



# ESG Presentation

Lisbon, September 2020

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# OUR 2030 VISION

Leading the energy transition to create superior value



**Decarbonization**



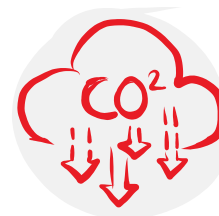
**Digitalization**



**Decentralization**



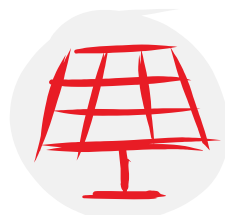
**>90% renewables  
generation**



**Reduce 90% specific  
emissions** (vs 2005 levels)



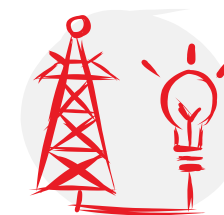
**Become  
coal-free**



**>4 Mn decentralized  
solar PV panels installed**



**>1 Mn clients with  
e-mobility solutions**



**100% smart grids**  
(in Iberia)

# We are in a privileged position to capitalize on the energy transition given our early-mover advantage



## We are a global leading renewables player...



**~21 GW**

of renewables capacity<sup>1</sup> deployed worldwide



**>€21 Bn**

deployed in renewables since 2006



- **75% in wind onshore**
- **40% in the US**

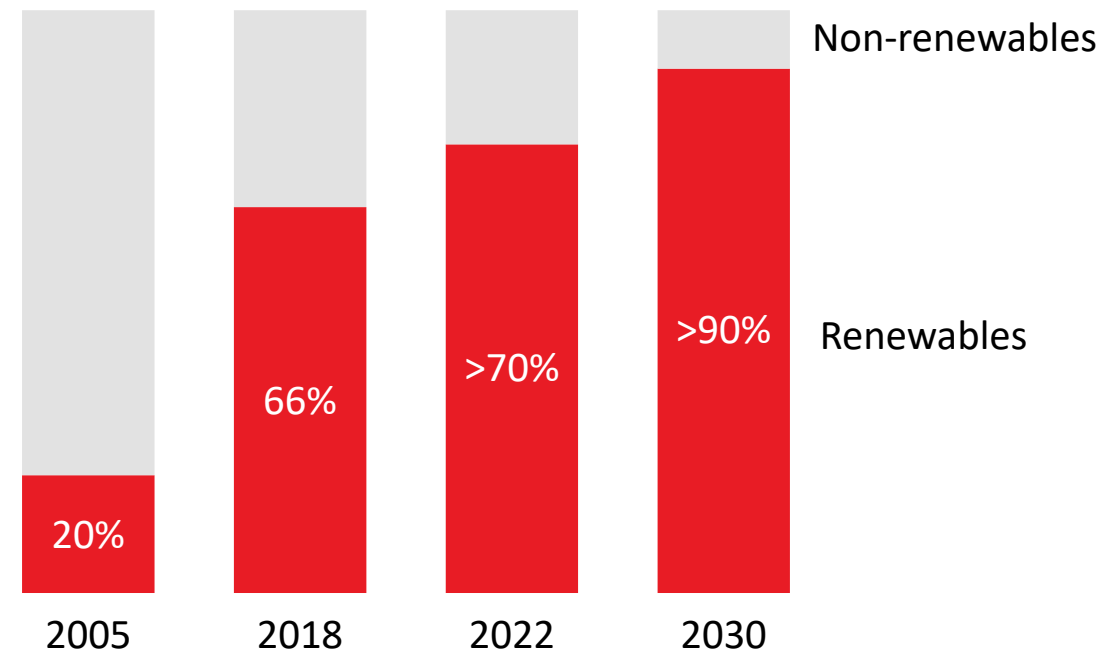


**80%**

Renewables generation in 1H20

## ... prepared for the future

Source of generated electricity, TWh

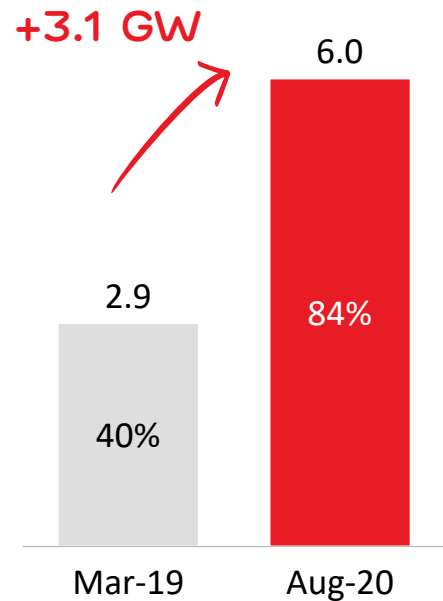


# Build-out for renewables projects secured for 2019-22 increased from 40% to 84% of 7GW target for the period



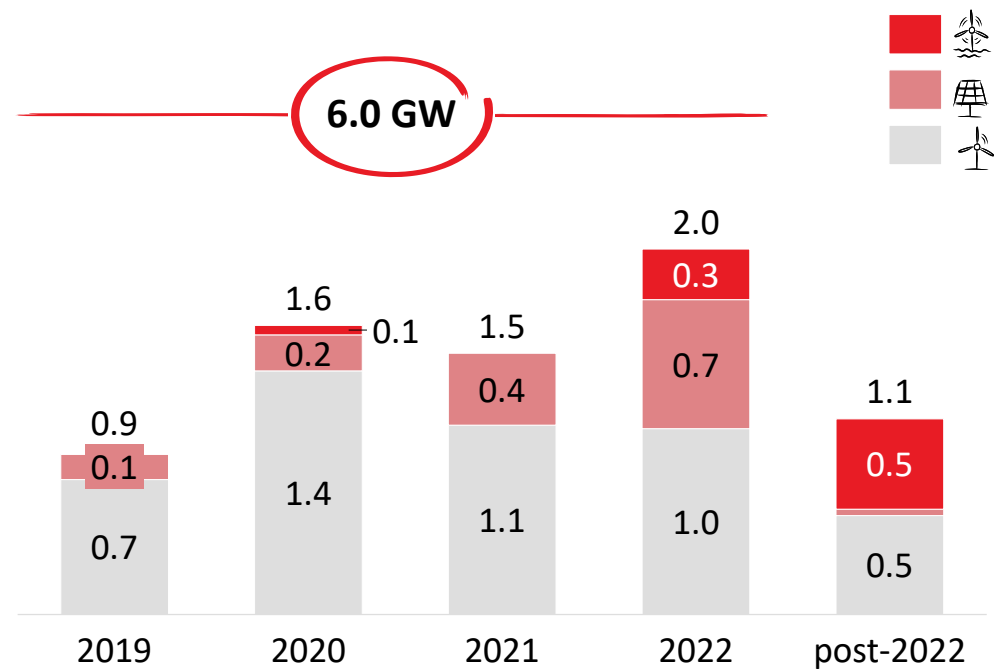
## Renewables Capacity LT contracts secured for 19-22

