. Regarding NWC, in Portugal we

Figure 58 - Weight of Each Segment on the Portuguese Liberalized Market (%)



Source: ERSE

expect a small deterioration in 2015 and 2016 due to the end of the liberalisation process, while in Spain no changes are expected. Finally, on the Portuguese segment the operating assets and liabilities, which include the deferred tax assets and liabilities, should remain unchanged.

Figure 59 - Cash Flow Map of the Portuguese Business

Operating Business in Portugal	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	-13	-13	14	-5	25	30	26	27
(-) Notional Income Taxes	3	3	-4	1	-7	-8	-7	-7
(+) Tax Adjustment	6	5	-6	2	0	0	0	0
NOPLAT	-4	-5	5	-2	19	22	19	20
(+) Depreciation	-5	5	10	8	6	4	4	4
Operating Gross Cash Flow	-9	0	15	6	24	26	23	24
(-) Capex		-5	-16	-8	-6	-4	-4	-4
(-) Change in NWC		53	-58	-4	0	-3	-2	0
(-) Change in Operating Assets & Liabilities		2	-2	0	-2	0	0	0
Total Free Cash Flow to the Firm		**51**	**-60**	**-7**	**16**	**19**	**17**	**20**
Discount Factor						1,00	0,93	0,87

g	2%
Perpetuity Value	468,8
Segment Value	521

Figure 60 - Cash Flow Map of the Spanish Business

Operating Business in Spain	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	22	22	30	-9	7	10	10	10
(-) Notional Income Taxes	-6	-6	-9	3	-2	-3	-3	-3
(+) Tax Adjustment	-11	-9	-13	4	0	0	0	0
NOPLAT	4	6	8	-3	5	7	7	7
(+) Depreciation	3	-3	6	15	7	5	5	5
Operating Gross Cash Flow	8	3	14	12	12	12	12	12
(-) Capex		4	-2	-15	-7	-5	-5	-5
(-) Change in NWC		36	-113	-3	2	0	0	0
Total Free Cash Flow to the Firm		**43**	**-100**	**-6**	**7**	**7**	**6**	**7**
Discount Factor						1,00	0,93	0,87

g	2%
Perpetuity Value	171,9
Segment Value	191

Source: Analyst Estimates

Gas

EDP's gas segment operates under the regulated and liberalised frameworks. Regarding the first, EDP operates as a gas distributor in both Iberian countries. In Portugal, EDP covers around 25% of the population within 29 municipalities in the areas of Oporto, Braga and Viana do Castelo. In fact, EDP is also the last recourse supplier in its concession area. In Spain, EDP operated in 2013 in eight regions: Asturias, The Basque Country, Cataluña, Castile and Leon, Extremadura, Madrid, Murcia and Navarra. However, on December 16th of 2014, EDP sold its gas distribution units in Cataluña, Extremadura and Murcia to Redexis Gas by €236 Mn. This way, EDP sold 117,000 supply points of the 1,024

thousand that it had on the first nine months of 2014. In 2013 EDP had 4,484 kilometres of grid in Portugal and 9,996 kilometres of grid in Spain. On the same year, EDP distributed 6,938 GWh of gas in Portugal and 51,535 GWh in Spain. The payment scheme under the regulated framework is similar to the electricity distribution, with ERSE and CNE defining the parameters.

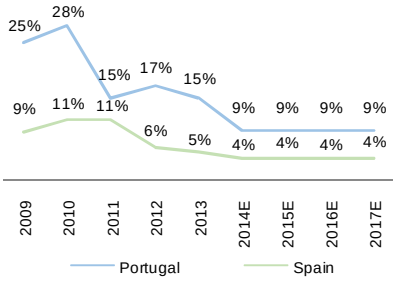
Regarding the liberalised business, EDP sold in Portugal 5,315 GWh of gas and had a market share of 15%. In Spain, the company sold 28,553 GWh of gas and had a market share of 5%. The supply business is at two different stages: in Portugal the market was liberalised in 2007, like the electricity one, while in Spain it is in a more mature phase. According to ERSE's nine month report, EDP is market leader on the liberalised residential segment with a market share of 45%. However on the big and industry clients, it ranks third and second, respectively. The residential segment is the only one where EDP surpasses GALP. Accounting all liberalised gas segments, GALP has a global market share of 69%, with Gas Natural Fenosa being the second and EDP the third overall suppliers.

