#### Exhibit A12. Construction and Coordination Schedules

This Exhibit A12 is provided for reference only and is not binding. Governing milestone dates are listed in Appendix B.

	Project Milestones	Duration
A.	Project Planning & Scoping	3 months
В.	Issue RFP and Award	3 months
C.	30% Design	2 Months
D.	Procure Major Equipment/Long Lead Material. Concurrent with 60% Design	6 Months
E.	60% Design	3 Months
F.	Issue for Construction	2 Months
G.	Construction	5 Months
Н.	Testing and Commissioning	2 Months
I.	Project Close & As Built Drawing for Record	1 Month
J.	Project Duration	20 Months

#### Exhibit A13. Permits, Licenses, Regulatory Approvals and Authorization

Permits, licenses, regulatory approvals, and authorizations required for the construction of Transmission Owner's Interconnection Facilities and Network Upgrades will be the responsibility of the Transmission Owner.

Permits, licenses, regulatory approvals, and authorizations required for the construction of the Generating Facility and Interconnection Customer's Interconnection Facilities, including the Radial Line, will be the responsibility of the Interconnection Customer.

#### Exhibit A14. Interconnection and Operating Guidelines

#### Voltage Guidelines

Reactive power, voltage regulation and operating requirements will be per Transmission Operator (TOP) and Transmission Provider directives. Interconnection Customer will operate the Generating Facility to a voltage schedule target of 139.5 kV within a bandwidth of +/- 3 kV at the Point of Interconnection (POI) utilizing the Generating Facility's power factor design capability. The Interconnection Customer will regulate the Generating Facility's voltage to the specified voltage set-point within the defined bandwidth stated above using an automatic voltage controller.

The above voltage schedule is subject to change. If the need for a change is identified, it will be done within the limits of the GIA provisions stated in Section 9.6 and the Generating Facility's power factor design criteria. If a schedule change is needed, appropriate written documentation of the change will be provided to the Interconnection Customer.

The Interconnection Customer is required to have a generator operator available for 24/7 communication with the TOP. The TOP may, at any time request a variance from the schedule in response to system operating/security requirements.

#### **Maintenance Guidelines**

Any maintenance or repairs on the lead line from the Generating Facility to Transmission Owner's Reynolds substation will require lock out / tag out on both terminal ends of the line. These outages shall be coordinated between the Transmission Owner/Operator and Interconnection Customer.

#### Appendix B To GIA Milestones

**1.** Selected Option pursuant to Article 5.1: Interconnection Customer selects the Standard Option as described in Article 5.1.1. Articles 5.1.2, 5.1.3 and 5.1.4 shall not apply to this GIA.

2. Milestones: The description and date entries listed in the following tables are provided solely for the convenience of the Parties in establishing their applicable Milestones consistent with the provisions of this GIA and the GIP.

<u>No.</u>	Description	Date
1a.	Provide initial payment to Transmission Owner (GIA 11.5) <b>\$8,018,775</b> (total cost of \$8,268,775 - \$250,000 provided in cash in milestone 1b) as security in the form of an irrevocable letter of credit that is acceptable to Transmission Owner	Within 45 Calendar Days of the Effective Date of the GIA, By 8/15/2018 to achieve desired in service date
1b.	Provide cash payment of \$250,000 to Transmission Owner	Within 45 Calendar Days of the Effective Date of the GIA, By 8/15/2018 to achieve desired in service date
2.	Provide Certificate of Insurance (GIA 18.4.9).	construction work commencement date; thereafter, within 90 Calendar Days of end of fiscal year or insurance renewal date.
3.	i) Provide to Transmission Provider reasonable evidence of continued Site Control.	Within 15 Business Days of Effective Date.
	<ul> <li>ii) Provide evidence of one or more of the following milestones being achieved: (1) execution of contract for (a) fuel supply or transport; (b) cooling water supply; (c) engineering procurement of major equipment or construction; (d) execution of a contract for the sale of electric energy or capacity from the Generating Facility, or a statement signed by an officer or authorized agent of Interconnection Customer attesting that the Generating Facility is included in an applicable state resource adequacy plan; or other information that Transmission Provider deems to be reasonable evidence that the Generating Facility will qualify as a designated network resource; or (2) documentation of application for state or local air,</li> </ul>	Within 180 Calendar Days of Effective Date.

#### A. Interconnection Customer Milestones

	water, land, or federal nuclear or hydroelectric permits and that the application is proceeding per regulations (GIP 11.3).	
4.	Pay quarterly invoices within 30 days of receipt from Transmission Owner. These invoices will include expected expenses for the upcoming quarter and any true-up required from prior quarter.	Within 30 days of receipt
5.	Pre-construction meeting.	As may be agreed to by the Parties.
6.	Provide initial design and specifications for Interconnection Customer's Interconnection Facilities to Transmission Owner and Transmission Provider for comment (GIA 5.10.1).	180 Calendar Days prior to initial synchronization date.
7.	Provide final design and specifications for Interconnection Customer's Interconnection Facilities to Transmission Owner and Transmission Provider for comment (GIA 5.10.1).	90 Calendar Days prior to initial synchronization date.
8.	Deliver to Transmission Owner and Transmission Provider "as-built" drawings, information and documents regarding Interconnection Customer's Interconnection Facilities (GIA 5.10.3).	Within 120 Calendar Days of Commercial Operation Date.
9.	Notify Transmission Provider and Transmission Owner in writing of Local Balancing Authority where Generating Facility is located (GIA 9.2).	Three months prior to Initial Synchronization Date.
10.	Pre-energization meeting.	As may be agreed to by the Parties.
11.	Initial Synchronization Date.	8/15/2020
12.	Commercial Operation Date.	9/30/2020
13.	Interconnection Customer shall provide the Parties with notice on the status of the Generating Facility, including COD, under Article 15 of this GIA and shall also send such notice by email to <u>ResourceIntegration@misoenergy.org</u> . Notification shall include Interconnection Customer's name, and as applicable Market Participant(s) name(s), and project number.	6 months prior to Initial Synchronization Date.
14.	Interconnection Customer shall provide notice to the Parties of a test plan in advance of conducting tests for the Generating Facility. The notice shall be in the form below and should be provided under Article 15 of this GIA, and a copy of such notice should be emailed to <u>ResourceIntegration@misoenergy.</u> org.	5 Business Days prior to testing.

#### **B.** Transmission Owner Milestones

<u>No.</u>	Description	Date
1.	Transmission Owner to enter Network Upgrade	10 Business Days after
	information into Transmission Provider's MTEP database	Interconnection Customer
	and model on demand.	meets Milestone 1 in Table A
		of Appendix B.
2.	Provide Certificate of Insurance (GIA 18.4.9).	The construction work
		commencement date; within 90
		Calendar Days of end of fiscal
		year or insurance renewal date.
3.	Invoice Interconnection Customer on quarterly basis for	Ongoing quarterly obligation
	upcoming quarter expenses plus any true up required	until final payment reached,
	from prior quarter	starting 10/2018
4.	Reduce amount outstanding on letter of credit security	Annually, starting 1/2019, until
	provided by Interconnection Customer	final payment reached
5.	Commence scoping and design of Interconnection	Within 30 days of Initial
	Facilities and Network Upgrades (GIA 5.5 et seq.).	Payment by Interconnection
		Customer
	Commence equipment procurement.	
6.	Commence equipment procurement of Interconnection	Estimated to be February, 2019
	Facilities and Network Upgrades	if Initial Payment by
		Interconnection Customer
		made by August 2018
7.	Commence construction of Interconnection Facilities and	Estimated to be October, 2019
	Network Upgrades (GIA 5.6 et seq.).	if Initial Payment by
		Interconnection Customer
		made by August 2018.
8.	Comment on Interconnection Customer's final design and	Within 30 Calendar Days of
	specifications.	Interconnection Customer's
		submission of final design and
		specifications.
9.	Deliver to Interconnection Customer and Transmission	Within 120 Calendar Days of
	Provider "as-built" drawings, information and documents	Commercial Operation Date.
	regarding Transmission Owner's Interconnection	
	Facilities (GIA 5.11).	
10.	Provide Interconnection Customer final cost invoices	Within 6 (six) months of
	(GIA 12.2 et seq.).	completion.
11.	Refund overpayment of estimated costs (GIA 12.2).	90 Calendar Days prior to
		initial synchronization date.
		Refunds within 30 Calendar
		Days.
12.	In-Service Date/Backfeed Date.	8/15/2020 if Interconnection
		Customer meets Milestone 1 in
		Table A of Appendix B by
		August 15, 2018; otherwise 24

	months after Milestone 1 in
	Table A of Appendix B met.

## C. Affected System Owner Milestones

Task	Date Due
None	

#### D. Transmission Provider Milestones

No.	Description	Date
1.	Unconditional Service requires completion of MTEP Contingent	TP to provide
	Facilities listed in Exhibit A10 and all Interconnection Studies	Notice to the
		Parties

#### Appendix B-1 To GIA Pre-Certification Generation Test Notification Form

The following form would need to be submitted to MISO Real Time Operations at least five (5) Business Days prior to the first date of testing.

Project Number:

Project Name:

Point of Interconnection:

Dispatcher Contact Information:

Date	Start Time (in EST)	End Time (in EST)	Expected MW Output	Expected MVAR Output (Only needed if beyond normal power factor)

#### Appendix C to GIA

Interconnection Details

This Appendix C is a part of this GIA among Interconnection Customer, Transmission Owner and Transmission Provider.

#### 1. GENERAL INTERCONNECTION AND OPERATING GUIDELINES

1.1 Applicable Standards. In addition to applicable design standards identified in the GIA, Interconnection Customer agrees to comply with the most recent Transmission Owner substation/transmission/protection design guides, standards, and specifications, where applicable, for the design of and procurement for this interconnection. The Transmission Owner design guides, standards, and specifications are available upon request.

In the event that such Transmission Owner design guides, standards or specifications do not address a particular item or issue, Interconnection Customer shall use any other nationally recognized standard, guide or specification. In the event that there is a conflict between any other standard, guide or specification used by Interconnection Customer and Transmission Owner's design guides, standards and material/construction specifications, Transmission Owner's design guides, standards and specifications shall apply.

- 1.2 Communication Requirements. Interconnection Customer shall provide analog and digital signals including hardened voice communications, as requested by the Transmission Owner and/or the Transmission Provider, as further defined during detailed engineering and design of the Interconnection Facilities. Interconnection Customer agrees to transmit these signals to Transmission Owner's control building or to such other location as specified by the Transmission Owner during the detailed design of the Interconnection Facilities and Network Upgrades. Transmission Owner shall provide Interconnection Customer with the necessary substation information at the Transmission Owner's signals demarcation point. Interconnection Customer will pay all costs associated with receiving such information from Transmission Owner. The specific location of the demarcation point will be established during the detailed design of the Interconnection Facilities.
- 1.3 Metering Requirement. Transmission Owner shall install and maintain interconnection metering for the connection of the Generating Facility. The primary instrument devices shall be revenue class, wound-type Current Transformers located at Reynolds 138kV substation, on the incoming Generation Facility lead line, and CCVTs located on the Reynolds 138kV substation bus. Meters shall be located at the new substation and shall be placed to minimize their effect on operation of the Transmission System and the effects of ferro resonance.
- **1.4 Grounding Requirements** Interconnection Customer shall design, install, and maintain grounding facilities to ground the Interconnection Customer's Interconnection Facilities, in accordance Applicable Reliability Standards and Good

Utility Practice. The Interconnection Customer shall be responsible for detailed modeling and evaluation of the interconnected grounding system at the location of the Transmission Owner's Interconnection Facilities and Interconnection Customer's Interconnection Facilities. If Transmission Owner so chooses, Transmission Owner shall have the right to approve the grounding system design to insure that the grounding system properly protects the Transmission Owner's Interconnection Facilities.

- 1.5 Transmission Line and Substation Connection Configurations. The Parties agree that the connections between Interconnection Customer's Interconnection Facilities and Transmission Owner's Interconnection Facilities will be made as shown in EXHIBIT A2. Exact transmission line locations will be developed by Transmission Owner during the detailed design and regulatory process. Interconnection Customer shall provide the space necessary for the Transmission Owner's placement of the transmission line facilities.
- **1.6** Unit Stability Requirements. Interconnection Customer agrees to operate the Generating Facility in accordance with the stability requirements identified in the Interconnection Evaluation Study and Interconnection Facilities Study reports, or their equivalent, prepared for this interconnection and which have been posted on Transmission Provider website, the operating requirements of the Transmission System, and the rules of the NERC, Reliability Coordinator and Transmission Provider.
- 1.7 Equipment Ratings. Transmission Owner will determine the individual equipment ratings for specific Transmission Owner's Interconnection Facilities and Network Upgrades during the detailed design of the facilities. Interconnection Customer shall size the Interconnection Customer's Interconnection Facilities using Applicable Reliability Standards, Good Utility Practice and the information provided in the Interconnection Evaluation Study in order that the Interconnection Customer's Interconnection Customer's Interconnection Customer's Interconnection Facilities appropriately coordinate with the Transmission Owner's Interconnection Facilities.
- **1.8** Short Circuit Requirements. Transmission Owner will determine the required short circuit ratings for all Transmission Owner's Interconnection Facilities and Network Upgrades during the detailed design of such items. Interconnection Customer agrees to provide appropriately sized or short circuit-rated Interconnection Customer's Interconnection Facilities comparable to those required by Transmission Owner using Applicable Reliability Standards, Good Utility Practice and the information provided in the Interconnection Evaluation Study.
- **1.9** Synchronizing Requirements. In addition to requirements defined in Section 2 of this Appendix C, Transmission Owner will furnish transmission system bus potentials that may be used by the Interconnection Customer for synchronizing the Generating Facility to Transmission Owner's Transmission System, if needed. These potentials will be provided to the Interconnection Customer at the Transmission Owner's signal demarcation point.

- 1.10 Generation Control Requirements. In addition to the requirements set forth elsewhere in this Appendix C, the Generating Facility shall be designed and installed with voltage and var controls. These controls shall comply with any Applicable Reliability Standards, industry standards or Good Utility Practice. The Interconnection Customer, prior to completion of the Facility, shall contact Transmission Owner and the Distributed Control Area Operator for the information required to properly design the phase of the Facility. The Interconnection Customer further agrees to comply with any control requirements as specified in the Interconnection Facilities Study, and shall design and construct each generating unit of the Generating Facility, if more than one unit, to include the capability to install power system stabilizers if later required.
- 1.11 Power Factor Design Criteria. Interconnection Customer shall design the Generating Facility to be capable of maintaining a composite power delivery at continuous rated power output at the high side of the main Generating Facility generating step up transformer at all power factors from 0.95 leading to 0.90 lagging. The Generating Facility shall be capable of continuous dynamic operation throughout the power factor design range as measured at the main Generating Facility generating step up transformer. Such operation shall account for the net effect of all energy production devices on the Interconnection Customer's side of the Point of Interconnection.
- 1.12 Energization, Inspection and Testing Requirements. Before final approval for interconnection is given per APPENDIX E, Interconnection Customer shall demonstrate to the Transmission Provider and Transmission Owner, through witnessed tests and/or certified test documentation, that the Generating Facility will not have adverse impact on the operation of the Transmission System. Such tests and inspections shall include pre-energization testing of equipment connected to the transmission bus, protection and control systems and pre-commercial testing of the governor, excitation and/or power system stabilizer controls. Specific test requirements and documentation need to be arranged with Transmission Owner prior to tests being performed. Protection and control systems include, but are not limited to, AC auxiliary, DC systems, relaying systems, potential and current circuits, and communication systems.

# **1.13** If applicable, the unique requirements, if any, of the Transmission Owner to which the Facility will be physically interconnected. None identified.

1.14 Other. Interconnection Customer shall provide all necessary easements over all property owned, leased or otherwise controlled by Interconnection Customer, including easements for ingress/egress to Transmission Owner, for access to all Transmission Owner's Interconnection Facilities and Network Upgrades, which are on the property of Interconnection Customer. Specific real estate requirements will be determined during the detailed design. Interconnection Customer agrees to grant Transmission Owner easements in a form that is acceptable to Transmission Owner. It is expressly understood and agreed that Transmission Owner may, during the term of the Agreement, make changes to its Transmission System. Interconnection

Customer agrees to make any modifications, additions or changes to the Interconnection Customer's Interconnection Facilities that are necessary or required as a result of such change, modification or addition to Transmission Owner's Transmission System and at Interconnection Customer's sole cost and expense.

#### 2. SPECIFIC SYSTEM PROTECTION REQUIREMENTS

**General.** The Transmission Owner will construct a protective relaying scheme to protect the Transmission System from faults occurring on the Interconnection Customer's Interconnection Facilities or the Generating Facility, and from faults occurring on the Transmission Owner's Interconnection Facilities and Transmission System. Interconnection Customer will be responsible for providing protection for the Generating Facility and all associated equipment from faults occurring on its facilities, and from faults occurring on the Transmission Owner's Transmission System.