GW



## Projects already secured

Build-out GW; Aug-20

















## Unprecedented execution

- **Medium-term BP execution on track**
  - **<0.5 GW** projects expected to have potential COD delays in 2020, although without impact in projects' fundamentals
  - **+0.5 GW** from Viesgo renewables acquisition expected to be closed in 2H20

# Ocean Winds; Offshore JV fully in operation with assets transferred to be fully completed in 2020



PROJECT NAME	TYPE	CAPACITY	COUNTRY	UPDATE	EDPR	ENGIE	STATUS
 Moray East	Offshore-Fixed	950 MW		<b>Sold to JV</b>	33.3%	23.3%	U/Construction
 Tréport & Noirmoutier	Offshore-Fixed	992 MW		<b>Sold to JV</b>	29.5%	31.0%	U/Development
Moray West	Offshore-Fixed	800-950 MW		<b>Sold to JV</b>	67.0%	33.0%	U/Development
 Wind Float Atlantic	Offshore-Floating	25 MW		Pending	54.4%	25.0%	In Operation <sup>(1)</sup>
 Leucate	Offshore-Floating	30 MW		<b>Sold to JV</b>	35.0%	45.0%	U/Development
 SeaMade	Offshore-Fixed	487 MW		Pending	-	17.5%	U/Construction
 Mayflower	Offshore-Fixed	804-1,300 MW		Pending	50.0%	-	U/Development
B&C Wind	Offshore-Fixed	400 MW		<b>Sold to JV</b>	100.0%	-	U/Development

Total ownership with tariffs/PPAs (net MW)

1,035 MW

+

634 MW

=

1,669 MW

Total ownership (net MW)

2,237-2,338 MW

898-947 MW

3,135-3,285 MW

**Assets already sold to Ocean Winds generated a capital gain of €145m**



Projects with tariffs/PPAs awarded

# EDP was pioneer in developing floating technology for offshore wind, having installed in Portugal the largest turbine on a floating platform



## WindFloat Atlantic (Portugal)






- 25 MW (3 x 8.4 MW)
- 20km off-shore
- 100m water depth

- ✓ 33% equity stake in **Principle Power** (technology developer)
- ✓ Developing **Leucate** (30 MW, floating) in France

### Benefits of floating offshore wind

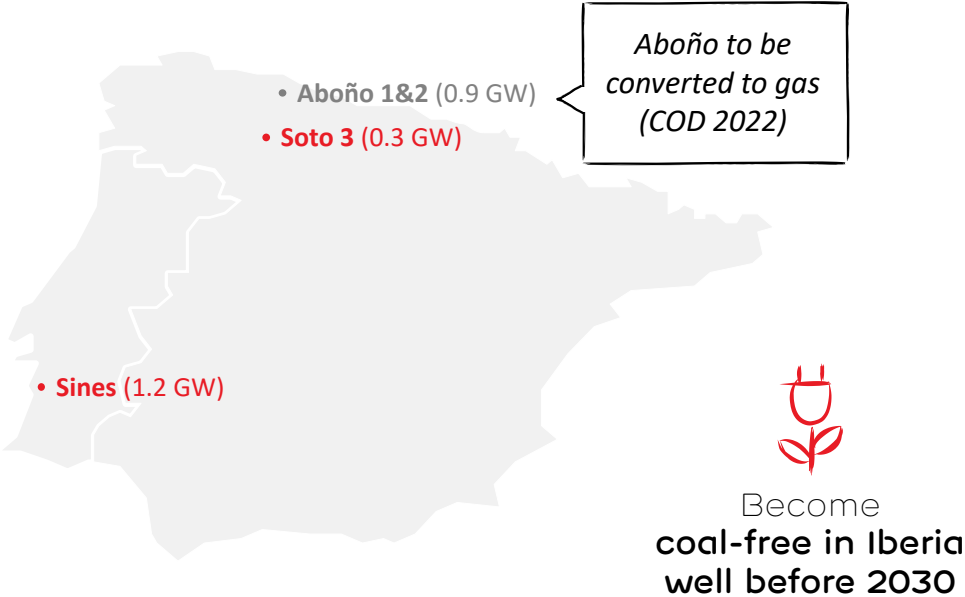
- ✓ At farther distances from the shore, the **wind blows stronger** and its **flow is more consistent**
- ✓ **Smaller impact on environmental** surroundings
- ✓ **Larger wind turbines** can be used

### Potential of floating offshore wind

	Potential	Share of offshore wind resource in +60m depth
	4,000 GW	80%
	2,450 GW	60%
	500 GW	80%

# We are anticipating shutdown of coal plants in Iberia

## edp Coal sites in Iberia



- Legend:
- Expected shutdown 2021
  - Continue operating post-2021

## 1H20 Developments

Coal production in Iberia: **-76% YoY** in 1H20, with all coal plants off in 2Q20, except Aboño 2