Valuation

In order to value the liberalised segment, we forecasted the gross margins in both countries, the total demand in each country, as well as EDP's market share. We expect an increase of the market volume due to the GDP increase. As we estimated on electricity supply, we also believe that the total volume will grow on average at a rate of 2% per year, from 2015 onwards. Regarding EDP's market share in both countries, we expect a stabilization of it in both cases (figure 61). In both countries, EDP is focusing on the residential market due to its higher margins, factor that is leading to a market share drop, on volume, since domestic clients consume lower volumes than big clients. Figure 62 demonstrates the Portuguese case, in which the domestic clients are slowly increasing their consumption volumes. Finally, we also expect a stabilization of the gross margins that should grow in line with inflation.

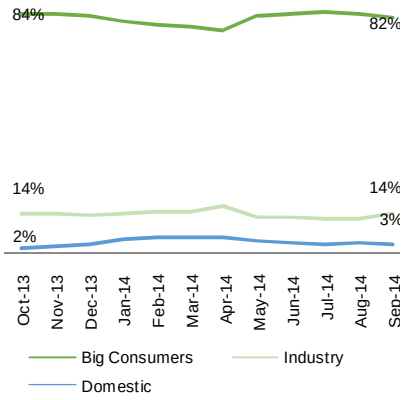
Regarding the regulated business, in the Portuguese case, ERSE defined a similar remuneration to the electricity distribution one. The only differences are the RoRAB that is fixed at 8.4% and the efficiency factor that is 3%, these rates will prevail in 2014 and 2015. In 2016 and 2017, we assumed a RoRAB cut of 2.4% to 6%, near to the one imposed to the electricity distribution business. On the Spanish case, new regulation came out through the RDL 8/2014, however it is not very clear how the remuneration rate will be affected. Therefore, we used the same procedure of the electricity distribution and assumed RoRAB of 6%. In the Spanish segment, we expect an improvement on Capex and NWC due to the Redexis transaction, which will decrease Spanish operations. In Portugal, we

Figure 61 - EDP's Gas Market Share on Portugal and Spain, 2009-2017E (%)



Source: EDP and Analyst Estimates

Figure 62- Segment Weight on the total volume consumed in Portugal (%)



Source: ERSE

expect a stabilization of both the NWC, and of the change of operating assets and liabilities.

Figure 63 - Cash Flow Map for the Portuguese Business

Operating Business in Portugal	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	35	42	48	35	38	32	25	26
(-) Notional Income Taxes	-9	-11	-13	-9	-10	-8	-7	-7
(+) Tax Adjustment	-16	-16	-19	-12	0	0	0	0
NOPLAT	10	15	16	13	28	23	19	19
(+) Depreciation	12	12	15	14	15	15	15	15
Operating Gross Cash Flow	22	27	31	28	43	38	33	34
(-) Capex		-34	-24	-24	-15	-15	-15	-15
(-) Change in NWC		-12	35	1	3	0	0	0
(-) Change in Operating Assets & Liabilities		-2	3	3	0	0	0	0
Total Free Cash Flow to the Firm		**-21**	**45**	**7**	**31**	**24**	**19**	**19**
Discount Factor						1	0,94	0,89

g	2%
Perpetuity Value	572,8
Segment Value	631

Figure 64 - Cash Flow Map for the Spanish Business

Operating Business in Spain	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	152	155	179	180	135	116	117	118
(-) Notional Income Taxes	-45	-47	-54	-54	-40	-35	-35	-35
(+) Tax Adjustment	-75	-64	-77	-70	0	0	0	0
NOPLAT	31	45	48	56	94	81	82	83
(+) Depreciation	61	55	51	61	66	66	58	58
Operating Gross Cash Flow	91	99	99	117	160	147	140	141
		0	0	0	0	0	0	0
(-) Capex		-175	-38	-134	-66	48	-58	-58
(-) Change in NWC		-39	31	-6	-4	32	0	0
Total Free Cash Flow to the Firm		**-115**	**92**	**-23**	**90**	**227**	**81**	**82**
Discount Factor						1,00	0,95	0,89