Transmission Owner has identified the following specific requirements to ensure prompt removal of any contribution of the Generating Facility to any short circuit occurring on the Transmission System and not otherwise isolated by the Transmission Owner equipment:

- 2.1 Interconnection Customer Breaker Failure Protection (IEEE 50BF). Interconnection Customer shall install a local dedicated breaker failure protective relay on its breaker on the high side of the generator step-up transformer. The 50BF relay shall be coordinated with Transmission Owner in order to trip adjacent substation breakers, in the event the generator breaker fails to successfully open for any reason.
- 2.2 Synchronism Check Relay (IEEE 25). Interconnection Customer shall synchronize the Generating Facility to the Transmission System across the Interconnection Customer-owned breaker installed on the high or low side of the generator step-up transformer. Each generating unit of the Generating Facility, if more than one unit, shall include a synchronism check relay provided by the Interconnection Customer to supervise the automatic or manual synchronization of the unit to Transmission Owner's Transmission System.
- 2.3 Bus Differential Protection (IEEE 87). Interconnection Customer shall provide a dedicated CT input to Transmission Owner bus differential protection scheme to provide coordinated bus differential protection of Transmission Owner 345 kV bus. Such CT shall be placed to ensure that the bus differential protection overlaps the generator bus, step-up transformer's or radial line protection.
- 2.4 Protection Redundancy. In accordance with Good Utility Practice, Interconnection Customer shall design protection schemes such that no single component failure will prevent the isolation of faults and failed equipment. Interconnection Customer acknowledges that meeting this requirement generally means providing redundant or backup protective schemes, with separate sensing sources, separate trip paths, dual trip coils on breakers, separate control power supplies, etc. A single OPGW static wire containing multiple optical fibers for communications will serve both the

primary and backup protection schemes, and meets the redundancy intent of this section.

#### 3. SPECIFIC OPERATIONAL REQUIREMENTS.

- 3.1 System Protection Facilities (Relays As They Relate To Operations). Interconnection Customer shall report all generator protective relay events to the Transmission Owner system control center, immediately following Interconnection Customer's discovery of the event. Interconnection Customer shall provide status indication of automatic voltage regulator equipment.
- **3.2** Communication Requirements. Interconnection Customer will provide any communication protocols for proper function between Interconnection Customer's operating systems and Transmission Owner's operating systems. Interconnection Customer shall pay all fees for such communication facilities and associated monthly services.
- **3.3 Data Reporting Requirements.** Interconnection Customer shall supply all information regarding events and status of equipment within the Facility upon request for any event that noticeably affects the operation of the Transmission System. Interconnection Customer shall provide outage schedules, daily/hourly load profiles, and other data upon request of Transmission Owner.
- 3.4 Emergency Operations, Including System Restoration and Black Start Arrangements. Interconnection Customer is not required to operate as a Black Start Unit as of the effective date of this GIA. However, in accordance with Good Utility Practice, Interconnection Customer agrees to participate when called upon by Transmission Provider or Transmission Owner, in Transmission Owner's Black Start Plan for the Generating Facility and Transmission Owner's Transmission System, as well as any verification testing.
- **3.5** Identified Must-Run Conditions. None noted for this Generating Facility.
- **3.6** Specific Transmission Requirements of Nuclear Units to Abide by All NRC Requirements and Regulations. Not applicable to this interconnection.
- **3.7** Stability Requirements, Including Output. Interconnection Customer agrees to comply with the requirements of the reliability coordinator, Distributed Control Area, Transmission Provider and/or Transmission Owner in the operation of the Generating Facility.
- **3.8 Limitations of Operations in Support of Emergency Response.** Interconnection Customer agrees to comply with the requirements of the reliability coordinator, Distributed Control Area, Transmission Provider and/or the Transmission Owner in the operation of the Generating Facility.

- **4.** Transmission Owner shall provide the "as-built" drawings, information and documents regarding the Transmission Owner's Interconnection Facilities pursuant to Article 5.11 of the GIA.
- 5. Transmission Provider additional Section 8.4 requirements: None

#### Appendix D To GIA

#### Security Arrangements Details

Infrastructure security of Transmission or Distribution System equipment and operations, as applicable, and control hardware and software is essential to ensure day-to-day Transmission and Distribution System reliability and operational security. The Commission will expect all Transmission Providers, market participants, and Interconnection Customers interconnected to the Transmission or Distribution System, as applicable, to comply with the recommendations provided by Governmental Authorities regarding Critical Energy Infrastructure Information ("CEII") as that term is defined in 18 C.F.R. Section 388.113(c) and best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

#### Appendix E To GIA

Commercial Operation Date

This Appendix E is a part of this GIA between Transmission Provider, Transmission Owner and Interconnection Customer.

#### [Date]

Midcontinent Independent System Operator, Inc. Attn: Director, Transmission Access Planning 720 West City Center Drive Carmel, IN 46032

Re: \_\_\_\_\_ Generating Facility

Dear \_\_\_\_\_:

On **[Date] [Interconnection Customer]** has completed Trial Operation of Unit No. \_\_\_\_\_. This letter confirms that **[Interconnection Customer]** commenced commercial operation of Unit No. \_\_\_\_\_ at the Generating Facility, effective as of **[Date plus one Calendar Day]**.

Thank you.

[Signature]

#### [Interconnection Customer Representative]

cc: Transmission Owner

#### Appendix F To GIA

#### Addresses for Delivery of Notices and Billings

#### Notices:

Transmission Provider:

MISO Attn: Director, Transmission Access Planning 720 West City Center Drive Carmel, IN 46032

Transmission Owner:

Northern Indiana Public Service Company Vice President Engineering Electric 801 East 86<sup>th</sup> Ave. Merrillville, IN 46410 Email: jzucal@nisource.com

and

Northern Indiana Public Service Company Managing Director Transmission 801 East 86<sup>th</sup> Ave. Merrillville, IN 46410 Email: mholtz@nisource.com

#### Interconnection Customer:

Rosewater Wind Farm LLC 808 Travis Street, Suite 700 Houston, Texas 77002 Attn: Ryan Brown

#### **Billings and Payments:**

Transmission Provider:

MISO

Attn: Director, Transmission Access Planning 720 West City Center Drive Carmel, IN 46032

#### Transmission Owner:

Northern Indiana Public Service Company Managing Director Transmission 801 East 86<sup>th</sup> Ave. Merrillville, IN 46410 Email: mholtz@nisource.com

#### Interconnection Customer:

Accounts Payable 808 Travis Street, Suite 700 Houston, Texas 77002 Phone: (713) 265-0350 AP.Invoices@edpr.com

#### Alternative Forms of Delivery of Notices (telephone, facsimile or email):

Transmission Provider:

Phone: (317) 249-5700 Email: misotap@misoenergy.org or MISOTransmissionAccessPlanning@misoenergy.org

#### Transmission Owner:

Northern Indiana Public Service Company Managing Director Transmission 801 East 86<sup>th</sup> Ave. Merrillville, IN 46410 Email: mholtz@nisource.com

#### Interconnection Customer:

General Counsel Rosewater Wind Farm LLC 808 Travis Street, Suite 700 Houston, Texas 77002 Phone: (713) 265-0350 Fax: (713) 356-2600 legalnotices@edpr.com

#### Appendix G Interconnection Requirements for a Wind Generating Plant

Appendix G sets forth requirements and provisions specific to a wind generating plant. All other requirements of this GIA continue to apply to wind generating plant interconnections.

#### A. <u>Technical Standards Applicable to a Wind Generating Plant</u> i. <u>Low Voltage Ride-Through (LVRT) Capability</u>

A wind generating plant shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4-9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by the transmission provider. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system. A wind generating plant shall remain interconnected during such a fault on the transmission system for a voltage level as low as zero volts, as measured at the high voltage side of the wind GSU.

2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU.

3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.

4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (*e.g.* Static VAr Compensator) within the wind generating plant or by a combination of generator performance and additional equipment.

5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

### ii. <u>Power Factor Design Criteria (Reactive Power)</u>

The following reactive power requirements apply only to a newly interconnecting wind generating plant that has completed a System Impact Study as of the effective date of the Final

Rule establishing the reactive power requirements for non-synchronous generators in section 9.6.1 of this GIA (Order No. 827). A wind generating plant to which this provision applies shall maintain a factor within the range of 0.95 leading to 0.95 lagging, unless Transmission Provider has established different requirements that apply to all Generating Facilities in the Local Balancing Authority on a comparable basis, measured at the Point of Interconnection as defined in this GIA, if the Transmission Provider's System Impact Study shows that such a requirement is necessary to ensure safety or reliability. The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by Transmission Provider, or a combination of the two. Interconnection Customer shall not disable power factor equipment while the wind plant is in operation. Wind plants shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the System Impact Study shows this to be required for system safety or reliability.

#### iii. Supervisory Control and Data Acquisition (SCADA) Capability

The wind plant shall provide SCADA capability to transmit data and receive instructions from Transmission Provider to protect system reliability. Transmission Provider and Interconnection Customer shall determine what SCADA information is essential for the proposed wind plant, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

#### Appendix H – Not Applicable Interconnection Requirements for Provisional GIA

#### **Provisional Agreement**

This GIA is being provided in accordance with Section 11.5 of the Transmission Provider's GIP, which provides among other things, that an Interconnection Customer may request that Transmission Provider provide Interconnection Customer with a provisional GIA that limits the transfer of energy by Interconnection Customer commensurate with that allowed for Energy Resource Interconnection Service. Interconnection Customer requested Transmission Provider to provide a provisional GIA for limited operation at the discretion of Transmission Provider based upon the results of available studies (by Interconnection Customer and by Transmission Provider).

A Provisional Interconnection Study, the results of which are posted on the confidential portion of the Transmission Provider's internet website, was performed by Transmission Provider in order to confirm the facilities that are required for provisional Interconnection Service and to require them to be in place prior to commencement of service under the GIA.

Interconnection Customer represents that the Interconnection Customer facilities (including Network Upgrades, Interconnection Facilities, Distribution Upgrades, System Protection Upgrades and/or Generator Upgrades) that are necessary to commence provisional Interconnection Service and meet the requirements of NERC, or any applicable regional entity for the interconnection of a new generator are in place prior to the commencement of generation from the Generating Facility and will remain in place during the term of the service. The requisite Interconnection Studies were performed for the Generating Facility. Interconnection Customer shall meet any additional requirements (including reactive power requirements) pursuant to the results of applicable future Interconnection System Impact Studies. Until such time as the applicable Interconnection Studies and any identified facilities are completed, the output of the Generating Facility will operate within the output limit prescribed in a future, if applicable, operating guide.

The maximum permissible output of the Generating Facility under Appendix A will be updated by Transmission Provider on a quarterly basis, determined in accordance with Section 11.5 of the GIP, by finding the transfer limit of energy commensurate with the analysis for Energy Resource Interconnection Service ("ERIS"). This study shall be performed assuming the system topology represented by the base cases used to calculate Available Flowgate Capability, as described in Attachment C of the Tariff, with dispatch and optimization algorithms posted on the MISO internet site and operation above those limits will be deemed as unauthorized use of the Transmission System and subject to provisions in the Tariff surrounding that use.

#### Use of interim operating guide

Implementation of interim operating guide, if applicable, will constitute an interim solution that will permit Interconnection Customer to operate the Generating Facility under conditional Interconnection Service until planned Network Upgrades are constructed. Any interim operating

guide will be subject to the approval of Transmission Owner and Transmission Provider. Minimum requirements for an interim operating guide are as indicated below.

\* Transmission Operator will have control of breaker(s) dedicated to the Generating Facility and will be able to trip the Interconnection Customer's Generating Facility

\* Protection schemes must be tested and operative

\* Interconnection Customer will provide continuous communication capability with the Generator Operator

\* Interconnection Customer and the owner of the existing Generating Facility will enter into an operating agreement or similar agreement which designates, among other things, the responsibilities and authorities of each of the parties and shall be subject to the acceptance of Transmission Provider and Transmission Owner.

\* A termination date consistent with completion of construction of Network Upgrades will be included as part of all operating guides accepted by Transmission Owner and Transmission Provider.

Interconnection Customer assumes all risks and liabilities with respect to changes, which may impact the Generator Interconnection Agreement including, but not limited to, change in output limits and responsibilities for future Network Upgrade and cost responsibilities that have not yet been identified on the direct connect Transmission System as well as all affected Transmission, Distribution or Generation System(s) including non-Transmission Provider Systems. Such upgrades will be determined pursuant to the Tariff and Policies in effect at the time of the Interconnection Studies.

#### Appendix I – Not Applicable Requirements Applicable to Net Zero Interconnection Service

Where this GIA provides for Net Zero Interconnection Service, Interconnection Customer acknowledges, agrees to, and will be required to operate under the following conditions:

 The combined Real-Time Offers, including Energy and Operating Reserves, of the Generating Facility and the existing generating facility with which Interconnection Customer has an executed Energy Displacement Agreement must be less than or equal to Interconnection Service limit (MW, MVAR, MVA output) provided in Exhibit I-1 (Monitoring and Consent Agreement) (hereinafter, "Interconnection Service limit"). In the event that the sum of the simultaneous energy output of the Generating Facility and the existing generating facility exceeds such Interconnection Service limit, MISO reserves the right to curtail and/or disconnect the Generating Facility immediately.

In the event that the sum of the emergency and/or economic maximum offer limits of the Generating Facility and the existing generating facility exceeds the Interconnection Service limit, MISO reserves the right to curtail and/or disconnect the Generating Facility immediately.

- 2) The total MW, MVAR, MVA output at the Point of Interconnection resulting from the combined output of the Generating Facility and the existing generating facility with which Interconnection Customer has an executed Energy Displacement Agreement shall not at any time exceed the Interconnection Service limit.
- 3) The existing generating facility with which Interconnection Customer has an executed Energy Displacement Agreement is not relieved of any applicable requirements under the RAR of the Tariff.
- 4) The Interconnection Customer shall submit to the Transmission Provider a report by the seventh Calendar Day of each month showing the prior month's output, by 15 minute increment, the combined real-time offers and cleared energy injection. The existing generating facility and the Interconnection Customer shall cooperate consistent with other provisions in the Tariff to the extent necessary to ensure accuracy of the report. Transmission Provider shall provide a template for this report.

#### Exhibit I-1 (Completed Monitoring and Consent Agreement - Appendix 11 of the GIP)

#### Exhibit I-2 (Completed Energy Displacement Agreement - Appendix 12 of the GIP)

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FILED February 1, 2019 INDIANA UTILITY REGULATORY COMMISSION

Figure 1 – January 2019

RoseWater Wind Generation LLC (Joint Venture) enters into agreements with EDPR (Developer) to build Rosewater Project (Wind Farm)



The Joint Venture enters into the BTA with the Developer to build the Rosewater Project. NIPSCO also enters into the BTA PPA with Rosewater Wind Farm LLC (ProjectCo) to be the sole off-taker of energy from the project.

#### Figure 2 – December 2020



Upon completion of construction, EDPR, Tax Equity Partner and NIPSCO contribute cash to the Joint Venture. The Joint Venture uses the cash to acquire the ProjectCo from EDPR. The ProjectCo commences operations and sells output from the project to NIPSCO under the terms of the BTA PPA.

#### Figure 3 – Mid-2023



In mid-2023, NIPSCO purchases the EDPR membership interest in the Joint Venture. NIPSCO continues to pay the ProjectCo for the output of the project under the terms of the BTA PPA. This arrangement continues until the Tax Equity Partner reaches the specified IRR or the BTA PPA is terminated in 2035. FILED February 1, 2019 INDIANA UTILITY REGULATORY COMMISSION

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## ANNUAL REPORT 2017

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We are energy at every stage of our daily journey. Energy that transforms itself, reinvents itself and takes on different forms.

An energy that lives within us, a universal language, a force that moves us and drives us ever further.

A living energy that envelops us, that innovates and with which – through small actions – we can bring about change together.

The energy that resides in every one of us is contagious and is all around us: in an embrace, when we turn on a light, in our homes, in the street, everywhere.

A living energy that we continuously harness to tell a story of the present, all while building the foundations of the future.

The Living Energy Book.



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# MESSAGE FROM E

Dear Shareholder,

The 2017 year made clear that the energy sector is undergoing significant changes. These changes are in line with our focus in recent years, which makes me confident that, with the collaboration of all our stakeholders, EDPR will rise to the challenge and show why we are a world leader in renewable energy production and sustainability.

Today, we are certain that the energy sector of the future will be characterized by four key factors: decarbonization, digitalization, downstream and disclosure.

Decarbonization has become an unstoppable trend and electrification based on renewables plays a central role in achieving our ambitious goals for clean energy. We believe that the energy supply sector can be carbon-neutral by 2050. We were pioneers in our commitment to renewables, and today our leading position in the sector places us at the forefront among utilities.

Digitalization has had major implications in all sectors, creating deep disruptions in the most traditional business models and prompting changes throughout our value chain, from the operation of our assets to the way we relate to our customers and the way we work. We have several ongoing digital initiatives and a strong record across the different countries where we operate and we aim to be leaders in this area.

In what we call the "new Downstream," we are now seeing customers who are more informed, more technologically savvy and more demanding. Customers' role is shifting from that of mere consumers to that of a producers and managers of their own energy. This new paradigm not only has implications for the type of supply, but also attracts competitors from other sectors. As a company and as a group, EDP quickly understood the importance of placing the customer at the core of everything we do.

Lastly, we know that in the interest of society, it is not enough for companies merely to be profitable. Each year we see a trend of companies increasing their disclosure of information and being fully open and transparent in their relations with all stakeholders. For example, in 2017, over 1,300 companies disclosed to the Carbon Disclosure Project their current practices or plans to use internal carbon pricing, up from 150 companies in 2014. At EDP Group, we pride ourselves on being pioneers in this movemet. We began reporting in 2009, and since then have always acted with total transparency in accordance with the most respected standards of sustainability, whether environmental, social or ethical, or related to corporate governance and investor relations.