Energy transition projects under development

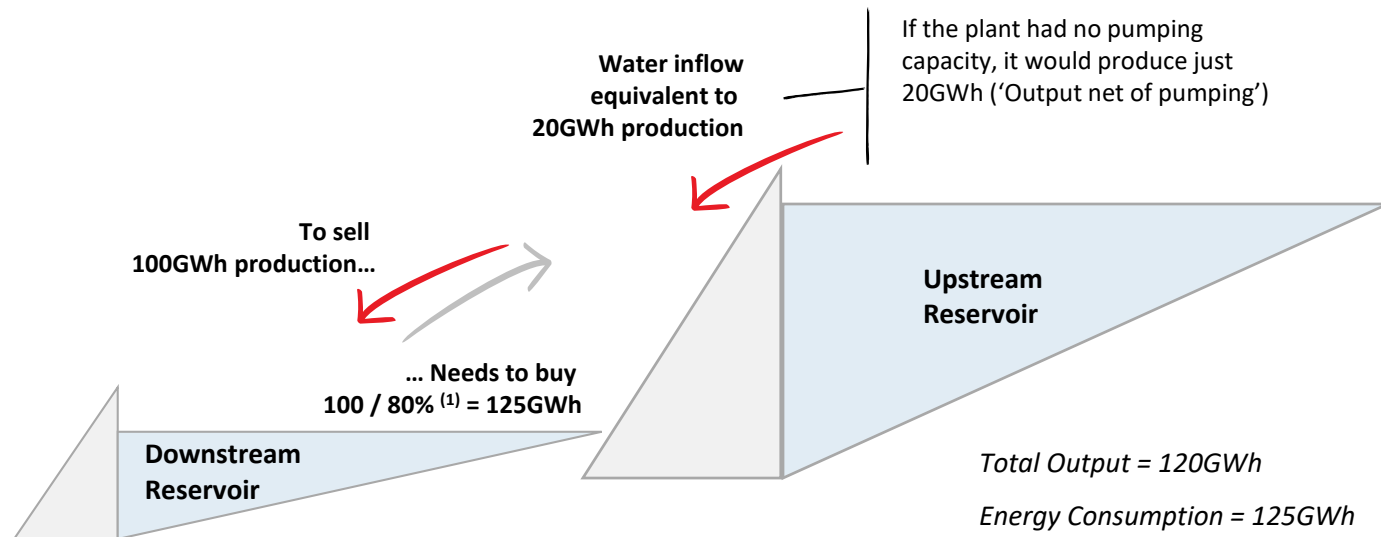
- **Hydrogen:** Sines
- **Renewables:** Puerto Nuevo and Los Barrios
- **Storage:** Soto 3

Accelerating decarbonization through renewables growth or the development of new technologies



# The increase in intermittency will require higher flexibility and hydro plants with pumping are well positioned to provide that service

## Pumping – Conceptual scheme



- We have **2.8 GW** of pumped hydro in Portugal
  - 2.3 GW if excluding the hydro plants to be sold
- Benefits of pumping:
  - Competitiveness
  - Large scale storage
  - Long-term storage
  - High flexibility levels

Pumped hydro will play a key role in the future electricity system

# We are also developing / testing uses of batteries across all the value chain of the power sector

## Hybrid projects renewables + batteries



**Cobadin wind farm, Romania**

- 1.26 MW | 1.368 MWh battery
- COD 2018



**Bailestin solar plant Romania**

- 1.3 MW | 0.650 MWh battery
- COD 2019

## Other projects under development:

- **Sonrisa (US):** 2 projects with PPA of solar + batteries: (i) 100 MW solar + 30 MW storage; (ii) 100 MW solar + 10 MW storage; COD 2022
- **Alqueva (PT):** 1 MW/1.4MWh battery paired with 4 MWp floating solar; COD 2021

## Networks



**Battery in Medium Voltage grid**

- 480 kW | 360 kWh



**Vehicle to grid**

- Testing V2G chargers

# Hydrogen: EDP has been building innovative projects and strategic partnerships to increase its knowledge and prepare to enter the market

## Sines



- ✓ Harbor proximity
- ✓ Natural gas infrastructure
- ✓ High solar resource
- ✓ Industrial cluster

## Status:

- A joint project proposal is being prepared
- Discussions with other potential partners are ongoing



Project	Description	Status
<b>Power to hydrogen in CCGT</b>	Test the power-to-H2-to-power concept to enhance CCGT's flexibility	<ul style="list-style-type: none"> <li>• Project kick-off Apr 2020</li> <li>• Demonstration will start in 2021</li> </ul>
<b>Mobility and injection of H2 into gas grid</b>	Support decarbonization of hard to electrify sectors encouraging the emergence of a hydrogen national market	<ul style="list-style-type: none"> <li>• Evaluation of potential business cases</li> <li>• Identification of potential partners ongoing</li> </ul>
<b>Offshore hydrogen – wind coupling</b>	Support the development and demonstrate the production of hydrogen from offshore-wind	<ul style="list-style-type: none"> <li>• Feasibility and Pre-FEED study ongoing</li> <li>• New demonstration project opportunities under evaluation</li> </ul>


# Clients solutions: Contributing to the energy transition and meeting customers' needs



~10M client base with improved operations and new solutions

Jun-2020

 ~4.7 Mn Clients  
#1 Portugal

 Focus on B2B  
clients and new  
services to B2C

 ~3.5 Mn  
Clients

We are able to generate, serve and innovate for our clients

## Energy efficiency



B2B - Save to compete



Energy certification



B2C - Funciona

## Distributed solutions



Solar PV solutions

## Complementary services to solar PV



Battery



Re:dy

## Demand-side management



## E-mobility



EDP Wallbox



E-Mobility energy supplier



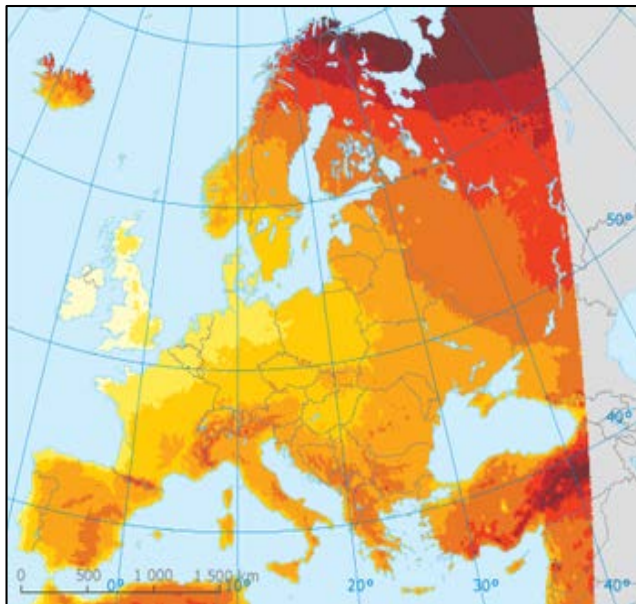
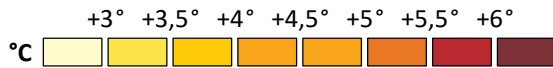
## Charging Stations:

- Portugal: 651
- Spain: 64
- Brazil: 358

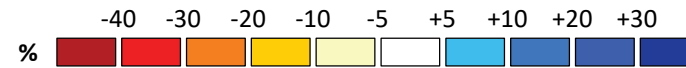
# Climate change imply significant physical risks in terms of water availability and infrastructure resilience to extreme events

## Expected climate changes in Europe, 2050

Changes in annual avg temperature



Changes in annual precipitation



## Key impacts

- **Decrease in hydropower potential**
- **Rise of the number of natural disasters** (such as tornados, storms, wildfires, heavy precipitation and floods)
- **Changes in temporal patterns of electricity demand**
- **Increase in irrigation and other competing water uses** (e.g., human supply, ecological flows)