g	2%
Perpetuity Value	2619
Segment Value	2996

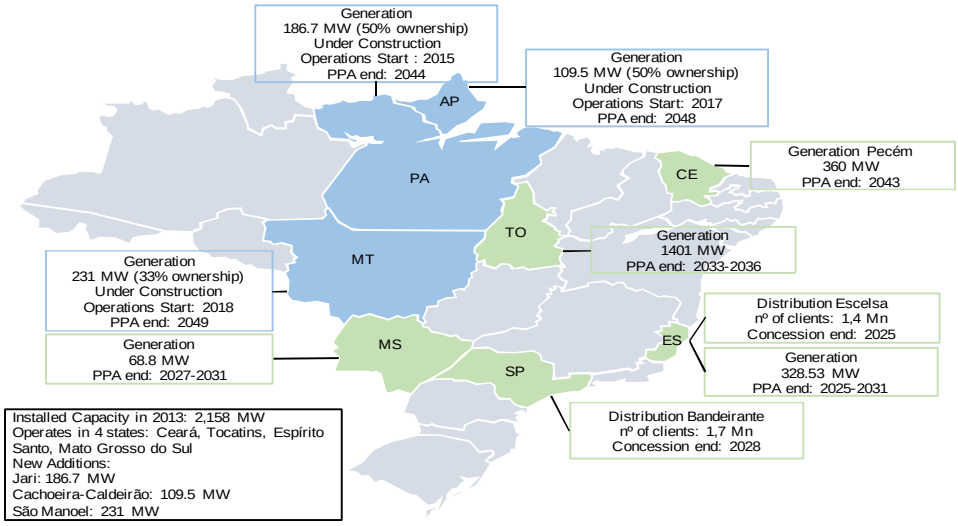
Source: Analyst Estimates

EDP Brasil

EDPB like its parent company operates on the generation, distribution and supply activities and is widely spread in the Brazilian territory (figure 65). In the generation business, EDPB currently has an installed capacity of 2.158 GW that should be increased to 2.685 GW in 2018, with the addition of three new plants. EDPB only has one non hydro plant-Pecém. This coal plant acquired in 2007 has been giving several problems to the company due to delays in the ramp-up. Even though this plant has been approved by ANEEL (Brazilian regulator) to start its operations in 2013, it already stopped in 2014 due to repair works on the plant's generator. EDPB only has 50% of Pecém, which according to new directives, IFRS10 and IFRS11, Pecém has to be valued through the equity method. The distribution business operates in two states, Espirito Santo and São Paulo. EDP

Bandeirante had in 2013 1.7 Mn clients and distributed over 15,000 GWh, while EDP Escelsa distributed over 10,000 GWh to 1.4 Mn clients. Regarding the supply business, which is the only liberalised segment of EDPB, it is the third bigger supplier of the country with a market share of 8.5% in 2013.

Figure 65 - EDP's Presence in Brazil

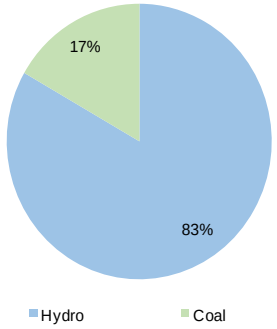


Source: EDPB

The Brazilian electricity market experienced several changes over the last two decades. Until 1995 the majority of the players of the electricity value chain were state-owned companies. In 1995, there was a restructuring of the sector model with the first privatisation measures and the creation of a regulator, ANEEL. However in 2001, the system proved to be insufficient due to the energy crisis that obliged the government to introduce energy rationing measures. So in 2004, the new Brazilian electricity model was implemented.