But we do even more to ensure the transparency of our operations and to contribute to the sustainability of our world. This is a core value for us. For that reason, we are signatories of the United Nations Global Compact initiative, which establishes ten criteria in the areas of human rights, labor, employment, environment and anti-corruption. In 2017, EDP Group was recognized for the sixth consecutive year as one of the most ethical companies in the world. And. in its 2017 list of the World's Most Ethical Companies, the Ethisphere Institute identified EDP Group as one of only six from the Energy & Utilities sector among 124 companies from 19 countries recognized. In addition, EDP Group received its highest score yet on the Dow Jones Sustainability Index, maintaining its 10th-place position in the World Index. It was also recognized in 2017 as the first fully integrated company.

We are committed to continuing to lead the discussion on the sector's future and to continuing to invest in order to make this sector a positive contributor to our society.

EDPR's strategy has been based on three key pillars: focused growth, self-funding and operational excellence. And while we know that this is the best strategy to take our company forward, we are still able to adapt our strategy to the evolution of markets and technology. 2017 showed us, once again, that we are on the right track.

This past year we created additional growth opportunities, mainly through the creation of a dedicated platform for developing offshore wind. The levelized cost of energy for this technology has decreased by 50% in recent years and we expect, given the technological developments we are witnessing, to see an additional 50% decrease by 2030. But our reasons for investing in offshore wind go far beyond the falling costs. We do it because it is a clear fit with our strategy, due to its steady cash flows with acceptable risk, asset liquidity in specific countries and the fact that it leverages capabilities we already have within EDPR.

In Brazil, we won an A-6 onshore wind auction, and we began operations on a solar farm in the United States.

In terms of our self-funding strategic principle, we continued to take actions to maintain the strength of our balance sheet, namely by maintaining our asset rotation policy and executing tax equity deals. And we will consider new approaches such as the build-and-transfer model or the sell-down of majority stakes, when appropriate.

EDPR also remained focused on preserving its push for greater operational excellence. We believe in innovation and our technical teams are always looking for ways to become more efficient. We are sure that digitalization will be crucial to improving the availability of our assets and their lifespan.

Supported by our strategy, EDPR was able to deliver its best financial results since the IPO and reinforce its role as the main growth platform within EDP Group.

Maintaining our diversification strategy, EDPR incremented its installed capacity to a total of 11,007 MW (+6% year-on-year) in 2017.

Consequently, EDPR's EBITDA saw a significant increase of 17% to reach €1,366 million. Most importantly, the Retained Cash Flow, or net cash generated by our assets, also improved considerably this year. In 2017 we reached a total of €1,114 million, which represents a 35% year-on-year recurrent increase. As such, EDPR achieved a clearly positive Net Income of €276 million versus €56 million in 2016.

All in all, we believe that EDPR's performance in 2017 was very strong on all levels and demonstrates how the company was able to define a very clear set of strategies and execute them to achieve the desired goals.

EDPR's board plans to propose an increase of the dividend per share distribution to  ${\rm €0.06}$  at the General Shareholders' Meeting.

All of this was only possible with the key contributions from EDPR's team. Their drive to contribute to the company's success and their imaginative ways to get the job done are essential for the overall success of EDPR and ultimately, EDP Group. Because of EDPR's people and their great diversity - our employees hail from 34 countries - the company is able to learn faster, anticipate challenges better and act with flexibility.

I would also like to recognize the role of the company's corporate bodies, namely my fellow members of the Board of Directors, for their full support during the year.

Lastly, a word of thanks to other stakeholders, from shareholders to business partners, government entities and regulators. They are - and will continue to be - a significant force in EDPR's future.

Yours sincerely,



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# INTERVIEW WITH THE GEO

# Q1 What are the key takeaways of EDPR's 2017 performance?

**A1:** The key message is that EDPR, once again, was able to execute its strategy and achieve its goals. And we did it in an environment that is increasingly more demanding. Amid several challenges, such as increased competition, regulatory uncertainty and tax reforms, our team was able to achieve very strong financial results. And we also crated growth opportunities to ensure that we achieve our long term targets. My first word goes to our great team, across all our geographies, that did a very good job.

# Q2 Picking up on the financial results, what is more relevant in your point of view?

**A2:** From an operational point of view, in 2017, we were able to add 600 MW to our installed capacity, therefore finishing the year with 11,007 MW. This represented an increase of 6% versus 2016, which is significant. Our operation in North America was a strong contributor to this growth, with 424 MW entering into operation, but it is also important to mention the additional 127 MW that are now operating in Brazil. This is evidence of our capacity to diversify our strategy. On what regards electricity production, we produced a total of 27.6 TWh up 13% from our 2016 production, which was also a positive outcome. As a result, our net revenues increased by 11% to a total of €1,827m, from €1,651m in 2016.

In addition to the increased capacity, the positive evolution in revenues was explained by the higher load factor, that increased to 31.0% overall from 29.6% in

2016 (+1.4 p.p.). This was more than compensated by a slight price reduction of 2%, to  $\in$ 59.2 per MWh, having EDPR kept its hedging policy, which minimizes our exposure to the merchant markets. On the other hand, we continued to guarantee a distinctive performance of our assets, by achieving a 97.8% rate of energy availability, higher than 2016 and well above our 97.5 % target.

Looking at the financial results, we were able to reach a strong EBITDA of €1,366m. This represents an increase of €196m versus 2016, when the EBITDA was at €1,171m. This number was possible due to the already mentioned capacity growth in the United States and Brazil and also to our continuous efforts to become more efficient. In 2017 our Core Opex/Avg. MW decreased by 2%, which is better than our 1% annual reduction target until 2020.

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We were able to add 600 MW to our installed capacity, therefore finishing the year with 11,007 MW. This represented an increase of 6% versus 2016.

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One metric that we value highly, the Retained Cash Flow, which is the net cash generated by our assets, also improved significantly this year. While in 2016 we reached  $\notin$ 698m of Retained Cash Flow, in 2017 we increased that amount by  $\notin$ 416m, to a total of  $\notin$ 1,114m. I would like to reinforce the importance of this metric because this is the amount, at the end of the day, that we have available for reinvestment, deleverage or distribution to our shareholders. By lowering the cost of debt in 2017, and optimizing our project finance position, we were able to achieve savings of approximately  $\notin$ 40m. This is also a significant outcome of 2017.

On what regards the net income, given the positive impact of other lines in the profit and loss account, we reached a net income attributable to EDPR's shareholders of €276m, which compares positively to the 2016 result of €56m. Considering recurrent Net Income, we achieved a result of €226m, 36% higher year on year.

Overall, on the financial side, EDPR was able to deliver a very strong result.

# Q3 Putting aside the financial results, what would you like to reinforce about EDPR's strategy?

**A3:** EDPR's strategy is well defined. Our long term plan is to be a world leader in renewable energy sources such as wind onshore, wind offshore and solar. To achieve this we will keep the same strategic pillars that have guided us to here: Selective growth, self-funding business and operational excellence.

We believe that the world will keep moving towards renewable energy, and that is where we want to lead. In 2017 we took strong steps, not only to reinforce our position, but also to create additional avenues of growth for the company.

On what regards North America, we still consider it to be our key growth market, with long term contracts. In 2017 we were able to secure PPA's for 450 MW, between wind and solar, in the United States and Canada. Furthermore, we fully expect to comply with our business plan targets. 86% of our 2020 target is already secured with PPA's and we made investments under the safe harbor to secure options that cover more than our announced target.

On solar, we installed a solar farm of 60 MW, in South Carolina. Unfortunately, further solar development in the United States was temporarily hindered by the Suniva case. The recent decision to introduce import tariffs might affect short-term solar growth in the country, but market fundamentals are still strong.

Regarding Europe and Brazil, we are very close to achieve the growth target set up in the business plan for wind onshore. Our focus now will be in creating additional growth opportunities either in wind or solar PV, based in long term power sale contracts. In Europe, France and Italy are the markets where we expect to accelerate our growth on the short term, taking advantage of our development capacity, both for wind and solar. 11

We believe that the world will keep moving towards renewable energy, and that is where we want to lead. In 2017 we took strong steps, not only to reinforce our position, but also to create additional avenues of growth for the company.

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Nonetheless, we actively search for investment opportunities in other geographies such as Portugal and Spain, where we have assets under construction. In Brazil, it is important to mention the A-6 2017 auction, where we secured 20-year PPA's for 218 MW. Commercial operations are expected to occur in January 2023.

In wind offshore we were awarded a Contract for Difference for the delivery of 950 MW of generation on our Moray Offshore Windfarm, in the UK. And, at the same time, we progressed further in developing our windfarms in France, Le Tréport & Noirmoutier, which add to 1 GW of generation capacity. Both these projects are joint ventures with strategic partners, but more importantly, we have secured Long Term Tariff contracts for their energy output. Given the relevance of wind offshore within our business we decided to create a specific organizational platform to support the development of this technology within EDPR, and we have a very qualified team focused in the construction of the wind farms we have and on scouting the market for new opportunities.

In conclusion, we are focused in developing selective and value accretive growth opportunities, with key priority to do it in geographies where we are already present. Nonetheless, we are paying attention to other geographies, where a market for potential private PPA's develops.

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In wind offshore we were awarded a Contract for Difference for the delivery of 950 MW of generation on our Moray Offshore Windfarm, in the UK

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#### Q4 You mentioned before one of the key strategic pillars of EDPR's strategy, to be a self-funding business. How will EDPR manage to grow and respect this principle?

**A4:** One of the cornerstones of EDPR's strategy is to maintain a solid balance sheet. To achieve this goal, we believe that our growth should be mainly funded by our own operational cash flow, complemented by tax equity and asset rotation operations.

This year, as I already mentioned, the retained cash flow rose to this year to of €1.1bn which is a very significant outcome. In addition, we attained outstanding results with tax equity funding, by executing a transaction of \$507m, with better financial conditions that in previous years, after the execution of the recent Tax Reform. On the other hand, the asset rotation program together with the sale of minority stakes has also been critical to complement the overall strategy, yielding €2.7bn since 2012, when we designed and started to execute this pioneering strategy. The asset rotation strategy, allows us not only to reinforce our balance sheet but also to finance accretive growth.

While this assets rotation strategy has been very successful, the market and the investors are becoming increasingly diversified, so we do not exclude complementary approaches such as the build and transfer model or sell-down of majority stakes, in geographies where it may make sense. It is something that we should be comfortable to discuss, if the right opportunity arrives. Nonetheless, key for any of these potential self-funding strategies, is that we are able to find quality assets and that we develop them efficiently.

# Q5 You already detailed some of the challenges the company is facing. Can you elaborate on that?

**A5:** Before going into that, it is important to make something very clear. Wind onshore, wind offshore and solar technologies are virtually unstoppable. There is no turning back. Today, wind onshore and solar are more competitive than gas and coal-fired plants in many places. More than that, we see a huge support for renewable energy across the globe, because people know that this is critical to face climate change. So, despite the challenges that we face on a yearly basis, in different countries and with different background and dynamics, we should rest assured that we are in the sector of the present and the future.

Elaborating on some challenges, and as mentioned before, I believe that regulatory uncertainty is one of the challenges that we face, in some geographies where we operate. And we are actively managing those risks in collaboration with our key stakeholders. Nevertheless, as the framework is increasingly market based, the trend is to have a progressively lower regulatory risk.

Then we have distributed generation. Although we understand its value, mostly because of the empowerment it provides to customers, we also see some challenges in the way distributed generation is being deployed around the world. Nonetheless, we need to look at the opportunity that this will create to efficient centralized plants... and we hold top tier assets in what relates to efficiency. Lastly, we are facing increased competition, including non-utility players that want to be players in this market. Given the specific financial conditions of some of these new entrants, the levels of return are being pressured. This is why we have been so adamant in diversify our portfolio, because only by doing that we can ensure that we have the necessary growth opportunities to design a sustainability path for our company.

# Q6 What do you believe to be distinctive between EDPR and other European utilities?

**A6:** I believe that several factors contribute to make EDPR distinctive from its competitors.

First, EDPR is present in all of the different phases of the value chain. We develop, we build and we operate wind and solar assets. More than that, we excel in our operations due to the excellent quality of our teams. Because we are good at what we do, we believe on the internalization of core activities, through our modular maintenance and self-perform models, for the wind-farms in which the full scope contracts already expired. Also, partially due to our self-funding strategy, we have a very solid balance sheet that is able to support the continuous growth of our operational footprint. Lastly, EDPR, as a renewable energy company, creates great expectations in its stakeholders about Sustainability. Responding to these expectations the company keeps committed to excel in all three pillars of sustainability - economic, environmental and social - implementing a strategy of best practices defined in our 2016-2020 Sustainability Roadmap.

To this factors, we need to add our values as a company, which I believe are pillars to what makes us distinctive. We believe that anticipation, flexibility and respect towards all our stakeholders are intrinsic values to our company. And we have been proving this to be true, by investing in renewable energy before others, by having a flexible investment strategy that allows us to quickly allocate investment where market condition are better and by supporting our local communities.

All of this translates to EDPR being a trustworthy company.

#### Q7 You mentioned that Sustainability is at the core of EDPR values. What can you highlight as the main achievements of 2017 in terms of Sustainability?

**A7:** Sustainability is at the core of our values and while having a global vision, we take pride in addressing local and global issues.

We are focused on improving Health & Safety ratio within the company. In 2017, the number of accidents registered for employees and contractor personnel reduced by 40%, due to a greater focus on a proactive approach plus the realization of the benefits from OHSAS certification. While this is a good result, we still have not reached our main goal, which is to have zero accidents.

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## Locally, our teams provide strong support to the communities where we are inserted. 2017 was a hard year in terms of natural disasters such as Hurricane Harvey and fires in Portugal Facing those difficult moments, we took immediate actions.

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Locally, our teams provide strong support to the communities where we are inserted. 2017 was a hard year in terms of natural disasters such as Hurricane Harvey and fires in Portugal. Facing those difficult moments, we took immediate actions. In North America, we helped after Hurricane Harvey, providing among others, housing assistance, additional paid volunteer time and donations to charities. But we also try to be preventive, by reinforcing our commitment to biodiversity, approving a Forest Fire Prevention Plan that includes investment in partnerships with Local Communities in Spain and Portugal.

The preservation of the natural resources is one of the main concerns of EDPR. This is why the company is constantly promoting and searching new ways to create the perfect symbioses between its activities and the environment. For example, we are trying to tackle one of the main challenges of the industry, which is the lack of techniques to recycle wind turbine blades. If we are able to achieve this, we would be turning the wind business into a circular economy cycle, based on principle such as material and energy reduction, reutilization, recuperation and recycle. Note that, according to the Life cycle Assessment of EDPR's main turbine suppliers, 80% to 90% of a turbine is recyclable. We are working with a startup - Thermal Recycling of Composites - to support the development of the R3FIBER technique, a viable, maximum-efficiency system for recycling wind turbine blades and implement a wind turbine blade recycling program.

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We will be flexible, to make sure that we are able to differentiate our product from our competitors, and that we dominate and take advantage of new technologies such as solar photovoltaic and offshore. And doing so while we increase our efficiency.

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Q8 We are witnessing a strong technological disruption across several industries. How do you see this impacting EDPR?

**A8:** We see this as an excellent opportunity to solidify the renewable energy production sector, by further lowering CAPEX and OPEX costs.

In particular, we are strengthening our data analysis capabilities, which can be impactful on what concerns the operational costs decrease, by achieving better results on predictive maintenance and accelerating the execution of corrective maintenance. We expect energy management to be highly impacted by a an increased ability to better analyze data, an opportunity that is clearly driven by new technologies. Also, we see a lot of potential in robotic process automatization, given the significant cost reduction and increased quality control it provides.

Also, we must not ignore the integration between renewable technology and batteries, in addition to hybrid farms. For these initiatives it is critical to be able to execute pilots, that will help us to escalate our ideas to a commercial viable product, only and only if, the market and regulatory frameworks are supportive.

It is important to mention that this analysis of new technologies is fully aligned with the digitalization effort of the EDP Group and is a core pillar of our Innovation culture.

# Q9 What are the key perspectives for the future of EDPR?

**A9:** On the long term, I am very confident given that EDPR is a leader in a market that is the future of energy production. Climate Change is a reality, and it is our duty to further develop renewable energy to mitigate the impacts on climate. There is no doubt that, when in 2008 we began this journey, we made the right decision. Having said this, we know that there are short-term challenges that we need to overcome. And the best way to do it is to maintain loyal to the strategic principles that have brought us to this position of leadership, while maintaining a low risk profile.

We will be flexible, to make sure that we are able to differentiate our product from our competitors, and that we dominate and take advantage of new technologies such as solar photovoltaic and offshore. And doing so while we increase our efficiency.

With the support from all our stakeholders, specially our team and shareholders, I am sure we will be successful.





# THE COMPANY

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# THE LIVING ENERGY BOOK

# **01 THE COMPANY**

# **1.1. EDP RENOVÁVEIS IN BRIEF**

1.1.1. VISION, MISSION, VALUES AND COMMITMENTS



A global energy, renewable company, leader in value, creation, innovation and sustainability.



Aim to be a long-term market leader in the renewable energy sector, pursuing credibility through safety, value creation, social responsibility, innovation, and respect for the environment.

# VALUES VI IN IN COMMITMENTS

#### INITIATIVE

through behaviour and attitude of our people.

TRUST of shareholders, employees, customers, suppliers and other stakeholders.

#### **EXCELLENCE**

in the way we perform.