# Wildfires represent a significant risk to EDP's infrastructure, and thus we are taking several initiatives to prevent them



## Main initiatives

- Reinforcement of **aerial inspections** (+35% of inspected km vs. 2018) and **ground inspections** targeting the preventive detection of situations of risk of points of contact between trees and electricity distribution lines
- Use of **laser technology** to measure distance between trees and distribution lines
- Use of **drones** for aerial inspection of safety distances
- **Predictive algorithm** for intervention
- **Improvements regarding procedures** to trigger urgent interventions by our teams



In 2020, our estimated costs with vegetation management are 2x higher than in 2019 and 3x higher than in 2018

Expresso

“The execution rates of “strips for vegetation management”, [...], which are in charge of public entities, such as the Institute of Nature and Forest Conservation (ICNF), stands at are around 35%; of rail and road network (Infraestruturas de Portugal) at 34% and 22%, respectively. In the concessioned road network, or in **REN and EDP infrastructure, execution rates are above 90%**. Explaining this, is the factor that the entities that perform these services are not prepared to answer to public service, which makes 1 or 3 years-contracts and does not pay in time, **while REN or EDP make 6-years contracts, pay more, and are more demanding**”

*Expresso, 18 July 2020*



# We are reducing our exposure to hydro, through the disposal of some assets and by integrated energy management of the portfolio



Disposal of 25% of hydro portfolio in Iberia: €2.2 Bn for 1.7 GW in Portugal



Hydro plants for sale

- Transaction multiple: **14.4x** EV/EBITDA<sub>2018</sub>
- Derisking:
  - market price exposure
  - hydro volatility
  - Incumbent profile in Portugal
- Expected closing in 4Q20



## Small hydro plants disposal

- In **2018**, we sold:
  - **86 MW** of small hydro plants in **Portugal**, by **€164m**
  - **148 MW** of small hydro plants in **Brasil**, by **R\$0.6 billion**

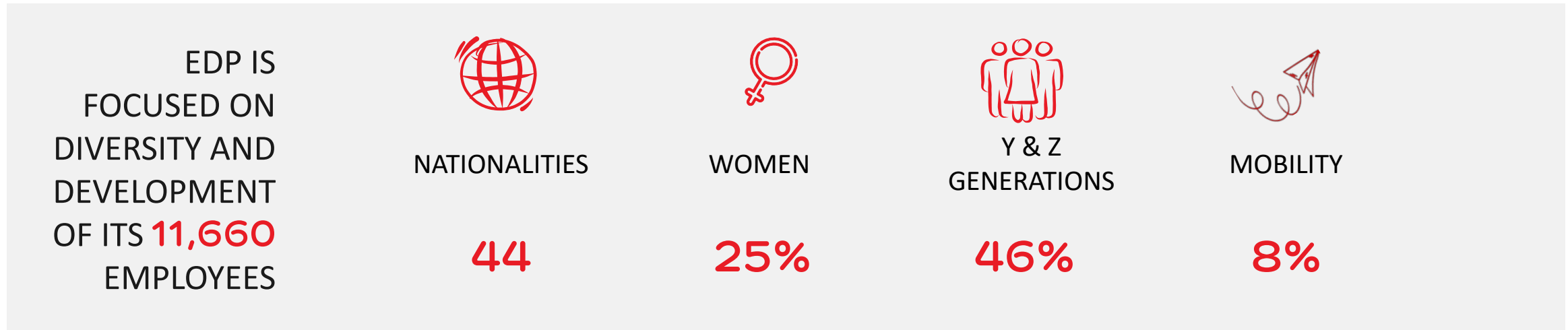
## Hydro plants in Brazil

- **Integrated energy management** of the portfolio
- Strategy focused on **new investments in networks and wind and solar**

# EDP built the principles of Diversity and Inclusion into values and practices



2019 figures



**73%** engagement level: 7% above market and 6% above Utilities sector<sup>(1)</sup>. It demonstrates strong commitment of our people with EDP

**efr** EDP recognized with excellence level as a familiarly responsible company







Global 2000 - World's Best Employers

1) 20 Utilities, totaling c. 200,000 employees



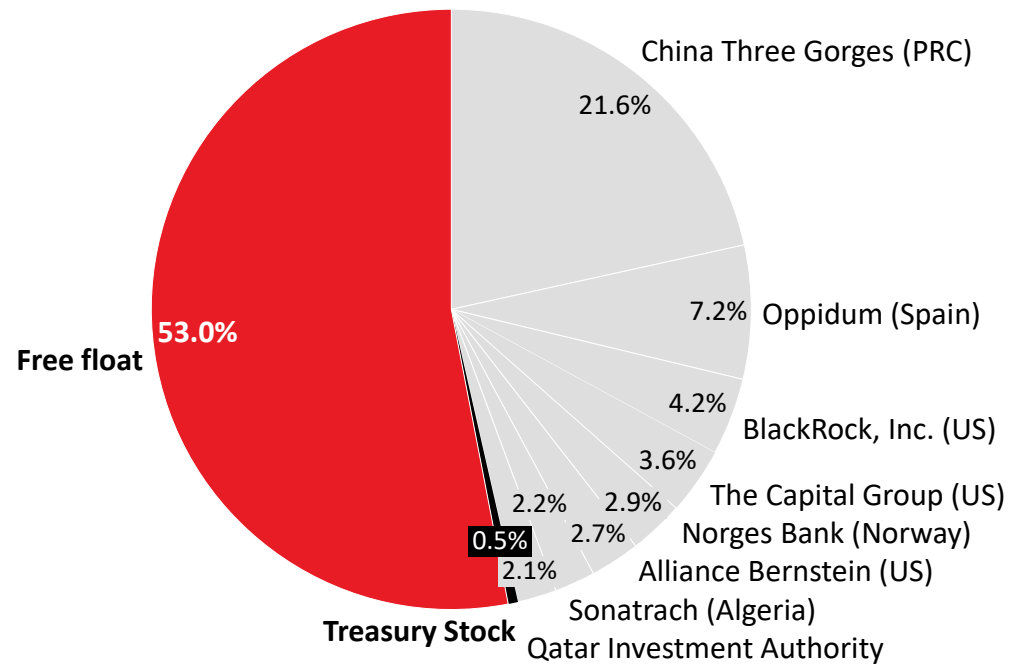
# Distinctive Green Positioning: We have been consistently recognized by relevant ESG ratings on our sustainable corporate strategy