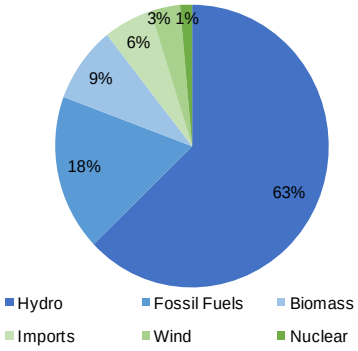
According to this new model, big generation players would operate in the regulated market, while small producers operate in the liberalised one. The distribution business remains regulated, while supply became liberalised. This new model had two important goals. First, give incentives to public and private companies to expand and maintain its generation capacity. The second objective was to assure electricity supply at adequate tariffs, through a competitive electricity public bidding process. Since 2005, all electricity players of the value chain have to notify the Minister of Mining and Energy (MME), by August 1st of each year, of their estimated electricity demand or generation, for each of the subsequent five years. Based on this information, the MME established the total amount of energy to be contracted in the Regulated Market and the list of generation projects that will be allowed to participate in the auctions. These auctions for new generation projects are held five (A-5) or three (A-3) years before the delivery date. There are also auctions for those generation plants that do not have seen its concession licenses renewed, which could happen one year

Figure 66 - EDPB's installed capacity breakdown (%)



Source: EDP

Figure 67 - Brazil's installed capacity breakdown (%)



Installed Capacity at 30/2014: 141,657 MW

Source: ANEEL

Figure 68 - Distribution Segment Regulation

Company	Net RAB (in $R Mn)	RoRAB	Next Review
Escelsa	1,566	7.5%	Aug-16
Bandeirante	1,545	7.5%	Oct-15

Source: EDP

(A-1) or four months before the delivery date. Each generation company that participates in an auction executes a contract for purchase and sale of electricity with each distribution company, in proportion to the distribution companies' estimated demand. There are two types of contracts: energy and capacity agreements. As for the former, the generator commits to supply a certain amount of electricity and assumes the risk of supply that amount in any conditions. As for the latter, the generator commits to reserve a certain amount of its production, which could be sufficient or not for the distributors demand. In the energy agreements, the generator supports the shortage risk, while in the capacity contracts it is the opposite.

The Brazilian electricity system creates some risks for EDP. In the generation segment, EDP is highly dependent on the hydrological conditions (figure 66). However this is a problem shared with the majority of generation companies since the Brazilian installed capacity is mainly composed by hydro plants (figure 67). In the distribution business, EDP is highly exposed to the five year demand forecast, because if it fails the distributor is obliged to buy the needed electricity in order to satisfy demand. Moreover, during the regulated auctions the MME imposes a reference annual value, which limits the costs that could be passed on to the final consumer. If by any reason there is an energy shortage or high acquisition price on the generator or technical losses, the distributor has to pay the difference between them and the reference annual value, this difference is called *Preço de Liquidação de Diferenças* (PLD).

Another aspect that could affect the operational results of both segments are the regulatory measures. In the last revision of the distribution business, ANEEL cut the RoRAB of EDP distribution segment in 2.5%, from 10% to 7.5% (figure 68). On the generation business, so far no adverse regulatory measure was felt. Moreover, EDP seems to be well protected from adverse regulation with the PPAs contracts, which are inflation linked. Finally, both segments are exposed to the agreement signed on the previous auctions.

Valuation

On the distribution business, we maintained the current RAB and RoRAB rate since no further penalizations should be expected. Regarding the NWC and change in operating assets and liabilities, we expect no further deterioration since both companies, Bandeirante and Escelsa, should not have a big increase on its operations. On the generation business, we had to estimate the total volume of production with the respective load factors and the segment future installed capacity. As all Brazilian generation is under long-term PPAs, we estimated EBITDA margins in line with past results. On the load factors, we used the same

approach of the Iberian liberalised generation. Regarding supply, we expect an increase of results with the expected consumption increase, according to IEA. We expect a deterioration of the NWC and a stagnation of the operating assets and liabilities since deferred tax assets and liabilities should increase in the same proportion. Regarding Capex, we expect an expansion in both segments. On Pecém, we assumed an increase of volumes in 2015 and a stabilization onwards, with a stable EBITDA margin. Concerning its capital structure, we believe that debt will remain constant at 2014 levels. Note that on Pecém's valuation, we used the same valuation procedure as in any other segment. So, we estimated a cost of capital, which is equal to the Brazilian one with a different capital structure. Pecém's valuation and equity value, which are included on EDPB's value on SOP, are on figures 71 and 72.