#### INNOVATION

to create value in our areas of operation.

#### SUSTAINABILITY

aimed at the quality of life for current and future generations.

- We join conduct and professional rigour to enthusiasm and initiative emphasizing team work.
- We listen to our stakeholders and answer in a simple and clear manner.
- We surprise our stakeholders by anticipating their needs.
- We ensure the participatory, competent and honest governance of our business.
- We believe that the balance between private and professional live is fundamental in order to be successful.
- We fulfil the commitments that we embraced in the presence of our shareholders.
- We place ourselves in our stakeholder's shoes ٠ whenever a decision has to be made.
- We promote the development of skills and merit.
- We are leaders due to our capacity of anticipating and implementing.
- We avoid specific greenhouse gas emissions with the energy we produce.
- We demand excellence in everything that we do.
- assume the social and environmental We responsibilities that result from our performance thus contributing towards the development of the regions in which we are operating.

#### **1.1.2. EDPR IN THE WORLD**

#### In 2017 EDP Renováveis generated 27.6 TWh avoiding the emissions of 22 mt of CO2.

EDPR is a market leader with top quality assets in 12 countries, managing a global portfolio of 11.0 GW of installed capacity, 828 MW under construction and much more in pipeline development, employing 1,220 employees.

Employees





ANNUAL REPORT EDPR 2017

#### **1.1.3. BUSINESS DESCRIPTION**

EDPR renewable energy business grossly comprises the development, construction and operation of wind farms and solar plants to generate and deliver clean electricity.



#### **1.1.4. STAKEHOLDERS FOCUS**

EDPR has a strong commitment in engaging with all its stakeholders. Based on the group's policies, the company aims to be innovative and forward-looking in the way it manages its relationships with employees, suppliers, local communities, investors, media, financial institutions and others. The following image represents the Stakeholders Groups allocated to the four categories:



EDPR follows four commitments when interacting with the stakeholders: Comprehend, Communicate, Collaborate and Trust. These belong to a comprehensive plan that involves all business areas and uses cross-functional tools.

### Comprehend

Include, identify and prioritize:

EDPR regularly identifies the stakeholders that influence the company and works to analyze and understand their expectations and interests in the decisions that directly impact them.

# Communicate

Inform, listen and respond:

Committed in promoting a two-way dialogue with stakeholders through information and consulting initiatives is part of a EDPR's objective. This can be attainable by listening, informing and responding to stakeholders in a consistent, clear, rigorous and transparent manner, resulting in a strong, meaningful and lasting relationship.

## Collaborate

Integrate, share, cooperate and report:

EDPR aims to collaborate with stakeholders by building strategic partnerships that aggregate and disperse knowledge, skills and tools. These will promote the creation of shared value in a differentiating way.

# Trust

Transparency, integrity, respect and ethics:

One of the company's beliefs is the importance of a trustworthy relationship with the stakeholders in establishing stable, long-term relationships. These relationships with the stakeholders are based on values like transparency, integrity and mutual respect.

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The governance of this methodology is institutionalized through the two main groups: **Stakeholder Steering Committee** and **Working Group**, followed by a system: **CRM**. The **Stakeholder Steering Committee** and **Working Group** include an heterogeneous group of members from different areas of the company. The first cluster is composed with leaders in touch with each Stakeholder group and with a more strategic view. This group was created to establish the Stakeholders Management Plan, monitor progress and evaluate results. While the second cluster, is in charge of enacting the committee's plans, make the ideas operational and impactful. The inclusion of a digital tool (**CRM**) in this plan, has the objective to facilitate deployment, internal knowledge-sharing and follow-up, as well as monitoring.



#### MAIN COMMUNICATION CHANNELS

The communication channels play a key role in managing the relations with the stakeholders. To ensure continuous dialogue and a close relationship with them, EDPR uses the most effective channels to identify and manage expectations, minimizing and ensuring better control of the risks allocated to each stakeholder group. To clarify, EDPR has enumerated the main channels of each group of the four main categories.

#### MARKET

Financial Entitles	Website, Quarterly & Annual Reports and Presentations Meetings & Inquiries
Competitors	Website, Events & Conferences
Investors & Shareholders	Website, Quarterly & Annual Reports and Presentations Meetings, Investor Day & Roadshows Inquiries
VALNE CHAIN	
Employees and Trade Unions	Employees internal communications & Surveys Intranet, Magazine, Newsletter, HR App & Corporate TV Annual Meeting, Training & Surveys
Suppliers	Meetings, Emails Surveys & Inquiries
Scientific Community	Corporate Social Responsability Programs Meetings & Events
Offtakers	Meetings, Reports & Updates

Rosewater Wind Farm LLC Attachment RJB-8 Page 029 THE LIVING ENERGY BOOM

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## DEMOCRACY

**Public Authorities and Regulation** 

**Parliament & Political Parties** 

Interactions, Events & Meetings

Authorities)

Interactions, Events & Meetings (with Regulators & Tax

**International Institutions** 

Interactions, Events & Meetings

# SOCIAL + TERRITORIAL ENVIRONMENT

NGOs	Corporate Social Responsibility Events, Meetings & Events		
	Local presence, meetings, Sponsorships		
	Visits to the wind-farms & Inaugurations		
Local Communities	Website, Conferences		
	Meetings		
	Surveys & Inquiries		
Municipalities	Events & Corporate Social Responsibility Events		
Media and	Meetings & Events		
Opinion Makers	Website, Conferences		

The communication channels are the center of stakeholder management, by allocating to each group a specific and tailored communication channel, alongside with the results of the Stakeholders Global Survey, EDPR can effectively identify perceptions, expectations, value drivers and behaviors of each stakeholders. This way, the company can keep improving each year in order to reach a better communication relationship between the stakeholder groups. Through these channels, EDPR has registered 29 complains during 2017 regarding society impacts, most of them related to possible interferences with TV signal in France. All of them with related cost corrective actions valuated in €7k.

This year, EDPR completed a Stakeholder Management Plan cycle with the possibility of comparing results regarding the previous year. This comparison of the performance and the monitoring evolution provided a developed perspective on stakeholder management, as well as on medium-term planning and policies. Furthermore, the accomplishment of the cycle provided essential information to drew up renewed and improved guidelines for stakeholder value management of the following year.

2016 2015 Performance Survey Report Kick-off Stakeholder Management Plan



2016 Performance Survey and Self Assessment 1<sup>st</sup> full year of ongoing Management Plan + new CRM system

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#### **1.1.5. SUSTAINABILITY ROADMAP**

At a global level, Sustainability is framed by 17 Sustainable Development Goals defined by the United Nations for the 2015-2030 horizon. In the development of its commitments, EDPR will guide its contributions by 2030 in eight of the seventeen Sustainable Development Goals.

EDPR, as a renewable energy company, creates great expectations in its stakeholders about Sustainability. Responding to these expectations and aligned with EDPR's contribution to the SDGs, the company keeps committed to excel in all

United Nations Sustainable Development Goals (SDGs)	Sustainability Roadmap Strategic Lines (2016-20)	
Affordable and Clean Energy Climate Action	Maintain leadership position in RENEWABLE ENERGY PRODUCTION	
Decent Work and Economic Growth	CREATE VALUE while maintaining a LOW RISK profile	
EB Life on Land	Optimize ENVIRONMENTAL MANAGEMENT	
(o)	Maintain CIRCULAR ECONOMY in the internal management of the operations	Constant of the second
Responsible Consumption and Production	Ensure a high SAFETY STANDARDS for employees and contractors	
တို Gender Equality	Ensure a high standard ETHICAL PROCESS	
	Broaden and harmonize the mechanisms of periodic consultation of STAKEHOLDERS	
Sustainable Cities and Communities	Support SOCIAL AND EDUCATIONAL INITIATIVES through Fundación EDP	
	Invest in employees DEVELOPMENT and ensure continued compromise with society through VOLUNTEERING	
다 비미 미dustry, Innovation and Infrastructure	Promote INNOVATION in operation and construction phases	

three pillars of Sustainability namely the economic, the environmental and the social - defining a strategy of best practices. Following a culture of continuous improvement, 10 Sustainability goals were defined within the 2016-2020 Business Plan.

This roadmap brings together the three sustainability pillars and is laid down in 10 different areas: Operational growth, Risk controlling, Economic value creation, Environment, Value circle, People, Governance, Stakeholder Engagement, Innovation and Society. Defined goals make performance measurable to help drive the company as a growing leader in value creation, innovation and sustainability.



<sup>2</sup> In 2017 there was one communication to the Ethics Ombudsman through the Ethics Channel. However, it was decided to reject this claim as it was not considered as an issue related to the Code of Ethics.

ANNUAL REPORT EDPR 2017

#### 1.2. 2017 IN REVIEW

#### **1.2.1. KEY METRICS SUMMARY**







#### ANNUAL REPORT EDPR 2017

#### **1.2.2. SHARE PERFORMANCE**

#### In 2017, EDPR share price closed at €6.97 with an average daily volume of 1.65 million shares.

EDPR has 872.3 million shares listed and admitted to trading in Euronext Lisbon. On December 29<sup>th</sup>, 2017 EDPR had a market capitalization of €6.1 billion, above the €5.3 billion at previous year-end, and equivalent to €6.97 per share. In 2017 total shareholder return was +16%, considering the dividend paid on May 8<sup>th</sup> of €0.05 per share.

#### Indexed EDPR share performance vs. PSI20 & SX6E



EDPR IN CAPITAL MARKETS	2017	2016	2015	2014	2013
Opening price (€)	6.04	7.25	5.404	3.86	3.99
Minimum price (€)	5.71	5.70	5.30	3.87	3.58
Maximum price (€)	7.20	7.28	7.25	5.70	4.36
Closing price (€)	6.97	6.04	7.25	5.40	3.86
Market capitalization (€ million)	6,077	5,265	6,324	4,714	3,368
Total traded volume: Listed & OTC (million)	421.94	291.07	289.22	396.84	448.15
of which in Euronext Lisbon (million)	101.63	103.50	109.67	149.48	200.29
Average daily volume (million)	1.65	1.13	1,13	1.56	1.76
Turnover (€ million)	2,744.04	1,828.34	1,824.08	1,976.41	1,759.20
Average daily turnover (€ million)	10.76	7.11	7.13	7.75	6.90
Rotation of capital (% of total shares)	48%	32%	33%	46%	51%
Rotation of capital (% of floating shares)	215%	141%	148%	205%	229%
Share price performance	15%	-17%	34%	40%	-3%
Total shareholder return	16%	-16%	35%	41%	-2%
PSI 20	15%	-12%	+11%	-27%	+16%
Down Jones Eurostoxx Utilities	16%	-8%	-5%	+12%	+9%



1 Spanish interim regulatory revision for wind energy assets, 22-Feb

- 2 EDPR sale a minority stake in PT assets to CTG, 27-Feb
- 3 EDPR FY16 Annual Results release, 28-Feb
- 4 EDP: General & Voluntary Tender Offer over EDPR shares, 27-Mar
- 5 EDPR Annual Shareholders' Meeting, 6-Apr
- 6 EDPR 1Q17 Volumes and Capacity Statement release, 18-Apr
- 7 EDPR Board of Directors Report on EDP Tender Offer, 24-Apr
- 8 EDPR 1Q17 Annual Results release, 3-May
- 9 EDPR payment of dividend (€0.05 per share), 8-May
- 9 EDPR payment of dividend (€0.05 per share), 8-May
- 10 Completion of the sale of a minority stake in PT assets to CTG, 30-Jun  $\,$
- 11 EDPR sale a 23% stake in UK wind offshore project, 7-Jul
- 12 EDPR 1H17 Volumes and Capacity Statement release, 11-Jul

- 13 EDPR established new Tax Equity structure in the US, 18-Jul
- 14 EDPR 1H17 Results release, 26-Jul
- 15 EDP notifies qualified shareholding in EDPR, 8-Aug
- 16 EDPR secures a 75 MW L-T contract in Indiana, US, 16-Aug
- 17 EDPR JV is awarded with L-T CfD for 950 MW of wind offshore in UK, 11-Sep
- 18 EDPR informs about change in corporate bodies, 26-Sep
- 19 EDPR 9M17 Volumes and Capacity Statement release, 17-Oct
- 20 EDPR 3Q17 Results release, 31-Oct
- 21 EDPR is awarded a L-T RESA for 248 MW of wind onshore in Canada, 14-Dec
- 22 EDPR is awarded with L-T contracts for 218 MW of wind in Brazil, 20-Dec
- 23 EDPR announces 2018 Financial Calendar, 28-Dec
- 24 EDPR completed \$507m of TEI in the US for all its 2017 projects, 29-Dec



## **1.3. ORGANIZATION**

#### **1.3.1. SHAREHOLDERS**

# EDPR shareholders are spread across 21 countries. EDP ("Energias de Portugal") is the major one holding 82.6% of the share capital since the General and Voluntary Public Tender Offer closed in August 2017

EDPR total share capital is, since its initial public offering (IPO) in June 2008, composed of 872,308,162 shares issued with a nominal value of five euros each, fully paid. All these shares are part of a single class and series and are admitted to trading on the Euronext Lisbon regulated market.

#### MAJOR SHAREHOLDERS, THE EDP GROUP

The majority of the company's share capital is owned by EDP Group, holding 82.6% of the share capital and voting rights, since the General and Voluntary Public Tender Offer closed in August 2017, where EDP Group acquired 5.03% of EDPR's share capital and voting rights. EDP Group is a vertically integrated utility company, the largest generator, distributor and supplier of electricity in Portugal, has significant operations in electricity and gas in Spain and is one of the largest private generation group in Brazil through its stake in Energias do Brasil. In the Iberian Peninsula, EDP is the third largest electricity generation company and one of the largest distributors of gas. EDP has a relevant presence in the world energy outlook, being present in 14 countries and close to 12,000 employees around the world. In 2017, EDP had an installed capacity of 26.8 GW, generating 70 TWh, of which 39% come from wind. EDP is part of sustainability indexes (DJSI World and Europe), following its performance in the economic, social and environmental dimensions. Its holding company, EDP SA, is a listed company whose ordinary shares are traded in the Euronext Lisbon since its privatization in 1997.

#### **OTHER QUALIFIED SHAREHOLDERS**

Besides the qualified shareholding of EDP Group, MFS Investment Management an American-based global investment manager formerly known as Massachusetts Financial Services - communicated to CNMV in September 2013 an indirect qualified position, as collective investment institution, of 3.1% in EDPR share capital and voting rights.

#### **BROAD BASE OF INVESTORS**

EDPR has an international base of investors. Excluding EDP Group, EDPR shareholders comprise more than 33,500 institutional and private investors spread worldwide. Institutional investors represent about 99% of EDPR investor base (ex-EDP Group), while the remaining 1% stand private investors, most of whom are resident in Portugal. Within institutional investors, investment funds are the major type of investor, followed by sustainable and responsible funds (SRI). EDPR is a member of several financial indexes that aggregate top performing companies for sustainability and corporate social responsibility.

#### WORLDWIDE SHAREHOLDERS

EDPR shareholders are spread across 21 countries, being United States the most representative country, accounting for 32% of EDPR shareholder base (ex-EDP Group), followed by United Kingdom, Australia, France, Netherlands, Norway and Portugal. In Rest of Europe the most representative countries are Belgium, Switzerland and Sweden.



■EDP MFS ■Other Shareholders

#### SHAREHOLDERS (EX-EDP) BY TYPE



■Investment funds Other SRI #Pension ■Retail

#### SHAREHOLDERS (Ex-EDP) BY COUNTRY



US UK PT ONL MAU MFR MNO MROE WROW

#### 1.3.2. GOVERNANCE MODEL

# EDPR's corporate governance model is designed to ensure transparency and accountability through a clear separation of duties between management and supervision of the company's activities.

Corporate governance is about promoting corporate fairness, transparency and accountability. EDPR's corporate governance structure specifies the shareholders, board of directors, managers and other stakeholders' rights and responsibilities and spells out the rules and procedures for making decisions on corporate affairs. It also incorporates the organization's strategic response to risk management.

The corporate governance structure adopted is the one in effect in Spain. It comprises a General Meeting of Shareholders and a Board of Directors that represents and manages the company. As required by the law and established in the company's articles of association, the Board of Directors has set up four specialized committees. These are the Executive Committee, the Audit and Control Committee, the Nominations and Remunerations Committee and the Committee on Related-Party Transactions.



#### **GENERAL SHAREHOLDERS' MEETING**

General Shareholders' Meeting is the body where the shareholders participate, it has the power to deliberate and adopt decisions, by majority, on matters reserved by the law or the articles of association.



#### Board of Directors





João Manso Neto Vice-Chairman and CEO



João Paulo Costeira COO Offshore & CDO





Miguel Angel Prado COO North America





João de Mello Franco Chairman



António Nogueira Leite











Duarte Bello





João Lopes Raimundo





Jorge Santos Chairman

**A** 

Allan J.Katz

Francisco da Costa



Nuno Alves

José Ferreira Machado Chairman



Francisca Guedes de Oliveira



Manuel Menéndez

Gilles August

Nominations and Remunerations Committee Related-Party Transactions Committee

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#### **BOARD OF DIRECTORS**

EDPR's BoD shall consist of no less than 5 and no more than 17 Directors, including a Chairperson. Currently it is composed by 17 board members, out of which 10 are independent. BoD members are elected for 3 years period and may be re-elected for equal periods.