	 <p><b>Ranking:</b></p> <p><b>#1</b> Global Integrated Utilities (Score 90)</p> <p>2019 ranking</p>	 <p><b>Ranking:</b></p> <p><b>Top 3%</b> Global Utilities (Score 4.5)</p> <p>2020 ranking</p>	 <p><b>Ranking:</b></p> <p><b>#1</b> Global Integrated Utilities (Score 68)</p> <p>2019 ranking<sup>1</sup></p>	 <p><b>Ranking:</b></p> <p><b>93<sup>rd</sup> Percentile<sup>2</sup></b> Global Utilities</p> <p>2019 ranking</p>
<b>Historical rankings:</b>	<p><b>2009 - 2019</b></p> <p><b>#1 or #2 for 10yrs</b></p> <p><b>Avg Score 87</b> (out of 100)</p>	<p><b>2011 - 2020</b></p> <p><b>Avg Score 4.3</b> (out of 5)</p>	<p><b>2012 - 2018</b></p> <p><b>#5 (in 2012/16) and #9 (in 2014)</b></p> <p><b>Avg Score 61</b> (out of 100)</p>	<p><b>2015 - 2017</b></p> <p><b>Avg Score 84<sup>3</sup></b> (out of 100)</p>

1) EDP has not yet had access to 2020's global score | 2) Bloomberg; | 3) In 2018 Sustainalytics has launched the ESG Risk Rating methodology and replaced the ESG Rating methodology. EDP overall Risk Rating in June 2020 was 24.6.

## EDP Shareholder Structure (Sep-2020)



## Corporate Governance Highlights

### Dual model

- Executive Board of Directors (EBD) and General and Supervisory Board (GSB)
- All major corporate and strategic decisions scrutinized by the GSB after proposal of the EBD

### GSB Composition

- 21 non-executive members, of which the majority are independent

### EBD Composition

- 9 executive members



Appendix

# We will pursue growth under a sustainable business model

*In 2022 we will achieve...*

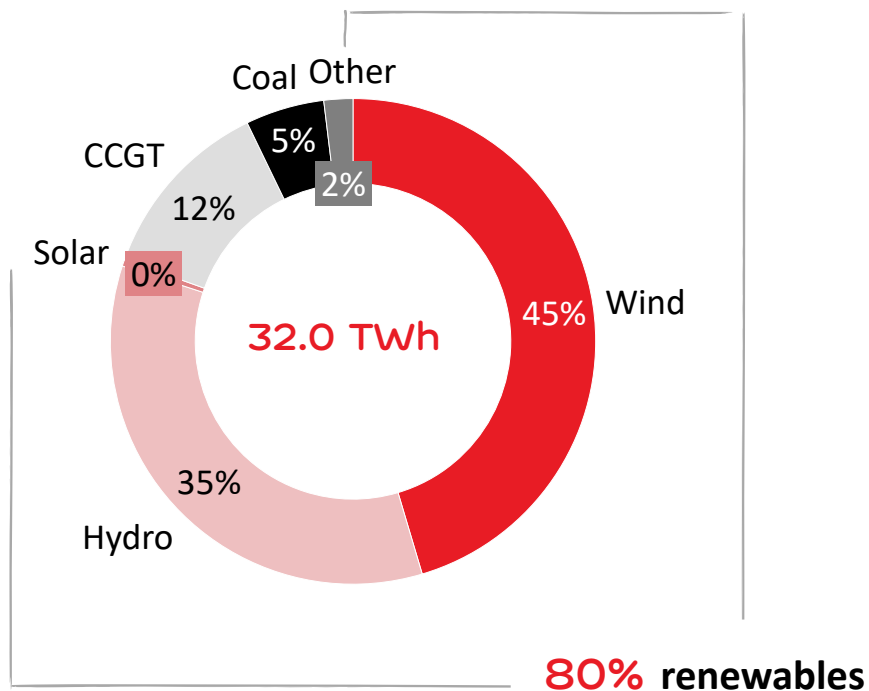


In 1H20, renewables represented 80% of our electricity generation, while capacity under construction doubled vs. Mar-20 to 2.0 GW