Figure 69 - Cash Flow Map of Generation and Supply

	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	603	683	648	707	834	961	1012	1072
(-) Notional Income Taxes	-181	-205	-195	-212	-250	-288	-304	-322
(+) Tax Adjustment	-300	-282	-280	-276	0	0	0	0
NOPLAT	122	196	174	219	584	672	708	750
(+) Depreciation	154	164	158	214	201	211	218	226
Operating Gross Cash Flow	276	360	332	433	785	883	927	976
(-) Capex		-1050	997	941	-428	-400	-400	-400
(-) Change in NWC		-48	20	-127	-127	-60	-30	-30
(-) Change in Operating Assets & Liabilities		166	115	-197	73	0	0	0
Total Free Cash Flow to the Firm (in $R)		**-572**	**1.463**	**1.049**	**303**	**423**	**498**	**546**
Total Free Cash Flow to the Firm (in €)		**-246**	**584**	**366**	**100**	**133**	**150**	**159**
Discount Factor						1,00	0,94	0,89

g	3%
Perpetuity Value	5681
Segment Value	6097

Figure 70 - Cash Flow Map of the Regulated Business

	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	683	551	377	535	216	213	211	207
(-) Notional Income Taxes	-205	-165	-113	-161	-65	-64	-63	-62
(+) Tax Adjustment	-340	-227	-163	-209	0	0	0	0
NOPLAT	138	158	101	166	151	149	148	145
(+) Depreciation	195	250	213	297	305	312	316	320
Operating Gross Cash Flow	334	408	314	463	456	461	464	465
(-) Capex		-343	-339	-369	-363	-350	-350	-350
(-) Change in NWC		-21	-7	192	38	0	0	0
(-) Change in Operating Assets & Liabilities		-7	-17	29	-33	0	0	0
Total Free Cash Flow to the Firm (in $R)		**37**	**-49**	**314**	**98**	**111**	**114**	**115**
Total Free Cash Flow to the Firm (in €)		**16**	**-19**	**110**	**32**	**35**	**34**	**33**
Discount Factor						1,00	0,94	0,89

g	3%
Perpetuity Value	1194
Segment Value	1291

Figure 71 - Cash Flow Table and EV of Pecém

Figure 72 - Pecém Equity Value (€Mn)

EV	1708
Net debt 15E	-345
Provisions	0
Non-operating items	-94
Minorities	-854
Equity Value	414

Source: Analyst Estimates

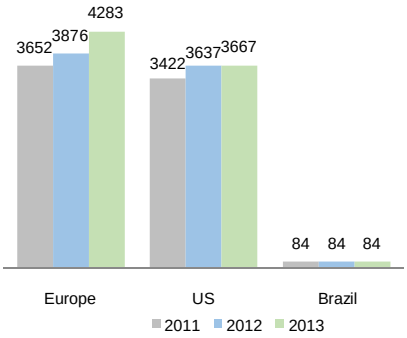
	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	-3	-43	-39	73	83	85	86
(-) Notional Income Taxes	1	13	12	-22	-25	-25	-26
NOPLAT	-2	-30	-27	51	58	59	61
(+) Depreciation	0	1	20	11	11	10	10
Operating Gross Cash Flow	-2	-29	-7	63	69	69	70
(-) Capex	0	-114	-620	565	-11	-10	-10
(-) Change in NWC	0	-52	72	-53	-7	0	0
(-) Change in Operating Assets & Liabilities	0	-21	-94	68	0	0	0
Total Free Cash Flow to the Firm (in €)	**0**	**-216**	**-649**	**643**	**52**	**59**	**61**
Discount Factor					1,00	0,93	0,86

g	3%
Perpetuity Value	1536
EV	1708

Source: Analyst Estimates

EDPR

Figure 73 - EDPR's Installed Capacity Breakdown by Geography (MW)



Source: EDPR

EDP Renováveis is the renewable subsidiary of EDP, with a market capitalization of €4.714 Bn[12]. EDPR's generation portfolio is geographically diversified across the twelve countries, already mentioned. In 2013, US had an EBITDA weight of 36%, while Spain and Portugal had 34% and 14%, respectively. These figures represent a change from 2012 weights, when Spain had the higher EBITDA weight with 36% followed closely by US with 34%, while Portugal had 13%. EDPR's installed capacity has been constantly increasing (figure 73), with Europe increasing its weight on the company's installed capacity. EDPR has been focusing its investment in Europe due to the subsidies that European governments granted to renewable energy companies, i.e. Portugal and Spain. As it was previously mentioned, we decided to use the previously mentioned market value of EDP Renováveis.