EDPR's BoD has the broadest power for the administration, management and governance of the company, with no limitations other than the responsibilities expressly and exclusively invested in the General Shareholders Meeting, in the company's articles of association or in the applicable law. Its members must meet at least 4 times a year, preferably once a quarter. Nonetheless, the Chairperson, on his own initiative or that of 3 Directors, shall convene a meeting whenever he deems fit for the company's interests.

#### EXECUTIVE COMMITTEE

EDPR's Executive Committee (EC) is composed by four members, including the Chief Executive Officer (CEO). The CEO, João Manso Neto, is empowered to ensure the daily management of the business and to coordinate the implementation of the BoD decisions and the Corporate and General Management functions, partially assigning those to the other executive officers.

In 2017, EDPR approved the new composition and areas of responsibility of the Executive Committee in order to address the challenges faced by the Company, namely the fulfillment of the Business Plan targets and the increased importance of Offshore Wind business. As part of these organizational restructuration, it was agreed to appoint João Paulo Costeira as Chief Operating Officer Offshore ("COO Offshore") and Chief Development Officer ("CDO") of EDPR.

Likewise, the Board of Directors approved the proposal from the Nominations and Remunerations Committee for the appointment of both Duarte Bello and Miguel Angel Prado as members of EDPR's Executive Committee, and for their appointments as Joint Directors and as Chief Operating Officer of Europe & Brazil and Chief Operating Officer of North America respectively.

The COO of Offshore, COO of Europe & Brazil and the COO of North America coordinate their platforms by developing, establishing and implementing the strategic plan for the renewable energy business in their respective platforms, in accordance with the guidelines set by the BOD. They are also responsible for planning, organizing and managing resources, controlling, measuring and improving the management of projects and subsidiary companies to achieve expected results to make EDPR a leader in the renewable energy sector in their respective platforms.

# NOMINATIONS AND REMUNERATIONS, RELATED-PARTY TRANSACTIONS AND AUDIT AND CONTROL COMMITTEES

In addition to EC referred above, EDPR governance model contemplates permanent bodies, integrated all by independent members, with an informative, advisory and supervisory tasks independently from the BoD, such as:

NOMINATIONS AND REMUNERATIONS COMMITTEE (Independent members) RELATED-PARTY TRANSACTIONS COMMITTEE (Independent members)

FUNCTIONS

AUDIT AND CONTROL COMMITTEE (Independent members)

Assist and report to the BoD about appointments, re-elections, dismissals and remunerations of:

Members of the BoD

Senior management personnel

Perform the duties of ratifying transactions: • Between EDPR and EDP

- Its related parties, qualified shareholders, directors, key employees or his relatives
- Propose the appointment of the company's auditors and the internal risk management and control systems
- Supervise internal audits and compliance
  Prepare an annual report on its supervisory activities

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#### **REMUNERATION POLICY**

EDPR governance model is reinforced by an incentive structure with transparent remuneration through variable remuneration based on key performance indicators.

The graphic below describes the remuneration policy. For further information on the remuneration policy refer to the Corporate Governance section.



Note: For COOs, KPIs have a weight of 80% and 68% for the calculation of the annual and multiannual variable compensation respectively. The remaining 20% and 32% are calculated based on a qualitative evaluation of the CEO about the annual performance.

For further detailed information regarding the responsibilities and roles of the different social bodies, as well as 2017 activity, please refer to the Corporate Governance section, at the end of this report. The company also posts its up-todate articles of association and regulations at **www.edpr.com**.

#### **1.3.3. ORGANIZATION STRUCTURE**

# The organization structure is designed to accomplish the strategic management of the company but also a transversal operation of all the business units, ensuring alignment with the defined strategy, optimizing support processes and creating synergies.

EDPR is organized around four main elements: a corporate center at the Holding and three business areas – Onshore Europe & Brazil, Onshore North America and Offshore platform.

Within EDPR Europe & Brazil platform, there are different business units, one for each of the countries where the company operates, namely Spain, Portugal, France/Belgium, Italy, Poland, Romania and finally Brazil.

Similarly, in the EDPR North America platform, there are three business units, that represent the operational regions in the continent: West, Central (includes Mexico) and East (includes Canada).

Finally, EDPR's Offshore business area is dedicated to Wind Offshore projects, namely projects in UK and France.





#### ORGANIZATIONAL MODEL PRINCIPLES

The model is designed with several principles in mind to ensure optimal efficiency and value creation.

Accountability alignment	Critical KPIs and span of control are aligned at project, country, platform and holding level to ensure accountability tracking and to take advantage of complementarities derived from end-to-end process vision.
Client-service	Corporate areas function as competence support centers and are internal service providers to all business units for all geographical non-specific needs. Business priorities and needs are defined by local businesses and best practices are defined and distributed by corporate units.
Lean organization	Execution of activities at holding level are held only when significant value is derived, coherently with defined EDPR holding role.
Collegial decision- making	Ensures proper counter-balance dynamics to ensure multiple-perspective challenge across functions.
Clear and transparent	Platforms organizational models remain similar to allow for:
	<ul> <li>Easy coordination, vertically (holding-platforms) and horizontally (across platforms);</li> <li>Scalability and replicability to ensure efficient integration of future growth.</li> </ul>

#### EDPR HOLDING ROLE

EDPR Holding seizes value creation, through the dissemination of best practices in the organization and the standardization of corporate processes to the platforms and the business units to improve efficiency. Its internal coordination model and interface with EDP group impacts both the company's processes (activities performed, processes steps, inputs and outputs, and decision-making mechanisms) and the company's structure, with an alignment of functions and responsibilities with the processes configuration.

The EDPR Holding structure was designed to accomplish two fundamental roles: **Strategic Management** and **Transversal Operation**.

Strategic Management covers to a) adopt a coordination model within the group, supporting the Executive Committee in the definition and control of the strategy policies and objectives; b) define specific strategic initiatives; c) review the accomplishment of the company's business plan; d) define transversal policies, rules and procedures; e) control key performance indicators.

Transversal Operation deals to i) ensure the alignment of all the platforms with the defined strategy; ii) capture synergies and optimize support processes; and iii) systematically and progressively concentrate supporting activities in shared service business units with the group.

#### INTEGRITY AND ETHICS

#### Ethical behaviour is absolutely essential for the functioning of the economy. EDPR recognizes its importance and complexity, and is committed to address ethics and its compliance. But is employees' responsibility to comply with ethical obligations.

#### GOVERNANCE MODEL FOR ETHICS

Ethics are the cornerstone of EDPR strategy, to the extent that EDPR has a Code of Ethics and an Anti-Corruption regulation that go beyond just defining the company principles to be adopted, but also how employees and any other service provider working on behalf of EDPR should behave when dealing with the company stakeholders. The Code of Ethics has its own regulation that defines a process and channels to report any potential incident or doubt on the application of the code. The Ethics Ombudsman is behind this communication channel, and to analyze and present to the Ethics Committee any potential ethical problem. The code is communicated and distributed to all employees and interested parties, and complemented with tailored training sessions.

#### HOW DO WE APPLY OUR CODE OF ETHICS?

EDPR's Code of Ethics applies to all company employees, regardless of their position in the organization and working location, and they all must comply with. Our suppliers should be aligned with the spirit of our Code of Ethics, and this is reflected in our procurement policies. The Ethics Ombudsman plays an essential role in the ethics process. He guarantees impartiality and objectivity in registering and documenting all complaints of ethical nature submitted to him. He monitors their progress and ensures that the identity of the complainants remains confidential, while entering into contact with them whenever appropriate, until the case is closed.

? iny the	Identify an alleged violation of the code of ethics	Reports of alleged violations of the Code of Ethics must be submitted to the Ethics Ombudsman, indicating personal data description of the situation.	
ney be cs, ent an	Ombudsman performs summary investigation	Ethics Ombudsman first confirms the events reported and submits a preliminary report on the initial confirmations to the Ethics Committee.	
He in of ors	Ethics Committee decides if the complaint portrays a violation	Ethics Committee analyses every situation reported and decides as to whether it should be classified as a violation of the Code of Ethics.	
v of nile ver	When a violation is confirmed, the Committee opens an investigation	When conducting an investigation, the Company shall abide by the law and its own in house rules. After the investigation is complete, the Committee decides whether any corrective or disciplinary action is required.	

In 2017 there was one communication to the Ethics Ombudsman through the Ethics Channel. However, it was decided to reject this claim as it was not considered as an issue related to the Code of Ethics.

The Code of Ethics has been widely circulated among employees of the Group through internal communications mechanisms, individual shipments, delivery to new employees, and intranet publishing. The Code of Ethics is also attached to the labour agreements of the new hires to their written acknowledgement when they join the Company. Likewise, in the Welcome Presentation organized every year for the new hires of EDPR, it is also explained the main contents of these documents, as well as the Ethics Channel existence and functioning. This information is also published on the Intranet and website of the Company.

#### ETHICS PROGRAM

There is a strong commitment by the Company in relation to the dissemination and promotion of compliance with the Code available to all employees through training, questionnaires, and open discussions of the findings. To this extent, from March to December 2016, EDP offered an online Ethics training ("Ética EDP") available to all employees of both Europe/Brazil and North America platforms. This course achieved a major participation of around 900 EDPR employees. This type of training will be performed periodically.

#### ANTI-CORRUPTION REGULATION

In order to ensure compliance with the standards of Anti-Corruption Regulation in all geographies where EDPR operates, the Company has developed an Anti-Corruption Policy of application to all EDPR Group, which was approved by its Board of Directors on December, 2014, and updated in 2017.

This Anti-Corruption Policy implies a series of procedures regarding the relationships of EDPR employees with external parties, namely the approval of certain actions regarding hospitality to and from external parties, charitable donations, and sponsorships. The Anti-Corruption Policy is available at the Company's website and intranet, and it is also attached to the labour agreements of the new hires to their written acknowledgement when they join the Company. Likewise, in the Welcome Presentation, the main contents of these documents and its functioning are also explained.

In addition, EDPR has no knowledge of any contingencies related to environment, labour practices or human rights.

#### **EMPLOYEE RELATIONS**

# EDPR is committed to respect freedom of trade union association and recognises the right to collective bargaining.

At EDPR, from 1,220 employees, 20% were covered by collective bargaining agreements. Collective bargaining agreements apply to all employees working under an employment relationship with some companies of EDPR group, regardless of the type of contract, the professional group into which they are classified, their occupation or job. However, matters relating to the corporate organization itself, the laws of each country or even usage and custom in each country result in certain groups being expressly excluded from the scope of collective bargaining agreements.

The collective bargaining agreements that are applied at EDPR are usually negotiated at state level or regional level, and EDPR may be just one of the players among other leading sectorial companies in the negotiation with employees' representatives, and in some cases, governmental representatives. In Portugal and Brazil, EDP negotiates its own agreements with employees, and those apply to all employee working for companies of the group, including EDPR.

During the last years, EDPR has performed different benchmark analysis of the benefits stated at the different collective bargaining agreements that apply to our employees, comparing them against the benefits offered by the company and, in general terms, the company offers a more competitive benefits package compared to what is stated in the collective bargaining agreement.

# 02

# STRATEGY

#### **Business Environment**

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# **02 STRATEGY**

# **2.1. BUSINESS ENVIRONMENT**

### 2.1.1. RENEWABLE ENERGY: A RESPONSE TO CLIMATE CHANGE

### CLIMATE CHANGE WARNING SIGNS AND THE URGENCY FOR A LOW CARBON ECONOMY

The Earth's climate has been changing at an unprecedented scale in the last century. The fifth Intergovernmental Panel on Climate Change report states that the current warming trend can be largely attributed to human activity with a probability higher than 95%. The World Meteorological Organization confirmed in January 2018 that the last three years were the warmest ones on record: 2016 holds the global record, whilst 2017 was the warmest year without the El Niño effect and was followed by extreme weather around the world.

As it stands, the world is on track to massively miss the goals set forth in the Paris Agreement, with around  $1.1^{\circ}$  C of global average temperature rise<sup>1</sup> already witnessed since the pre-industrial era. To remain within the Paris Agreement boundaries, the world can only afford around  $0.4^{\circ}$  C to  $0.9^{\circ}$  C of additional average warming. Current country pledges, also known as "Nationally Determined Contributions" (NDCs), could lead to an emission decline in the coming years, but are not sufficient to reach the goals, as under the current policy pathway the rise in temperature would range between 2.6° C and 3.2° C by the end of the century according to Climate Action Tracker<sup>2</sup>.

Around 66% of all greenhouse gas emissions comes from energy generation and use, which highlights the need to decarbonize the energy sector to effectively mitigate climate change. In particular, the impact of the electricity sector is quite significant as it is by far the largest source of CO<sub>2</sub> emissions, accounting for about 40% of all energy-related emissions. Therefore, to achieve the targets set by the Paris Agreement, the sector needs a resounding transformation from fossil-based to clean energy generation. The transition towards a clean power sector is particularly relevant in the context of electrification of the economy especially of the heating and transportation sectors. Electric vehicles represent one of the most promising technologies for the electric vehicles could surpass the ones from internal combustion vehicles. The mass adoption of electric vehicles would result in a paradigm shift for both transportation and power sectors: on one hand, it would boost electricity demand; on the other hand, since renewables tend to be intermittent by nature as they are dependent on weather conditions, the possibility of the electric vehicle to function as a storage unit able to return electricity to the grid, would help to compensate and integrate a larger share of renewable sources.

### **RENEWABLES IS THE KEY FOR THE TRANSFORMATION**

According to the International Renewable Energy Agency (IRENA), renewable energy, coupled with energy efficiency gains, can provide 90% of the  $CO_2$  emissions reductions needed by 2050 to stay within the Paris Agreement boundaries. In this scenario, renewable technologies could generate more than 80% of all electricity by 2050, including a 52% share from wind and solar which would have to grow from today's approximately a 5.5% share. The leading role of renewables

<sup>&</sup>lt;sup>1</sup> Data source: NASA

<sup>&</sup>lt;sup>2</sup> The Climate Action Tracker (CAT) is an independent scientific analysis produced by three research organizations tracking climate action: Climate Analytics, Ecofys and NewClimate Institute

has been noticed by governments around the world and most countries have included renewable energy targets in their NDCs; from the 194 signatory countries of the United Nations Framework Convention on Climate Change that submitted NDCs, 145 referred to renewables as an effective way to mitigate climate change and 109 set specific renewable energy targets. At least 1.3 TW of renewable capacity is expected to be added globally by 2030 from NDC implementation, which means a 76% increase. Although current NDCs are not enough to achieve the Paris Agreement's targets, the so-called "ratchet mechanism", designed to periodically raise NDCs' ambition, could eventually align them with the required 2º C target.

### THE TRANSITION IS POSSIBLE IN A NATURAL WAY

A clean energy revolution is naturally underway not only because it is sustainable but also because it makes economic sense; onshore wind and solar PV costs have been declining and these technologies are now among the cheapest sources of energy in a growing number of countries, as highlighted by Lazard, Bloomberg New Energy Finance and IRENA. The competitiveness of renewables has been clearly evidenced in 2017 with wind (onshore and offshore) and solar PV's tenders beating a record of low prices all around the globe.

### % CHANGE BETWEEN 2010 AND 2017 OF THE LEVELIZED REQUIRED REVENUES BY TECHNOLOGY At constant prices of 2016 in €/MWh

The size of each bar proportionally represents the Levelized Required Revenues in 2017



Source: EDPR Analysis

The awareness that renewables makes sense is increasingly growing in all sectors. Corporations, for instance, have been signing Power Purchases Agreements (PPA) with renewable generators in order to fill their electricity needs. Renewables represent now an increasingly share of new investments in power-generating facilities<sup>3</sup> and according to BNEF, renewable energy sources are set to represent almost 75% of the investments in new power generation technologies until 2040. Not surprisingly, Europe's major utilities pledged to become carbon-neutral "well before 2050" and even several oil and gas major companies have significantly increased their investment in renewables during the recent years. Funding institutions are also stepping back from fossil fuel projects; the World Bank announced in December 2017 that it would cease to finance upstream oil and gas after 2019 and investment funds, such as the Norway's wealth fund, banks and pension funds have announced similar pledges. Likewise, global green bond<sup>4</sup> issuance hit a record of USD 155.5 billion in 2017 and could reach USD 250-300 billion in 2018, according to a research from the Climate Bonds Initiative.

According to a study published by IRENA in January 2018, the EU could double the renewables' share in its energy mix, cost effectively, even without considering the economic value associated with health and environmental benefits. The share could rise to 34% in the total energy mix and up to 50% in the electricity mix (compared to 29% in 2015).

<sup>&</sup>lt;sup>3</sup> According to Bloomberg, global clean energy investment in 2017 was the second highest ever at USD 333.5 billion and representing an annual increase of 3% <sup>4</sup> Debt instruments to be used for projects that promote climate and environmental sustainability purposes

### 2.1.2. THE EVOLUTION OF RENEWABLES AROUND THE WORLD IN 2017

### WIND

Wind power capacity additions in the **World** amounted to 52.6 GW in 2017, 3.7% below the previous year, reaching a total capacity of 539.6 GW, according to Global Wind Energy Council (GWEC).

In **Asia**, China remained the undisputed world's wind power leader, connecting 19.5 GW, a slight decrease compared to 2016's additions (23.3 GW), rising its total wind capacity to 188.2 GW. 2017 was also a strong year for India that installed 4.1 GW, cementing its position as fourth largest wind market in the world.