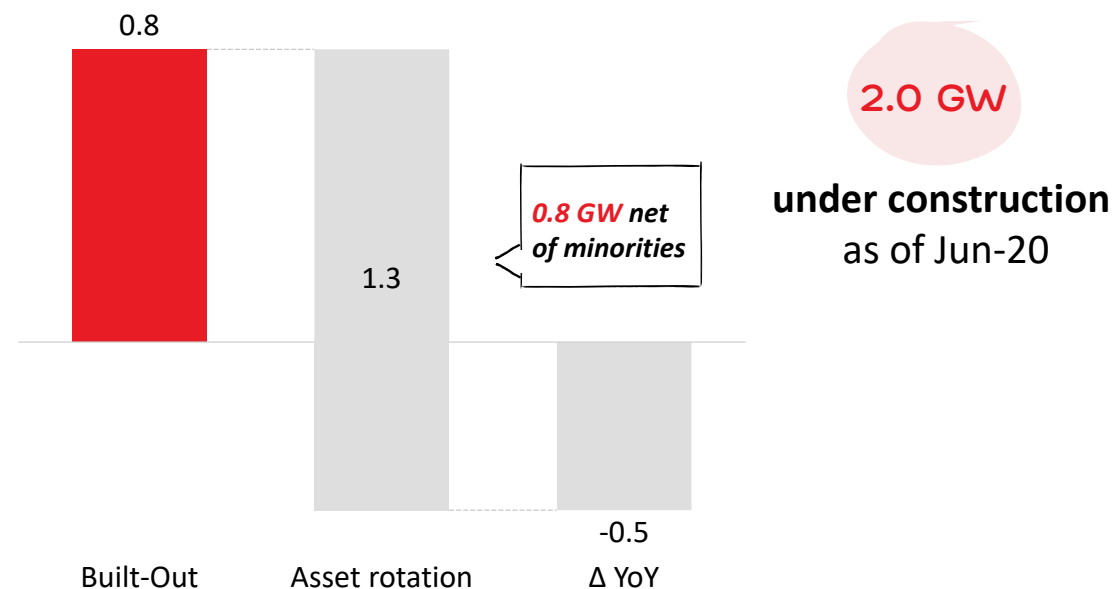
## Electricity generation in 1H20

TWh



## Wind capacity evolution YoY

GW; Jun-20

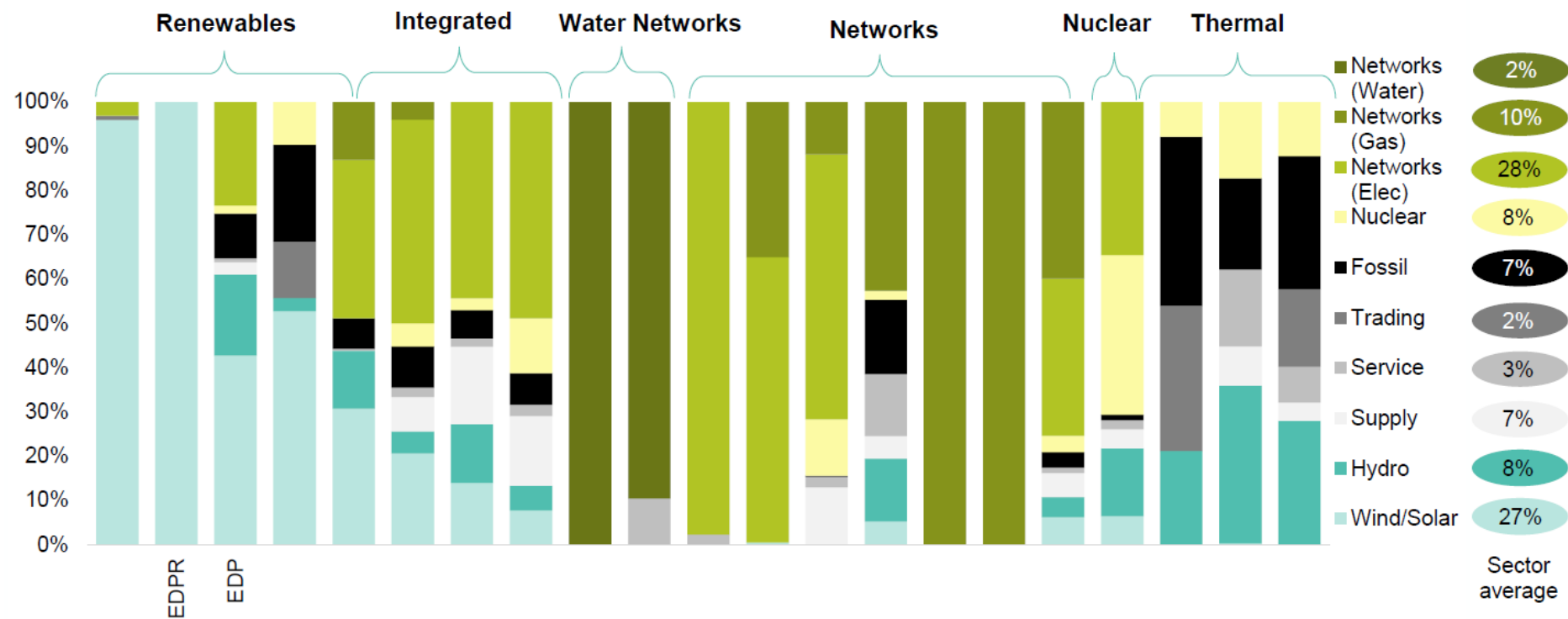


Continued growth in renewables development (+0.8 GW installed YoY; +2.0 GW under construction)

# We are already a leading green energy utility



EBITDA split by business segment (2020E)



Source: Bernstein "European Utilities and Renewable: A primer on the EU Green initiatives (Green Deal, Taxonomy & Funding), 15-Sep-2020

# List of wind & solar projects already secured for 2019-22



## Projects already secured

MW

Project Name	MW	Region	CoD
Prairie Queen	199	Kansas	2019
Timber Road IV	126	Ohio	2019
Bright Stalk	205	Illinois	2019
Hidalgo II	50	Texas	2019
Nation Rise (CA)	100	Ontario	2020
Broadlands I	200	Illinois	2020
Headwaters II	198	Indiana	2020E
Rosewater <sup>1</sup>	102	Indiana	2020E
Crossing Trails	104	Colorado	2020E
Reloj del Sol	209	Texas	2020E
WildCat	180	Texas	2020E
Vientos Coahuila	96	Mexico	2021E
Indiana Crossroad <sup>1</sup>	300	Indiana	2021E
Riverstart	200	Indiana	2021E
Sonrisa	201	California	2022E
California Project	300	California	2022E
First Solar	139	East NA	2019
Los Cuervos	200	Mexico	2020E



## Projects already secured

MW

Country	MW	Status	CoD
	53	Installed	2019
	130	U/ const. & dev.	2020/22E
	47	Installed	2019
	279	U/ const. & dev.	2020/22E
	33	Installed	2019
	94	U/ const. & dev.	2020/21E
	50	Installed	2019
	178	U/const. & dev.	2020/21E
	58	U/construction	2020E
	337	U/ development	2021/22E
	119	U/ development	2020/22E



## Projects already secured

MW

Project Name	MW	Country	CoD
Aventura II-V	111	Brazil	2022E
Boqueirão I-II	80	Brazil	2022E
Monte Verde VI	46	Brazil	2022E
Santa Rosa & Mundo Novo	158	Brazil	2022E
	212	Colombia	2022E
Alpha	212	Colombia	2022E
Beta	280	Colombia	2022E
Pereira Barreto	199	Brazil	2021E
	66	Brazil	2022E
Lagoa	66	Brazil	2022E