Scenario Analysis

As was referred during the report, we identified some risks that could endanger EDP's enterprise value. We considered negative regulatory measures in Iberia's CMEC contracts and in Brazil's RoRAB. In order to obtain the impact of these events on EDP's valuation, we created a bearish case that includes the mentioned scenarios.

On the negative regulatory measures in Iberia, we looked at regulated generation segment since its terms will be reviewed in the near future. Instead of the current ROA of 8.5%, we considered a rate of 6.8%. This new ROA rate could be introduced if the country's economic conditions do not evolve as expected. In

[12] Source: Bloomberg at 31/12/2014

Figure 74 - ROA Rate for 2018-2027 (%)

Cost of Debt	15Y	10Y	5Y
Risk-free Rate	3,7%	3,2%	2,5%
Spread	3,0%	3,0%	3,0%
PD	1,4%	1,4%	1,4%
RR	62,2%	62,2%	62,2%
Cost of Debt	6,1%	5,6%	4,8%
Cost of equity			
Risk-free Rate	3,7%	3,2%	2,5%
MRP	5,8%	5,8%	5,8%
Sector Beta	1,11	1,11	1,11
Cost of equity	10,2%	9,7%	8,9%
WACC			
Cost of Equity	10,2%	9,7%	8,9%
Cost of Debt	6,1%	5,6%	4,8%
Corporate Tax	23%	23%	23%
Target D/(D+E)	51%	51%	51%
Target E/(D+E)	49%	49%	49%
WACC	7,4%	6,9%	6,2%
Average		6,8%	

Source: Analyst Estimates and Bloomberg at 31/12/2014

order to estimate the appropriate cost of capital, we used the one previously computed, however we are living a period of low interest rates that do not reflect historical information. So, we computed the average of the last 5, 10 and 15 years of the 10 year US bond yield and performed a cost of capital with it. We reached three costs of capital, with which we compute an average to get the final rate. Figure 74 shows the procedure and the appropriate cost of capital. We believe that if the current tariff reduction measures do not have the expected results by the government, other aggressive measures could appear. Regarding Brazilian adverse measures, we we considered a 0.5% decrease on the RoRAB rate applicable, so the rate would fall from 7.5% to 7%. Even though this is not the most likely scenario, it is in line with the last revision by ANEEL. On figure 26, it is possible to observe the final price target of €3.10 for this scenario, which is 2% below our base one. We have given a 10% probability to this alternative scenario since due to the unlikelihood of the events.

Besides this alternative scenario, we also performed a sensitivity analysis on the implicit growth rate, since it is a driver in the segment' value in perpetuity. In figure 75, it is possible to observe that a reduction of both growth rates implies a devaluation of 9% of the price target. In the worse-case scenario, if both growth rates registered minimum values, our price target would drop 39% to €2.89, while in the best case scenario, it would value 33% to €4.12.

Table 75 - Sensitivity Analysis: Growth Rates

		Iberian Growth Rate					
		1,25%	**1,50%**	**1,75%**	**2,00%**	**2,25%**	**2,50%**
Brazilian Growth Rate	**2,00%**	2,16 €	2,40 €	2,68 €	2,99 €	3,33 €	3,73 €
	2,25%	2,22 €	2,46 €	2,74 €	3,04 €	3,39 €	3,78 €
	2,50%	2,28 €	2,53 €	2,80 €	3,11 €	3,46 €	3,85 €
	2,60%	2,31 €	2,56 €	2,83 €	3,14 €	3,49 €	3,88 €
	3,00%	2,45 €	2,70 €	2,97 €	3,28 €	3,62 €	4,02 €
	3,25%	2,55 €	2,80 €	3,07 €	3,38 €	3,73 €	4,12 €