Regarding **North America**, the US was the world's second player in capacity additions, with 7.0 GW installed in 2017, fuelled by Texas (2.3 GW), Oklahoma (0.9 GW), Kansas (0.7 GW), New Mexico (0.6 GW) and Iowa (0.4 GW). Cumulative capacity reached 89.1 GW with Texas remaining the leader with 22.6 GW, over than three times more than any other state. Canada and Mexico had both modest years in terms of new capacity, with only 0.3 GW and 0.5 GW respectively.

In **Europe**, 2017 was a record year for both onshore and offshore installations, with 16.8 GW of new capacity coming online (onshore and offshore), an increase of 21% versus the previous year. Germany remained the most dynamic market, connecting 6.6 GW and representing 39% of all of Europe's new capacity. Six more EU countries had also a record year in terms of additions: namely the UK (4.3 GW), France (1.7 GW), Finland (0.6 GW), Belgium (0.5 GW), Ireland (0.4 GW) and Croatia (0.1 GW). With these results, Germany sealed its place as the EU country with the largest installed wind power capacity (56.1 GW), followed by Spain (23.2 GW), the UK (18.9 GW) and France (13.8 GW).

Concerning **Latin America**, Brazil had an outstanding year, adding 2.0 GW of installed capacity but for the remaining countries in the region it was a rather quiet year. **Other emerging economies** that achieved good results in capacity additions were South Africa (0.6 GW), Thailand and Pakistan (0.2 GW each).

2017 was also the best year ever for **offshore wind**, with Europe installing 3.2 GW, a 25% growth versus 2016, achieving a cumulative capacity of 15.8 GW, being this surge propelled by the UK and Germany, which added 1.7 GW and 1.2 GW, respectively. The sector remains highly concentrated in a few countries, with the UK, Germany, Denmark, Netherlands and Belgium representing a 98% share of the total installed capacity. 2017 will undoubtedly be remembered as a landmark year for the offshore wind industry also because the first floating offshore wind farm (30 MW) was connected in the coast of Scotland. China and other countries in Asia are also showing some progress; according to Platts, China installed 1.2 GW in 2017, bringing its total offshore capacity to 2.8 GW, while Japan, South Korea and Taiwan only saw small additions. Offshore wind is also starting to kick-off in the US.

### SOLAR

Solar PV market grew by 26% in 2017, making it the best year ever, with 99 GW of capacity additions, according to GTM Research.

**China** surpassed the astonishing milestone of 50 GW, installing around 52 GW according to China's National Energy Administration, a record figure never seen before and clearly above expert's estimates.

According to GTM Research, the **US** added 11.8 GW of solar PV in 2017, a 22% decline versus 2016, due to the spike in installations in 2016 from projects scheduled to come online before the expected drop-down of the ITC.

**Europe** added 8.6 GW in 2017, according to Solar Power Europe, representing a year-on-year growth of 28%. The big surprise came from Turkey which installed 1.8 GW of solar technology, overtaking Germany (1.75 GW) as Europe's most dynamic solar market. France and the Netherlands also showed signs of progress, adding 0.9 GW each.

### 2.1.3. SUPPORTIVE POLICY INSTRUMENTS

A wide range of remuneration schemes has traditionally supported Renewables' projects. However, the most frequent schemes are:

- FEED-IN TARIFF (FIT) SYSTEMS: most popular scheme due to its simplicity and visibility for investors, where generators receive either a fixed payment for each unit of electricity generated regardless of the market price, or a payment on top of the market price ("Feed-in premium" and "Contract-for-difference" schemes).
- QUOTA OBLIGATIONS: on top of the market price, generators receive certificates for their final energy ("Green Certificates" or "GC") which can be sold to the off-takers obliged to fulfill a specific quota (a share of energy that must come from renewable sources), therefore providing additional income to the generators.
- TENDERS AND AUCTIONS: are becoming increasingly popular, they do not represent a support category per se as they are used to allocate financial support to different renewables technologies and to determine the support level of other types of support schemes, such as feed-in systems, in a competitive bidding procedure.
- OTHER: includes investment grants, low interest loans and tax exemptions to support renewables.

The table below describes the overall current regulation in the geographies where EDPR operates.

COUNTRY	SHORT DESCRIPTION	COUNTRY	SHORT DESCRIPTION
US	<ul> <li>Sales can be agreed under PPAs (up to 20 years), Hedges or Merchant prices</li> <li>Renewable Energy Credits (REC) subject to each state regulation</li> <li>PTC (wind-projects): collected for 10-years since COD (\$24/MWh in 2017). Phase out for projects that start construction post 2016 (no PTC post 2019 projects). Projects have 4 years to be placed in service in order to qualify</li> <li>ITC: 30% ITC for solar projects and new Wind-projects can opt for ITC instead of PTC. Phase out for whole projects follows a similar scheme of the PTC. Phase out for solar projects (projects put in place after 2023 will qualify for just 10% ITC)</li> </ul>	United Kingdom	<ul> <li>Market price plus Green Certificate ("Renewable Obligation Certificate") system in place since 2002</li> <li>The GC system closed in 2017, being gradually replaced by a Contract-for-Difference scheme awarded through competitive tenders</li> <li>Market price plus Green Certificate (GC) system</li> <li>Separate GC prices with cap and floor for Wallonia (C65/MWh-100/WWh)</li> <li>System to adjust the number of GC per MWh according</li> </ul>
((() Canada	• Feed-In Tariff (Ontario). Duration: 20-years. • Renewable Energy Support Agreement (Alberta)	Belgium	to a predefined profitability level  • Option to negotiate long-term PPAs
Mexico	<ul> <li>Technological-neutral auctions (opened to ali technologies) in which bidders offer a global package price for the three different products (capacity, electricity generation and green certificates)</li> <li>EDPR project: bilateral Electricity Supply Agreement under self-supply regime for a 25-year period</li> </ul>	Poland	<ul> <li>Wind Farm revenues are made from the sale of electricity in the wholesale market plus the sale of green certificates</li> <li>Wind receive 1 GC/MWh which can be traded in the market. Electric suppliers have a substitution fee for non compliance with GC obligation. From Sep-17 onwards, substitution fee is calculated as 125% of the average market price of the GC from the previous year and capped at 300PLN</li> </ul>
<b>O</b> Spain	<ul> <li>Wind energy receives pool price and a premium per MW, if necessary, In order to achieve a target return established as the Spanish 10-year Bond yields plus a reasonable spread. The so called reasonable spread for the first regulatory period has been defined as 300 bps.</li> <li>Premium calculation is based on standard assets (standard load factor, production and costs)</li> <li>Since 2016, all the new renewable capacity is allocated through competitive auctions</li> </ul>	Romania	<ul> <li>15-years green certificate (GC) scheme with a cap and floor currently at €29.4 and €35 respectively:</li> <li>Wind-farms prior to 2013 receive 2 GC/MWh up to 2017 with postponement of 1 GC/MWh from July 1<sup>st</sup> 2013 to March 31<sup>st</sup> 2017, with gradual recovery from 2018 to 2025. From 2018 onwards will receive 1 GC/MWh</li> <li>Solar plants prior to 2013 received 6 GC/MWh with postponement of 2 GC/MWh until 2024 with gradual recovery from 2025-2030</li> </ul>
Portugai	<ul> <li>Old regime (before 2006): Feed-in Tariff (FIT) inversely correlated with load factor throughout the year. Duration: 15 years for a FIT updated monthly with inflation, through the later of 15 years of operation or 2020. Following agreement of the wind sector with the government in 2012, wind generators were offered the possibility to extend FIT's duration in exchange of annual payments between 2013 and 2020</li> <li>New regime (after 2006): Feed-in-tariff awarded for a period of 20 years limited by a maximum total electricity production</li> </ul>		<ul> <li>Wind-farms post 2013 receive 1.5 GC/MWh until 2017 and 0.75 GC/MWh from 2018 onwards</li> <li>Solar plants post 2013 receive 3 GC/MWh from 2014 onwards</li> <li>Wind farms in operation prior to the end of 2012 are remunerated under a pool + premium scheme applicable for the first 15 years of operation</li> </ul>
	of 44 GWh per installed MW • Until 2016: Feed-in Tariff for 15 years: • First 10 years: receive €82/MWh; inflation type indexation • Years 11-15: depending on load factor receive €82/MWh	Italy	<ul> <li>Wind farms commissioned from 2013 onwards: competitive tenders for a 20-year CID scheme, implemented as a floor in the wind farm electricity price, conducted as reverse auctions where operators bid on the amount of the deduction on the pre-defined base amount</li> </ul>
France	<ul> <li>@2,400 hours decreasing to €28/MWh @3,600 hours; inflation type indexation</li> <li>Since 2017: large-scale wind projects need to participate in competitive auctions in order to be granted a 20-year CfD</li> </ul>	Brazil	<ul> <li>Old installed capacity under a feed-in tariff program ("PROINFA")</li> <li>Since 2008, competitive auctions awarding 20-years PPAs</li> </ul>

### 2.1.4. REGULATION OVERVIEW

### EU REGULATORY DEVELOPMENTS

### EU EMISSIONS TRADING SYSTEM (EU ETS) REFORM

The EU ETS is a key pillar of European climate policy since its implementation in 2005. The system works by putting a limit on overall emissions from covered installations (power sector and energy intensive industry), which is reduced each year. Within this limit, companies can buy and sell emission allowances as needed.

In November 2017, the European Parliament and Council of the European Union reached a provisional agreement to revise the EU ETS for the period 2021-2030 ("Phase IV"). This revision is aimed at putting the EU on track to achieving a significant part of its commitment under the Paris Agreement to reduce greenhouse gas emissions by at least 40% by 2030.

The key reforms agreed by the Parliament and Council included measures to enhance the EU ETS resilience and speed up emissions reductions along with additional safeguards to protect the EU industry against the risk of carbon leakage.

Formal agreement and endorsement by both co-legislators is expected for early 2018. Most analysts expect that these reforms will tighten the market surplus, pointed out as one of the main reasons for a depressed carbon price over the last years.

### **CLEAN ENERGY FOR ALL EUROPEANS**

In November 2016, the European Commission (EC) presented a new package of measures with the goal of providing a stable legislative framework to facilitate the clean energy transition. This regulatory package aims to create a more competitive and sustainable EU energy sector, while compatible with the Paris Agreement commitments.

The package consists of eight legislative proposals, including a new "Renewable Energy Directive", the "New Market Design Initiative" and the "Energy Union Governance Regulation" and, together with four non-legislative documents and nine other reports and initiatives.

In 2017, considerable progress was made in different fields that would impact the future of renewables in Europe.

**Concerning the Renewables Directive and the Governance regulation**, the European Parliament, who advocates for a more ambitious package of reforms, voted in January 2018 for a for a 35% EU-wide renewable energy target for 2030, increasing the overall ambition of renewables deployment in Europe when comparing with the 27% proposed by the European Commission that reflects the conclusions of the Council of the European Union of October 2014 "2030 Climate and Energy Policy Framework". Although the final target remains to be agreed, it will likely be binding only at EU-level. However, on the positive side, Member States (MS) will be required to submit "National Plans" in which they would need to set self-defined renewable energy targets. At this regard, the Energy Council also agreed to set three indicative intermediate benchmarks in the next decade.

Some other recent positive developments have been welcomed by the renewable industry. On the one side, EU MS agreed to (i) give three years' visibility on the volume and budget of public support schemes for renewables and (ii) to avoid any retroactive measure affecting renewable support. The Energy Council also agreed to allow technology-specific auctions. Finally, MS will be required to remove barriers to Corporate Power Purchase Agreements.

Renewables are also key to the **Electricity Market Design Initiative**, with the Energy Council agreeing that renewables should have full and equal access to balancing and ancillary markets, while maintaining priority of dispatch for existing renewables' facilities (new facilities would be subject to a system of curtailment and compensation). The European Parliament will vote its amendment during the first quarter of 2018. Trilogue negotiations between the institutions (EC, Council and Parliament) in view of final agreements are expected to occur all year round.

### EUROPE AND BRAZIL; REMUNERATION FRAMEWORKS

This chapter describes the most relevant recent regulatory developments in the European-Brazilian countries where EDPR is present (for additional information, please refer to Note 01 of EDPR Consolidated Annual Accounts).

# Ó SPAIN

Since 2016, in line with the European regulation, all the new renewable capacity in Spain is allocated through auctions. The regulatory scheme is designed to provide a similar remuneration scheme to the one that applies to previous installations (ruled by RD 413/2014). Following this framework, tender participants are requested to bid discounts to the standard value of the "initial investment" parameter which determines the "investment premium", that would eventually be awarded.

In 2017, two auctions were held. The first one was in May and unlike previous auctions, it was technology neutral as different renewable technologies were allowed to compete. Nearly all the capacity was awarded to wind projects (2,979 MW out of 3,000 MW) and the remaining capacity was awarded to solar photovoltaic (PV) installations and "other technologies" representing 1 MW and 20 MW, respectively. The auction was very competitive and oversubscribed with all the wining participants bidding the maximum discount. Following the outcome of this tender, the Spanish government decided to launch an additional tender for a maximum of 3 GW, which was held in July and opened to wind and solar PV exclusively. The royal decree ruling the tender (RD 650/2017) included the possibility to increase the allocated capacity to all capacity bidding the same discount, provided it would not create an over cost to the system. Following this clause, all the capacity that offered the maximum allowed discount was awarded. Overall, 5,037 MW were awarded with solar PV power generators being the biggest winners with 3,909 MW compared to 1,120 MW from wind.

In November, the European Commission (through the Directorate-General for Competition) endorsed the Spanish support scheme for renewables, the RD 413/2014, which regulates the generation of electricity from renewable energy, cogeneration and waste. As such, the EU Commission confirmed that the Spanish support scheme for renewables is in line with the 2014 European State Aid Guidelines.

# PORTUGAL

In August of 2017, the Portuguese government approved the Order 7087/2017 tightening the authorization process for new repowering and additional capacity, introducing in particular, the obligation for the Directorate-General for Geology and Energy to consult the electricity regulator that will have to assess its impact to the electricity system. The amendments to the decree ruling the repowering authorization process are still pending to be published.

# FRANCE

A new contract-for-difference (CfD) scheme was released in December 2016, although existing projects still benefiting from the former feed-in tariff scheme. The new scheme obtained clearance from the European Commission, who confirmed that it was in line with the European "Guidelines on State aid for environmental protection and energy 2014-2020". According to this new scheme, wind farms having requested a PPA in 2016 would receive a 15-year CfD, being the strike price and the terms of the tariff very similar to the previous feed-in tariff. From 2017 onwards, wind farms of more than 6 wind turbines (and more than 3 MW per turbine) need to participate in competitive tenders in order to obtain a 20-year CfD, the first tender was held in November 2017. The calendar of auctions until 2020 has been announced by the regulator and up to 3 GW of wind are expected to be tendered in this period, with two tenders of 500 MW each year. On the other hand, wind farms with a maximum of 6 wind turbines (and a maximum of 3 MW per turbine) do not need to participate in tenders. Wind farms of these characteristics having requested a PPA in 2017 are entitled for a 20-year CfD with a strike price ranging between  $\epsilon72/MWh$  and  $\epsilon74/MWh$ , depending on rotor size.

In December 2016, France launched a call for the third offshore wind tender, expected to be held in 2018, for a 400-600 MW project in the coast of Dunkirk.



# ITALY

On November 2017, the Strategia Energetica Nazionale (National Energy Strategy), known by the acronym SEN, was presented after several months of public consultation. The SEN announced the complete phase-out of coal power generation by 2025 (five years ahead in comparison with the previous announcement), highlighting the renewables' role and calling for renewable energy to reach a 28% of energy consumption in 2030 from 17.5% in 2015. This strategy also stated that electricity from renewable sources should account for 55% in 2030, considerably above the 33.5% figure in 2015. Regarding the large-scale renewables' support, competitive auctions for fixed tariffs seems to remain in place through 2020 and long-term PPAs taking over after that.

### POLAND

In August 2017 a new methodology to calculate the substitution fee was approved. According to the new formula, the substitution fee will be calculated every year as 125% of the previous year average market price of the Green Certificate ("GC"), capped at 300 PLN. This new methodology implies a reduction of the substitution fee, previously set at 300 PLN, in particular due to current low prices of GCs.

Also in August, a new ordinance setting the new GC quotas for 2018 and 2019, was approved with the new quotas being defined at 17.5% for 2018 and 18.5% for 2019. In December the European Commission (through the Directorate-General for Competition) endorsed the Polish support scheme for renewables (2015/16 RES Act).

# ROMANIA

In March 2017, the Government Emergency Ordinance 24/2017 (the so-called "EGO 24/2017") amending Law 220/2008 was published. The main features of this ordinance are: (i) extension of the GC scheme until 2031 and of the GC validity until March 2032; (ii) approval of a new methodology for the GC quota calculation; (iii) removal of the indexation of the GC parameters (GC floor would remain fixed at  $\in$ 29.4 and GC cap would not only lose indexation but also be reduced to  $\in$ 35); (iv) extension of the GC recovery for wind energy from 2018 to 2025 (included) and extension of the GC postponement for solar PV until the end of 2024 and recovery from 2025 to 2030 (included) and (v) creation of an anonymous centralized platform to trade GC (from September 2017 GCs could only be traded there) and also of an anonymous market to sell energy together with GCs.

# UNITED KINGDOM

In September, the Department for Business, Energy & Industrial Strategy (DBEIS) and National Grid, published the results of the second CfD allocation round. In this round, a total of 3.3 GW of capacity awarded across eleven projects, including three wind offshore projects. EDPR's Moray East offshore project was awarded a 15-year CfD for the delivery of 950 MW wind generation at £57.50/MWh (2012 tariff-based), to be delivered starting in 2022-2023.