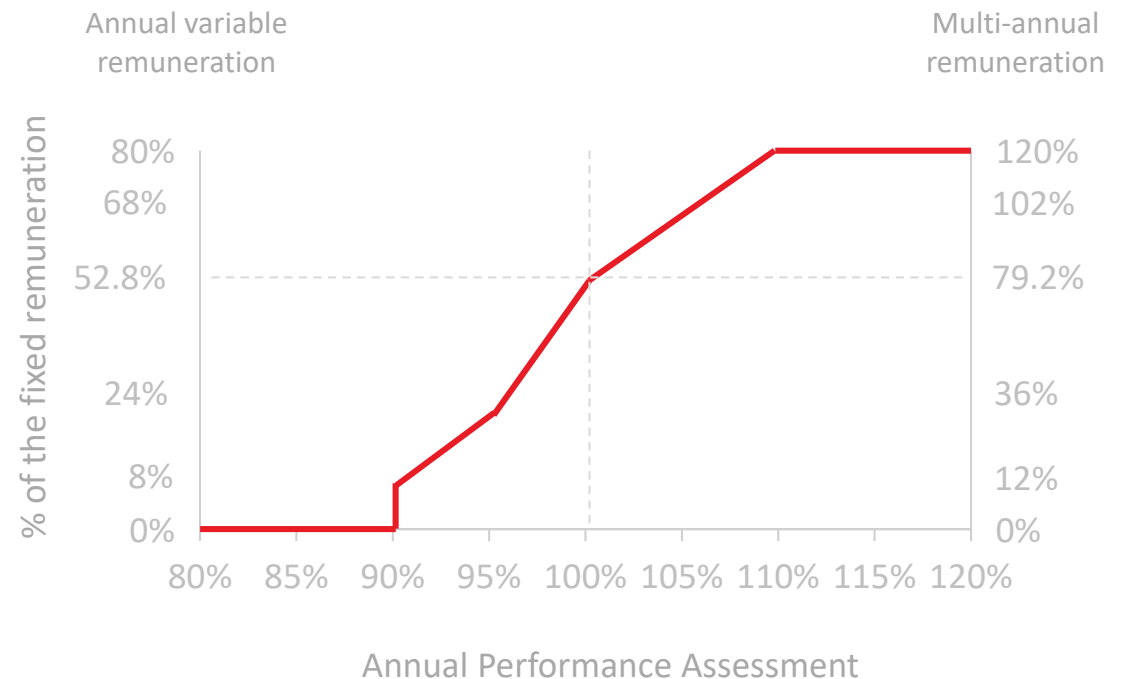
1) Build and Transfer project

# Remuneration of the Executive Board of Directors



## EBD Remuneration

- EBD remuneration is composed by:
  - **Fixed Remuneration:** Includes a retirement saving plan assigned to Directors during their term of office, amounting in net terms to 10% of their fixed annual remuneration
  - **Variable remuneration:** Includes **annual** and **multi-annual remuneration**, which are deferred until the end of each term of office. Both are determined as a function of the achievement of pre-approved goals expressed through specific KPIs
- Remuneration policy allows that **variable remuneration could reach, overall, twice the value of fixed remuneration** during the mandate
  - **Annual** remuneration may reach **up to 80% of fixed** remuneration, while **multi-annual** remuneration may reach **up to 120%**
  - Variable remuneration only becomes effective if the EBD reaches a **level of performance above 90% of the business plan**