Financial Statements

Figure 76 - Cash Flow Table

	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Operating EBIT	2163	2309	2143	2085	2099	2080	2143	2186
(-) Notional Income Taxes	-573	-612	-568	-552	-556	-551	-568	-579
(+) Tax Adjustment	386	173	106	178	0	0	0	0
NOPLAT	1975	1870	1681	1710	1543	1529	1575	1606
(+) Depreciation	1550	1488	1485	1532	1509	1498	1471	1466
Operating Gross Cash Flow	3526	3358	3166	3243	3051	3027	3046	3073
(-) Capex	-2037	-1415	-407	-1500	-1216	-1316	-1275	
(-) Change in NWC	384	-770	575	-174	-20	-40	-19	
(-) Change in Operating Assets & Liabilities	-686	-575	-589	107	200	73	85	
Total Free Cash Flow to the Firm	**1019**	**407**	**2822**	**1485**	**1991**	**1762**	**1864**	

Figure 77 - Balance Sheet Consolidated

Millions of Euros	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Assets								
Fixed Assets (net)	30287	30836	30766	29640	29632	29350	29195	29004
Non-operating assets	1208	1120	1570	2123	2116	2135	2078	2024
Deferred tax asstes (non-current)	515	511	341	389	351	333	316	312
Long term receivables	1556	2217	2834	3288	3196	3017	2936	2856
Working Capital (assets)	5112	4530	5145	4755	4777	4695	4652	4655
Derivative financial instruments (current)	223	322	277	217	269	276	263	257
Total Assets	**38901**	**39536**	**40933**	**40412**	**40340**	**39806**	**39439**	**39107**
Total Equity	**10785**	**11387**	**11432**	**11529**	**11765**	**12054**	**12405**	**12821**
Liabilities								
Net Financial Debt	16304	17054	18828	17923	17904	17201	16542	15805
Provisions	431	415	383	388	388	386	383	382
Deferred tax liabilities (non-current)	856	954	852	775	750	752	727	726
Long term payables	1416	1289	1263	1252	1255	1257	1257	1258
Non-operating liabilities	4870	4386	4279	4479	4415	4401	4447	4441
Derivative financial instruments (current)	197	208	208	191	140	136	142	153
Working Capital (liabilities)	4042	3843	3688	3874	3722	3620	3536	3521
Total Liabilities	**28116**	**28149**	**29501**	**28884**	**28575**	**27753**	**27035**	**26286**
Total Equity and Liabilities	**38901**	**39536**	**40933**	**40412**	**40340**	**39806**	**39439**	**39107**
Net Debt/EBITDA				5,0	5,0	4,8	4,6	4,3
Net Debt/EBITDA (incl. Regulatory receivables)				4,2	4,2	3,9	3,7	3,5

Figure 78 - Income Statement Consolidated

Millions of Euros	2010	2011	2012	2013	2014E	2015E	2016E	2017E
Gross Profit	5404	5436	5428	5551	5266	5322	5391	5448
Supplies and services	-862	-901	-928	-935	-860	-861	-866	-877
Personnel costs and employee benefits	-643	-635	-672	-639	-498	-565	-560	-561
Other operating expenses	-186	-103	-200	-361	-300	-317	-352	-358
Net Operating Costs	-1691	-1639	-1800	-1934	-1659	-1744	-1777	-1796
EBITDA	3713	3798	3628	3617	3608	3578	3614	3652
Depreciation	-1550	-1488	-1485	-1532	-1509	-1498	-1471	-1466
EBIT	2163	2309	2143	2085	2099	2080	2143	2186
Gains/(losses) on the sale of financial assets	61	21	3	0	0	0	0	0
Financial Income/(expense)	-570	-715	-705	-737	-716	-671	-645	-601
Share of profit in associates	23	19	24	34	34	28	30	32
Profit before income tax	1677	1634	1465	1382	1417	1437	1528	1617
Income tax expense	-427	-260	-283	-188	-375	-381	-405	-428
Net profit for the year	1249	1374	1182	1194	1041	1057	1123	1188
Attributable to:								
Equity holders of EDP	**1079**	**1125**	**1012**	**1005**	**916**	**925**	**982**	**1037**
Non-controlling Interests	170	249	170	188	125	131	141	151
Net Profit for the year	1249	1374	1182	1194	1041	1057	1123	1188

Disclosures and Disclaimer

Research Recommendations

Buy	Expected total return (including dividends) of more than 15% over a 12-month period.
Hold	Expected total return (including dividends) between 0% and 15% over a 12-month period.
Sell	Expected negative total return (including dividends) over a 12-month period.

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