In October, DBEIS announced that an amount of  $\pm$ 557 million would be available for Pot 2 CfD auctions for less established technologies, with the next auction taking place in spring 2019.



Two reverse auctions where wind projects could participate were held in December 2017. In the first reverse auction, 891 MW of projects secured contracts: 791 MW were solar PV projects and only 64 MW were wind. The second auction had 3.8 GW of projects awarded, including 1.4 GW of new wind power to start operations in January 2023 at an average R\$98.62/MWh, a record low price for this technology in the country. EDPR secured 219 MW, for two wind projects for a 20-year period at an initial price of R\$99 and R\$97/MWh (indexed to the Brazilian inflation).

### NORTH AMERICA; CONTINUE LEADING THE WAY

Historically, the typical framework for wind and solar developments in the US has been decentralized, with no national feed-in tariff, resulting in a combination of three key top line drivers:

- PTCs: Production Tax Credits are the dominant wind incentives in the US and represent an extra source of revenue per unit of electricity generated (\$24/MWh in 2017), over the first 10 years of the asset's life.
- ITCs: Investment Tax Credits equals to 30% of the initial capex and are the primary solar incentives.
- PPAs: Long-term, bilateral Power Purchase Agreements by which a renewable developer can sell its output to another company at a fixed price, usually adjusted for an agreed escalator.

In addition, many states have passed legislation, mainly in the form of Renewable Portfolio Standards (RPS), that require utilities to purchase a certain percentage of their energy supply from renewable sources, setting penalties to those that do not accomplish. Typically, states use Renewable Energy Credits (RECs) as the compliance mechanism. Utilities or other subject entities are required to procure enough RECs to meet their obligations under the RPS. Utilities can choose to invest directly in renewable generation assets and generate a REC for each unit of renewable energy produced or, alternatively, can purchase RECs produced by other renewable generators either through long-term bilateral contracts or in the secondary market. As a result, many utilities set up auction systems to seek long-term power purchase agreements with renewable energy generators by which they procure renewable energy and RECs.

The relevant recent regulatory developments in North America are below described (for additional information, please refer to Note 01 of EDPR Consolidated Annual Accounts).

# UNITED STATES

On December 2015, the US Congress approved the "Consolidated Appropriations Act, 2016" that included an extension of the PTC for wind (including the possibility of a 30% ITC instead of PTC) and an extension of the ITC for solar. As part of the extensions, Congress also introduced a phase out of the credits. Wind projects that start construction in 2020 or later will not be eligible for the PTC or ITC and solar projects placed in service after 2023 will qualify for just 10% ITC. On May 2016, the US Internal Revenue Service (IRS) issued guidance that wind farms have 4 years from their start of construction to be placed in service and qualify for the PTC. As a result, projects that start construction prior to year-end 2019 and are placed in service prior to year-end 2023 will be eligible for the PTC. The IRS ruling also includes a provision that allows developers to secure the PTC if 5% of a project's capital components by dollar value are safe harbored in a given year and construction is completed within 4 years. Thus, if a developer safe harbors 5% of project Capex in 2016 for a given project, the project will qualify for the 100% PTC if construction is completed by year-end 2020. The graphic below depicts the phase-out calendar:



Regarding RPS, some states have upgraded their targets in 2015-2017; California and New York both upgraded their RPS standards to target 50% renewables by 2030, Oregon upgraded their RPS to 50% by 2040, Vermont enacted an RPS of 75% by 2032, Michigan upgraded their RPS to 15% by 2021, the District of Columbia increased and extended its RPS to 50% by 2032, Maryland increased and accelerated its RPS to 25% by 2020 and Rhode Island increased and extended its RPS to 50% by 2032. Maryland increased and accelerated its RPS to 25% by 2020 and Rhode Island increased and extended its RPS to 38.5% by 2035. Illinois supplemented its existing RPS standard by passing an energy bill to require utilities to source at least 4 TWh of new wind and 4 TWh of new solar by 2030. Massachusetts also supplemented its existing RPS by creating requirements for offshore wind and solar procurement. RPS obligations as a percent of state retail consumption (as of July 2017) are shown in the table below. Some states have separate goals for different types of utilities such as investor-owned utilities (IOUs), cooperatives (co-ops) or municipal power companies (munis). Other states like Iowa and Texas, have set targets for installed capacity, rather than for a percentage of sales.

STATE	RPS OBJECTIVE	STATE	RPS OBJECTIVE
Arizona	15% by 2025	Montana	1.5% by 2015
California	50% by 2030	Nevada	25% by 2025
Colorado	30% by 2020 (IOUs) 20% by 2020 (co-ops) 10% by 2020 (munis)	New Hampshire	24.8% by 2025
Connecticut	23% by 2020	New Jersey	22.5% by 2020
Delaware	25% by 2025	New Mexico	20% by 2020 (IOUs) 10% by 2020 (co-ops)
District of Columbia	50% by 2032	New York	50% by 2030
Hawaii	100% by 2045	North Carolina	12.5% by 2021 (IOUs) 10% by 2018 (co-ops and munis)
Illinois	25% by 2025	Ohio	12.5% by 2026
Iowa	105 MW by 1999	Oregon	50% by 2040 (large IOUs) 5-25% by 2025 (other utilities)
Maine	40% by 2017	Pennsylvania	8.5% by 2020
Maryland	25% by 2020	Rhode Island	38.5% by 2035
Massachusetts	11.1% by 2009 +1%/yr	Texas	5,880 MW by 2015
Michigan	15% by 2021	Vermont	75% by 2032
Minnesota	26.5% by 2025 Xcel: 31.5% by 2020	Washington	15% by 2020
Missouri	15% by 2021	Wisconsin	10% by 2015

Another regulatory factor that could affect demand for renewable energy is national legislation or rule-making regarding carbon emissions. On August 2015, the Environmental Protection Agency (EPA) announced the Clean Power Plan (CPP), a rule to cut carbon pollution from existing power plants. On February 2016, the Supreme Court stayed implementation of the CPP pending judical review and on October 2017, the EPA, led by Scott Pruitt, announced that it would sign a proposed rule to repeal the CPP. On December 2017, Scott Pruitt announced that the EPA will introduce a replacement rule for the CPP. It is otherwise unclear how the EPA will proceed. On a state level, some states already participate in carbon reduction programs. For example, California is a member of a carbon allowance market along with Quebec and Ontario. Meanwhile, some states in the eastern US (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont) are members of the Regional Greenhouse Gas Initiative which seeks to reduce carbon emissions from the power sector.

In 2017, one of the most notable new legislation was the "Tax Cuts and Jobs Act of 2017" which, among many other changes, reduced the maximum corporate tax rate from 35% to 21% and introduced the Base Erosion Anti-Abuse Tax ("BEAT"). The final impacts of these changes are still uncertain on the renewable energy market. For example, the decreased corporate tax rate is projected to boost after-tax earnings from new renewable projects, but it could also reduce the market demand for the tax credits produced by new renewable energy assets. The "BEAT" provision is a tax intended to prevent companies from engaging in "earnings stripping", a method by which large, foreign-controlled companies loan funds to their U.S. subsidiaries and then deduct the interest payments, thus reducing their U.S. tax liability. The final version of the tax reform bill stated that companies could offset up to 80% of their "BEAT" liability through the PTC/ITC value.

Another notable federal-level development spanning 2017 into 2018 was the petition for an eventual announcement of a tariff on imported crystalline silicon photovoltaic (CSPV) modules. In late 2017, after considering a petition by Suniva and SolarWorld Americas, the U.S. International Trade Commission announced a set of recommendations for tariffs to President Trump. In January 2018, President Trump announced a 30% tariff beginning in 2018 and decreasing by 5% per year, exempting the first 2.5 GW of imports in each year. As a result, the cost of some modules might increase.

### **GROWTH PROSPECTS**

Growth in the US is motivated by several forces, including primarily the planned coal capacity retirements, RPS compliance in several states and demand from commercial and industrial entities.



# CANADA

New Canadian renewable supply is expected to be largely determined by provincial procurements. While some provinces already produce much of their electricity through renewable sources (largely due to hydro power), Alberta, Saskatchewan and Ontario have taken steps to increase renewable energy production. Alberta, where EDPR was awarded a long-term Renewable Energy Support Agreement for 248 MW of wind onshore in the 2017 auction, is pursuing a Renewable Energy Program in order to develop 5 GW of renewable electricity generation capacity by 2030. SaskPower, the principal electric utility of Saskatchewan, has a target of 50% renewable generation capacity by 2030. Ontario has conducted multiple Large Renewable Procurements in 2014-2016.

# MEXICO

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

### 2.1.5. CORPORATE RENEWABLE PPAS; A NEW FRAMEWORK ON THE ROAD

Corporations all around the world have been showing an increasing interest in sourcing their energy needs through renewable Power Purchase Agreements (PPAs), being wind and solar PV the most preferred technologies.

### WHAT IS IT:

A corporate Power Purchase Agreement consists of a long-term contract under which a private enterprise or public institution (other than utilities) agrees to purchase electricity directly from an energy generator, rather than from a traditional supplier, for a pre-agreed price during a pre-agreed period of time, commonly with a term between 10 to 15 years. It differs from the traditional utility PPA in the sense that the off-taker is not an electricity distributor or supplier company, but rather the final consumer.

Early entrants to the corporate renewable PPA market were some of the world's biggest technological companies, including Google, Facebook or Amazon. However, the market has recently seen a diverse set of companies, including retailers and industrials entering into corporate renewable PPAs and other players as municipalities, universities and hospitals, which are also seizing opportunities.

### **BENEFITS:**

Corporate renewable PPAs provide an opportunity for corporations to comply with their sustainability strategy commitments, by using renewable energy, therefore reducing their carbon footprint and enhancing their reputation and branding. Many private companies are setting themselves challenging energy and sustainability targets and are making these commitments public by joining international initiatives such as RE100<sup>1</sup>. Corporate renewable PPAs also improve cost predictability, which is especially important in a context of volatile or increasing energy prices, through the ability to set prices for a long-term period and avoid carbon and environmental penalties by complying with current and future regulatory requirements. Following the growing competitiveness of renewable energy technologies, latest PPAs signed around the world offered very attractive and stable prices to the off-takers.

From the renewable generators' perspective, corporate renewable PPAs bring predictability and visibility on future earnings to renewable generators who would be otherwise exposed to market volatility.

### STATUS AND PROSPECTS:

The corporate renewable PPA market has grown significantly in the last years, with nearly 19 GW of deals signed since 2008. According to Bloomberg New Energy Finance, a record of 5.4 GW in corporate renewable PPAs have been closed in 2017.

The U.S. is the preferred market for corporate renewable PPAs, with around 11.3 GW of agreements signed according to Bloomberg, supported by a compatible renewable framework, volatile (and sometimes high) electricity prices, existence of projects with abundant resource and wide availability of expertise in structuring electricity transactions. In Europe, the corporate renewable PPAs market has experienced a slow start but has been growing at a considerable pace in the last five years. Today, more than 3 GW of corporate renewable PPAs have been structured in Europe, being the UK, Scandinavian countries and the Netherlands the largest markets.

EDPR has already a solid experience in partnerships with major companies like Bloomberg, Amazon, Home Depot, General Motors and Philips in the US along with Industrias Peñoles in Mexico.

<sup>&</sup>lt;sup>1</sup> RE100 is a global initiative of influential corporations committed to 100% renewable electricity, working to massively increase demand for - and delivery of - renewable energy

# **2.2. BUSINESS PLAN**

### EDPR'S STRATEGIC PLAN THROUGH 2020 IS SUPPORTED BY THREE PILLARS; SELECTIVE GROWTH, OPERATIONAL EXCELLENCE AND SELF-FUNDING MODEL

In May 2016, EDPR presented to the financial community its Business Plan for 2016-20 at the EDP Group Investor Day held in London. Several financial markets participants were present at the event, including press, online participants, investors, analysts and rating agencies, demonstrating a great interest in the group's equity story and strategy.

EDPR increased its 2014-17 Business Plan growth targets in the new Business Plan with stronger capacity additions and technological mix. Since its inception, EDPR has been performing a strategy focused on selective growth, by investing in quality projects with predictable future cash-flows, and seamless execution, supported by core competences that yield superior profitability, all embedded within a distinctive and self-funding model designed to accelerate value creation. As a result of undertaking such strategy, at the same time flexible enough to accommodate to changing business and economic environments, EDPR remains today a leading company in the renewable energy industry.

EDPR 2020 investment case will continue to be supported by a distinctive strategic agenda which is being successfully delivered in order to outperform its 2016-20 goals.



EDPR business model set to deliver predictable and solid growth targets in core markets...



...positioning to successfully lead a sector with increased worldwide relevance

<sup>1</sup> EBITDA and Net Profit adjusted by non-recurrent events: 2015 Adj. EBITDA: €1.0 billion; 2015 Adj. Net Profit: €108 million; 2016 Adj. EBITDA: €1.2 billion; 2016 Adj. Net Profit: €104 million; 2017 Adj. EBITDA: €1.3 billion; 2017 Adj. Net Profit: €226 million. Adj. Target Net Profit CAGR would be equivalent to 16% without asset life extension adjustment effective since January 2017.



### 2.2.1. SELECTIVE GROWTH

### CAPACITY ADDITIONS (MW; %)

The selective growth strategic pillar is the key principle behind EDPR's investment selection process, it ensures that the projects that are finally built have the best fit with the company's low risk profile. This is achieved as new projects have long-term PPAs already secured or have been awarded long-term contracts under stable regulatory frameworks, as well as exhibiting above portfolio average load factor.

### Strong execution

EDPR's extensive pipeline has been an important contributing factor to the successful execution of this strategy as the availability of multiple projects coupled with strong development expertise guarantees that only the best, fully optimized projects are finally selected for investment.



### SELECTIVE GROWTH TARGETS





EDPR is well on track to deliver on its business plan target growth of +3.5 GW cumulative from 2016 to 2020 (700 MW/year), with 86% of the capacity additions target already secured and 600 MW installed in 2017.

Efforts in new key areas like Solar and Offshore have already crystalized securing long-term growth.

### 65% GROWTH FROM NORTH AMERICA, DRIVEN BY PPAS ALREADY SECURED

The United States is EDPR's main growth driver for the 2016-20 Business Plan timeframe. The visibility over Production Tax Credit (PTC) tax scheme, the strong demand from both utilities, and commercial and industrial companies for long-term PPAs from wind energy projects, combined with EDPR's diversified portfolio of projects in this market support this solid growth opportunity.

The December 2015 extension of the PTC provides long-term visibility to US growth beyond 2016-20 for new wind energy projects, reinforces the strong fundamentals of the US wind market and supports EDPR's choice to shift growth to the US.

The Business Plan for 2016-20 targets 1.8 GW of wind onshore additions in the US, of which 1.5 GW were already secured as of December 2017 and are entitled to receive 100% PTC value.

In addition, it is worth mentioning that EDPR secured turbine components in 2016 that grant the option to install up to 3.1 GW of wind projects until 2020, benefitting from 100% of the PTC value. In 2017, EDPR also secured turbine components to be installed after 2021, offering more visibility post Business Plan.

In 2017, EDPR was awarded two long-term energy sale agreements in North America. The first a PPA in the State of Indiana for 75 MW of onshore wind with start of operation expected in 2018 and the second, a 20-year RESA for the delivery of 248 MW onshore wind in Alberta, Canada, with commercial operation to occur in December 2019.



### 15% GROWTH FROM EUROPE, FOCUSING ON LOW RISK REGULATORY FRAMEWORKS

For the 2016-20 Business Plan, EDPR growth in Europe represents c.15% of the planned capacity additions, a growth supported by identified short-term opportunities and medium-term pipeline options. In terms of growth by country, EDPR has high visibility to additions. Firstly, in Portugal, 216 MW will be added with a 20-year feed-in tariff, of which 49 MW are under construction. On top of those additions EDPR already installed 7 MW (3 MW of which solar) by 2017 and has 6 MW extra under construction related with over equipments. In Italy, with c.200 MW target additions, 44 MW were installed by 2017 and 127 MW more will be added with a 20-year contract of which 77 MW are currently under construction. In France, EDPR targets additions of c.100 MW through pipeline development, of which 46 MW were already installed by 2017 while 11 MW are currently under construction. In Spain, 25 MW net were added related with the acquisition of a 50% participation in a wind farm previously accounted as equity and EDPR was awarded 93 MW in January 2016, 68 MW of which are currently under construction.

### 10% FROM BRAZIL, IN PROJECTS WITH LONG-TERM PPAS

In Brazil, EDPR already installed 331 MW, while 137 MW are currently under construction. EDPR has the objective to remain actively prospecting opportunities in Brazil, namely auction opportunities, given the strong fundamentals of the country, with high growth of electricity demand, robust renewable resources and availability of long-term energy supply agreements through an auction system.

### TECHNOLOGICAL MIX

### 10% growth in solar, given its increasing competitiveness

In order to take advantage of this profitable renewable technology and considering its increasing competitiveness, EDPR included in its 2016-20 Business Plan a 10% growth target for PV solar. The US is the core market for this growth, where the technology is boosted by the Investment Tax Credit scheme, while in Europe, Brazil and Mexico developing options are based on fundamentals. In 2017 EDPR installed 63 MW of solar PV technology; 3 MW in Portugal and 60 MW in South Carolina with a 15-year PPA.