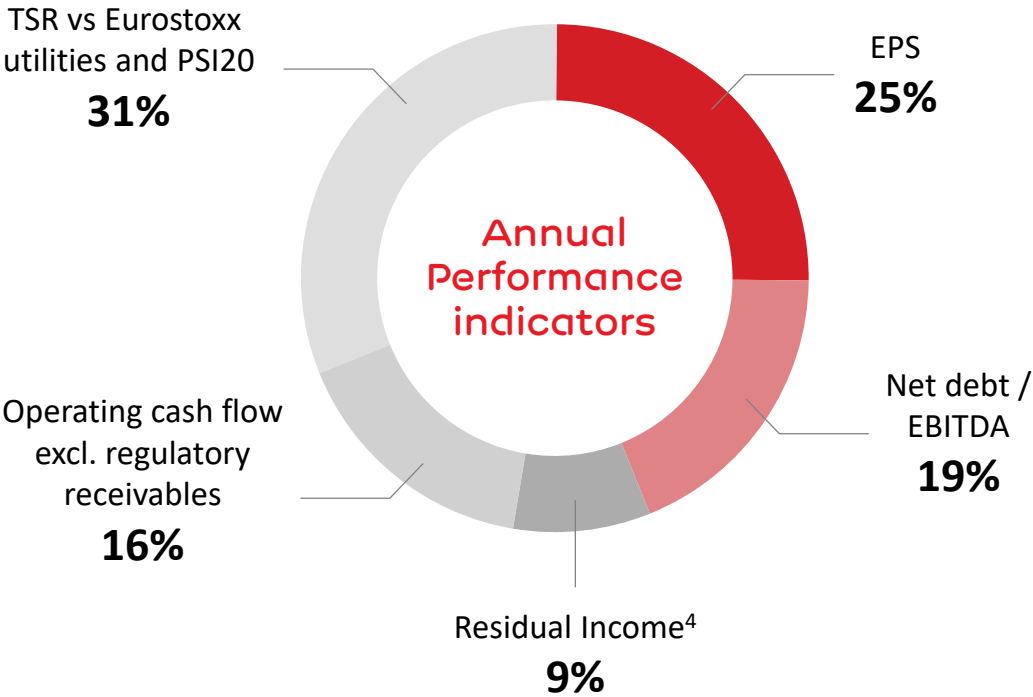


# Management targets are fully aligned with shareholder interests

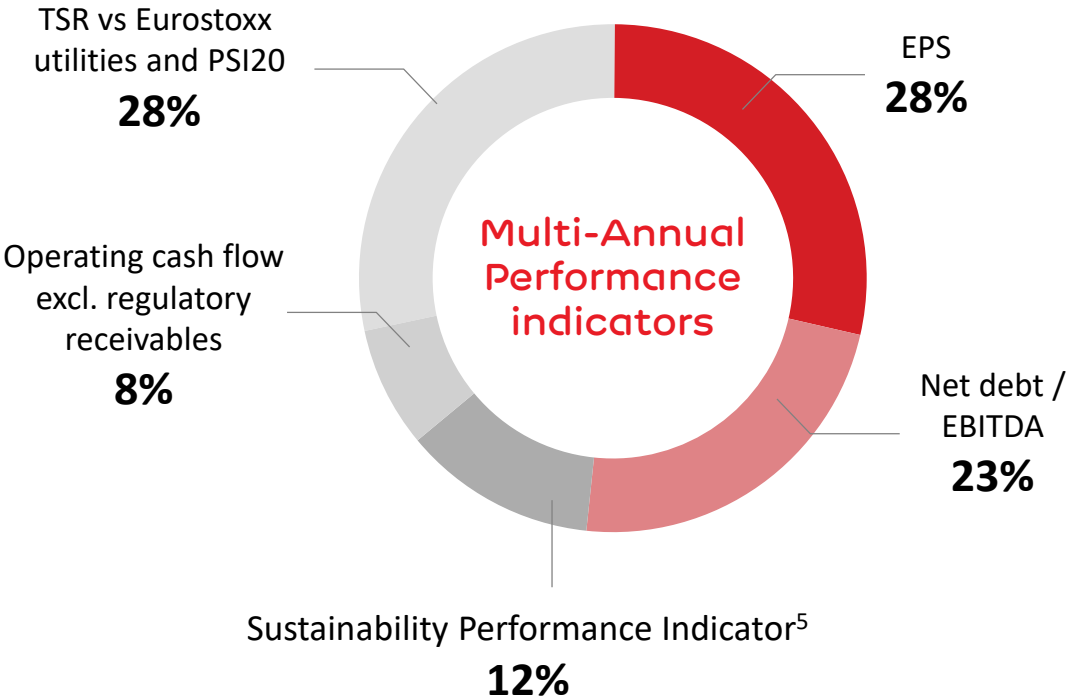


## Performance indicators for Executive Board of Directors variable remuneration<sup>1</sup>

### Annual<sup>2</sup>



### Multi-annual<sup>3</sup>



<sup>1</sup> Only considers quantitative component, which is worth 80% of total for annual performance and 65% of total for multi-annual performance indicators | <sup>2</sup> Comparison with budget | <sup>3</sup> Comparison with Business Plan | <sup>4</sup> Residual Income: Comparison between the net income minus the product between EDP's cost of capital and its net worth, excluding non-controllable interest, and the amount previously defined in the annual budget approved by the General and Supervisory Board | <sup>5</sup> Sustainability Performance Indicator: This indicator evaluates EDP sustainability performance taking into account: absolute metrics' evolution over past periods, peer comparison and qualitative performance evaluation of the Remuneration Committee of the General and Supervisory Board

# ESG Reporting: TCFD



- In 2018, EDP adhered to the TCFD recommendations and defined the commitment to internalize them until 2022.
- EDP discloses in its Sustainability Report information regarding the four categories of the TCFD. This represents a laudable effort to align and implement reporting on climate-related risks and opportunities with the TCFD recommendations during these two years of endorsement.
  - **Governance** - the EDP Group's approach to climate change challenges includes the analysis of risks and opportunities and is managed according to the corporate governance structure.
  - **Strategy** - EDP has established a climate action strategy based on 5 pillars: governance; mitigation; adaptation; innovation; energization
  - **Risk management** - For the assessment of emerging climate-related risks and opportunities, EDP used four RCP scenarios (Representative Concentration Pathway) from IPCC - 8.5, 6.0, 4.5 and 2.6 to analyse the physical risks, and two scenarios from the International Energy Agency (IEA), IEA 450 and 2DS, to analyse transition risks.
  - **Metrics and targets** - EDP's metrics are in line with TCFD's recommended metrics. This includes metrics regarding GHG emissions and targets

TCFD REPORTING RECOMMENDATIONS		CDSB***	SASB**
GOVERNANCE	a) Board's oversight	Req.01 Governance	<b>SASB Table</b> – since the SASB framework refers to financially material topics, the associated quantitative and qualitative performance metrics should facilitate the development of ESG reports with CAE-level knowledge and approval that provide information on the effectiveness of a company's climate-related strategy, risk management and operational performance.
	b) Management's role	Req.01 Governance; Req. 02 Policies, Strategy and Targets	
STRATEGY	a) Climate-related risks and opportunities	Req. 02 Policies, Strategy and Targets; Req. 03 Risks & Opportunities; Req.06 Outlook	
	b) Impact of climate-related risks and opportunities	Req. 02 Policies, Strategy and Targets; Req. 03 Risks & Opportunities; Req.06 Outlook	
	c) Resilience of the organization's strategy	Req. 03 Risks & Opportunities; Req.06 Outlook	
RISK MANAGEMENT	a) Processes for identifying and assessing	Req. 03 Risks & Opportunities	
	b) Processes for managing	Req. 02 Policies, Strategy and Targets; Req. 03 Risks & Opportunities; Req.06 Outlook	
	c) Integration into overall risk management	Req.01 Governance; Req. 03 Risks & Opportunities; Req.06 Outlook	
METRICS AND TARGETS	a) Metrics used to assess	Req.01 Governance; Req. 02 Policies, Strategy and Targets; Req. 04 Sources of Impact; Req.05 Performance and Comparative Analysis	
	b) GHG emissions	Req. 02 Policies, Strategy and Targets; Req. 04 Sources of Impact; Req.05 Performance and Comparative Analysis	
	c) Targets	Req. 02 Policies, Strategy and Targets; Req. 04 Sources of Impact; Req.05 Performance and Comparative Analysis	

\*\* Sustainability Accounting Standards Board | \*\*\* Climate Disclosure Standards Board Framework.

Source -2019 EDP Sustainability Report – page 231

# ESG Reporting: Other Standards



- Besides GRI standards (Global Reporting Initiative), GHG Protocol, TCFD, Climate Disclosure Standards Board (CDSB), **EDP also seeks alignment SASB - Sustainability Accounting Standards Board.**
- We began reporting for the first time in our 2019 Sustainability report** in accordance with the standard of SICS sector – Infrastructure sector - Electric Utilities & Power Generators.
- This includes sustainability disclosure topics, such as: Greenhouse Gas Emissions; & Energy Resource Planning; Air Quality; Water Management; Coal Ash Management; Energy Affordability; Workforce Health & Safety; End-Use Efficiency & Demand; Grid Resiliency.
- However, we consider that this ESG disclosure is a multi-year improvement process.**

SASB Electric Utilities & Power Generators (SICS sector) <sup>1</sup>						GRI Standard Title/ Disclosure number	2019	
Topic	Accounting metric	Category	Unit of measure	Code SASB				
GREENHOUSE GAS EMISSIONS & ENERGY RESOURCE PLANNING	(1) Gross global Scope 1 emissions	Quantitative	Metric tons (t)CO <sub>2</sub> -e	IF-EU-110a.1	305-4	14,362,658		
	(2) percentage covered under emissions-limiting regulations	Quantitative	Percentage (%)	IF-EU-110a.1	EU5	68.80		2
	(3) percentage covered emissions-reporting regulations	Quantitative	Percentage (%)	IF-EU-110a.1	EU5	99.90		3
	Greenhouse gas (GHG) emissions associated with power deliveries	Quantitative	Metric tons (t) CO <sub>2</sub> -e	IF-EU-110a.2	305-4	9,568,371		4
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a	IF-EU-110a.3	305-4	2.6. Strategy, Goals and Targets; 3.1.5. Promotion of renewable energies; 3.1.7. New Energy Services; 3.1.8. Energy Efficiency; CDP Climate		
	(1) Number of customers served in markets subject to renewable portfolio standards (RPS)	Quantitative	Number	IF-EU-110a.4			EDP didn't have customers served in markets subject to renewable portfolio standards (RPS)	
	(2) percentage fulfillment of RPS target by market		Percentage (%)	IF-EU-110a.4				

Source 2019 Sustainability Report – page 226 onwards