### **Investing in Offshore Wind Technology**

Offshore projects are being developed by EDPR, to support growth options and to capture this new wave of industry development. These projects, located in the UK and France, are expected to start operations beyond the 2016-20 Business Plan, but are already being developed through partnerships, from which the company is also able to further develop technological expertise in the sector. In 2017 EDPR was awarded, in a joint venture with ENGIE, a 15-year CfD in the UK for the delivery of 950 MW of offshore wind generation to be completed by 2022.

### 2.2.2. OPERATIONAL EXCELLENCE

One of the strategic pillars that has always been a keystone of the company, setting it apart in the industry, is the drive to maximize the operational performance of its wind and solar plants. In this area, EDPR's teams, namely in operations and maintenance (O&M), have established a strong track record that supports challenging targets set in the 2016-20 Business Plan. For this period, EDPR has set targets for three key metrics: Load Factor, Technical Availability and Core Opex per MW. These metrics provide an overall view of the progress in EDPR wind assessment, O&M and cost control efforts. They also serve as good indicators for the overall operational efficiency of the company.

### STRONG EXECUTION

### OPERATIONAL EXCELLENCE TARGETS



### MAINTAINING HIGH LEVELS OF AVAILABILITY >97.5%

Availability is the ratio between the energy actually generated and the energy that would have been generated without any downtime due to internal reasons, namely due to preventive maintenance or repairs. Therefore it is a clear performance indicator of the company's O&M practices as it focuses on reducing to a minimum any malfunctions and performing maintenance activities in the shortest possible timeframe.

The company has always maintained high levels of availability, having registered availability of 97.8% in 2017, in line with its 2016-20 Business Plan target. EDPR will continue to improve availability through new predictive maintenance optimization measures supported by the 24/7 control and dispatch centre, reducing damages most common during extreme weather and improving the scheduling of planned stops. Also a new spare parts warehousing strategy will be key in reducing downtime during unexpected repairs.

### LEVERAGING QUALITY GROWTH ON DISTINCTIVE WIND ASSESSMENT TOWARDS 33% LOAD FACTOR

Load factor (or net capacity factor) is a measure for the renewable resource quality, that reflects the percentage of the maximum theoretical energy output, in a given period.

Ensuring the assets generate the maximum amount of energy possible is a key success factor. With regards to the operating portfolio, optimizing load factor is linked to the improvement of availability as above described and, if possible, introducing productivity enhancement retrofits that boost production by equiping older turbine models with the most up-to-date technological improvements available to increase efficiency in the utilization of the available resources of renewables. The energy assessment and engineering teams are responsible for the wind farms and solar plants development and designe in a way that maximizes load factor. They define the optimal layout of the plant by matching the positioning and choice of turbines with the characteristics of the site, specially the terrain, from the collected resource measurements and their estimated energy outputs.

The company has consistently maintained levels of load factor in the range of 29-30%, having registered 31% in 2017, which is slightly below the P50 (mean probability) assessment for the current fleet, given the lower wind resource in the period when compared with an average year. For 2020 EDPR has a target to reach 33% load factor, mainly on the back of the increase competitiveness of new capacity additions.

### INCREASING EFFICIENCY, BY REDUCING CORE OPEX /AVG. MW -1%

In addition to all company initiatives to boost production, EDPR also focuses on strict cost control efforts to improve efficiency and profitability. Leveraging on the experience accumulated over time, EDPR set a target in the 2016-20 Bussiness Plan to reduce Core Opex /Avg. MW by -1% CAGR 2015-20. Core Opex is defined by Supplies and Services (including O&M activities) and Personnel costs, which are the costs that EDPR can actively manage. The target of reducing the manageable company costs structure, also benefits from the economies of scale of a growing company. With regards to O&M, that represents c. 30% of total Opex, EDPR has already delivered results through the implementation of its M3 (Modular Maintenance Model) system and self-perform program to some of the wind farms that are no longer under initial warranty contracts.

### M3 PROGRAM AND SELF-PERFORMANCE

As EDPR's fleet becomes more mature the initial O&M contracts signed with the turbine suppliers expire. When that happens the company needs to decide between renewing the maintenance service with the OEM (Original Equipment Manufacturer) or insourcing activities to operate the wind farm on its own, whilst maintaining high levels of availability.

Based on EDPR's expertise, under the **M3 program** O&M teams will decide on the optimal balance between external contractors and in-house maintenance. Usually, EDPR keeps control of high value-added activities such as maintenance planning, logistics and remote operations while outsourcing, under direct supervision, labour-intensive tasks. This new program has quickly generated savings in operational expenses and increased control over quality. During 2017 self-perform maintenance was implemented in additional facilities whose maintenance contracts were up for renewal. The **self-perform** program is a step further in EDPR's integration of maintenance tasks and activities, which is being implemented in the US, and consequently minimizes third-parties dependency. EDPR targets to increase the share of its fleet under the M3 and Self-Perform program to c.50% by 2020, from c.30% levels in 2015.



Notes: 1 ISP - Independent Service Provider; 2 OEM - Original Equipment Manufacturer

### INCREASING PRODUCTION

For the period 2016-20, and in line with its previous targets, EDPR aims to increase its total production by 10% CAGR 2015-20. This growth is to be supported by its distinctive competences and accretive projects.

EDPR is also creating value through the improvement of its assets by implementing new technologies to boost turbine power output without requiring major component changes. Performance Analysis teams are collaborating with the manufacturers to determine the best practices to apply this new technology. For instance, installing new versions of the softwares on the older machines with the support of the manufacturer, improves the operation of the turbine and increases their efficiency. Another measure is the implementation of Vortex generators where components are installed on the blades, modifying and improving the blades' aerodynamics, achieving an increase in efficiency.

### 2.2.3. SELF-FUNDING MODEL

EDPR self-funding model has been a cornerstone of EDPR's strategy and its success has been crucial for funding growth.

The self-funding model relies on a combination of the Retained Cash Flow from operating assets and EDPR's successfully Asset Rotation strategy, along with the US Tax Equity structures to finance the profitable growth of the business. This model, that was already included in the previous business plan, substitutes the initial financing strategy that depended on corporate debt from EDP, the major shareholder of EDPR.

### STRONG EXECUTION



The primary source of funds for the company is the EBITDA generated from existing assets, which after paying debt services costs, deducting capital distributions to equity partners and taxes is called Retained Cash Flow, meaning the amount available to pay dividends to EDPR shareholders and/or to fund new investments.

A strong Retained Cash Flow generation of c. $\in$ 3.9 billion is expected for the period 2016-20.

EDPR indicated in May 2016, a dividend pay-out ratio policy in the range of 25-35% of its annual net profit, thus allowing most of the Retained Cash Flow to fund growth. The dividends paid in 2017 amounted to c. 44 million.

### ASSET ROTATION

Proceeds from asset rotation transactions are also important sources of funds for the self-funding model of EDPR in financing its profitable growth. This enables the company to cristalize the value yet to be realized from the future cash-flows of its existing projects over their long remaining lifetime and reinvest the corresponding proceeds in the development of new value accretive projects, with superior returns. These transactions involve the company selling minority stakes (typically 49% stake) at project level while maintaining full management control. The scope of these transactions tend to be mature projects, generally already operating and thus significantly de-risked, with high visibility to future cash-flows, that can be attractive to low risk institutional investors from whom EDPR can source a competitive cost of finance.

For the period 2016-20 EDPR has the target of completing  $\in$ 1.1 billion of Asset Rotation transactions, which as of December 2017,  $\in$ 550 million were already executed.

For the completion of the Asset Rotation target, EDPR will continue to seek accretive projects with superior returns, thus crystallizing value and accelerating profitable growth.

### US TAX EQUITY

EDPR always aims to find external financing to its projects, namely through tax equity structures, typical of the US. The use of tax equity in the US enables an efficient utilization of the tax benefits generated by the project, otherwise unusable, therefore improving projects' economics. In a simplistic view, tax equity investors contribute a sizable part of the initial project investment, receiving in return almost all of the PTCs granted to the project for first 10 years of operation along with the benefits from the accelerated depreciation.

In 2017 EDPR signed two tax equity transactions, a total funding of \$507 million related to all projects that started operations in 2017.

			TAX EQUITY	TRANSACTIO	DNS		
	м	eadow Lake V, Quilt Block &			Cypress	Creek <b>AR</b>	•
			Signed Jui-17			Signed De	:c-17
2017	363 MW	\$440m	Indiana, Oklahoma, Wisconsin & Ohio	60 MW	<b>469</b>	South Carolina	
	303 MW	3440111	Closing 4Q17	00 MW	\$68m	Closing 4Q17	
		Bank of N	f Mellon		Bank of NY	' Meilon	

# 2.3. RISK MANAGEMENT

In line with EDPR's controlled risk profile, Risk Management process defines the mechanisms for evaluation and management of risks and opportunities impacting the business, increasing the likelihood of the company in achieving its financial targets, while minimizing fluctuations of results.

### **RISK MANAGEMENT PROCESS**

EDPR's Enterprise Risk Management Process is an integrated and transversal management model that ensures the minimization of the effects of risk on EDPR's capital and earnings, as well as the implementation of best practices of Corporate Governance and transparency. The process aligns EDPR's risk exposure with the company's desired risk profile. Risk management policies are aimed to mitigate risks, without ignoring potential opportunities, thus, optimizing return versus risk exposure.

The process is closely followed and supervised by the Audit and Control Committee, an independent supervisory body composed of non-executive members.

Risk management is endorsed by the Executive Committee, supported by the Risk Committee and implemented in dayto-day decisions by all managers of the company.

EDPR created three distinct meetings of the Risk Committee in order to help decision-making, separating discussions on execution of mitigation strategies, from those on the definition of new policies:

- RESTRICTED RISK COMMITTEE: Held every month, it is mainly focused on development risk and market risk from
  electricity price (market, basis, profile, GCs and RECs). It is the forum to discuss the evolution of projects under
  development and construction and the execution of mitigation strategies to reduce merchant exposure. It also
  monitors the limits of defined risk policies, with regards to counterparty risk, operational risk and country risk.
- FINANCIAL RISK COMMITTEE: Held every quarter, it is held to review main financial risks and discuss the execution of mitigation strategies. Exchange rate risk, interest rate risk and credit risk from financial counterparties are most relevant risk reviewed in this committee.
- RISK COMMITTEE: Held every quarter, it is the forum where new strategic analyses are discussed and new policies are proposed for approval to the Executive Committee. Additionally, EDPR's overall risk position is reviewed, together with EBITDA@Risk and Net Income@Risk.

### RISK MAP AT EDPR

Risk Management at EDPR is focused on covering all risks of the company. In order to have a holistic view, they are classified in five Risk Categories.

Within each Risk Category, risks are classified in Risk Groups. The full description of the risks and how they are managed can be found in the Corporate Governance chapter. The graph below summarizes the Risk Categories, the Risk Groups and the Risk Management mitigation strategies at EDPR.

 Electricity Price Risk It refers to the risk to EDPR resulting from movements MARKET in market prices. Due to the relationship between wind Electricity Production Risk production and electricity price production risk is Commodity Price Risk  $\gg$ considered within market risk. BICKU Liquidity Risk In particular, market risks are changes in electricity Inflation Risk prices, production risk, interest rates, foreign Exchange Rate Risk exchange rates and other commodity prices. Interest Price Risk that counterparty to a transaction could default COUNTERPARTY before final settlement of the transaction's cash flows. A direct economic loss would occur if transactions with the counterparty had positive economic value at the Counterparty Credit Risk  $\gg$ BICK time of default. Even in the case of not defaulting, it Counterparty Operational Risk may not comply with its contract obligations (timing, quality, etc.), implying additional higher costs due to its replacement or to delays in fulfilling the contract. Development Risk • Legal Claims Risk (Compliance) Execution Risk OPERATIONAL Defined as the risk of loss resulting from inadequate or Personnel Risk failed internal processes, people and systems or from  $\gg$ • Operation Risk (Damage to external events (such as an increase in equipment BICK Physical Assets and Equip, Performance) default rates, increasing O&M, or natural disasters). Processes Risk Information Technologies Risk Potential loss in the company's earnings due to Energy Production Risk BUSINESS adverse changes in business margins. Such losses can Equipment Performance Risk result, above all, from a serious increase in equipment  $\gg$  Regulatory Risk (renewables) prices or changes in the regulatory environment. BICK Wind Turbine Price Risk Changes in electricity prices and wind production are Wind Turbine Supply Risk considered market risks. Country Risk Competitive Landscape Risk It refers to risks coming from macroeconomic, (TRATEGIC Technology Disruptions Risk political, social or environmental situation in countries where EDPR is present, as well as those coming from a • Invest. Decisions Criteria Risk  $\gg$ change in competitive landscape, from technology BICK Reputational Risk disruptions, from changes in energy markets or from Meteorological Changes governance decisions (investment decisions criteria, Corp. Organization Corporate Governance and Reputational issues). and Governance Energy Planning

## **MITIGATION STRATEGIES**

- Close analysis of natural hedges to define best alternatives
- Hedge of market exposure through long term power purchase agreements (PPA) or short-term financial hedges
- Natural FX hedging, with debt and revenues in same currency
- Execution of FX hedging for net investment (after deducting local debt)
- Execution of FX hedging to eliminate FX transaction risk, mainly in Capex
- Execution of interest rate hedging
- Execution of inflation hedging

 $\gg$ 

 $\gg$ 

 $\gg$ 

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- Alternative funding sources such as Tax equity structures and Multilateral/Project Finance agreements
- Counterparty exposure limits by counterparty and at EDPR level
- · Collateral requirement if limits are exceeded
- · Monitoring of compliance with internal policy
- Supervision of suppliers by EDPR's engineering team
- Flexible CODs in PPAs to avoid penalties
- Partnerships with strong local teams
- Monitor recurrent operational risks during construction and development
- Close follow-up of O&M costs, turbine availability and failure rates
- Insurance against physical damage and business interruption
- Strict compliance with legal requirements and zero tolerance for unethical behavior or fraud
- Attractive remuneration packages and training for personnel
- Revision of all regulations that affect EDPR activity (environmental, taxes...)
- · Control of internal procedures
- Redundancy of servers and control centers of wind farms
- Careful selection of energy markets based on country risk and energy market fundamentals
- Diversification in markets and remuneration schemes
- Follow-up of regulation changes in markets where EDPR is present to adjust strategy if needed
- Active involvement in all major wind associations in all EDPR markets
- Signing of medium-term agreements with turbine manufacturers to ensure visibility of turbine prices and supply
- · Relying on a large base of turbine suppliers to ensure supply
- Careful selection of countries
  - Worst case profitability analysis of every new investment considering all risks factors
- Risk-return metrics at project and equity level
- Consideration of stress case scenarios in the evolution of energy markets for new investment decisions
- Follow-up of cost effectiveness of renewable technologies and potential market disruptions

EDPR RISK MATRIX BY RISK CATEGORY

EDPR Risk Matrix is a qualitative assessment of likelihood and impact of the different risk categories within the company. It is dynamic and it depends on market conditions and future internal expectations.



### EDPR RISK MATRIX BY RISK CATEGORY



### FOCUS ON MARKET RISK IN US MARKETS

EDPR has some merchant exposure in some US windfarms. This risk is mitigated through hedging the three components of locational marginal prices (LMP), namely energy price, congestion cost and transmission losses.

The most volatile risk factor is the energy price, followed by congestion cost and transmission losses. The hedging strategy will depend on the exposure of each wind farm, as well as on the liquidity of the hedging instruments.



### FOCUS ON MARKET RISK IN US MARKETS



# 03

# EXECUTION

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Eco	no	nn i	
	пo		•

Operational performance Financial performance	69 71
Stakeholders	
Employees	80
Communities	84
Suppliers	87
Media	90
Safety First: Proactive Approach	91
Environment	92
Innovation	94







# **03 EXECUTION**

# **3.1. ECONOMIC**

EBITDA MW +

Equity consol.

### **3.1.1. OPERATIONAL PERFORMANCE**

### **INSTALLED CAPACITY INCREASED 600 MW IN 2017**

		MW	an an Arabana Ar Anna Arabana Ar Anna Arabana		NCF			GWH	
	YE17	YE16	Var.	YE17	YE16	Var.	YE17	YE16	Var.
Spain	2,244	2,194	+50	27%	26%	+1pp	5,095	4,926	+3%
Portugal	1,253	1,251	+3	27%	28%	-1pp	2,912	3,047	-4%
Rest of Europe	1,564	1,541	+22	27%	25%	+2pp	3,662	3,257	+12%
France	410	388	+22	23%	23%	-0.4pp	808	777	+4%
Belgium	71	71	-	21%	21%	+0.2pp	129	128	+1%
Italy	144	144	-	27%	28%	-1pp	337	258	+30%
Poland	418	418	-	30%	25%	+5pp	1,093	951	+15%
Romania	521	521	-	28%	25%	+3pp	1,295	1,143	+13%
Europe	5,061	4,986	+74	27%	26%	+1pp	11,669	11,230	+4%
US	5,055	4,631	+424	35%	33%	+1pp	14,410	12,501	+15%
Canada	30	30	-	28%	28%	-	75	75	-0,4%
Mexico	200	200	-	39%	-	-	606	-	-
North America	5,285	4,861	+424	35%	33%	+1pp	15,091	12,576	+20%
Brazil	331	204	+127	43%	35%	+9pp	861	666	+29%
TOTAL	10,676	10,052	+624	31%	30%	+1pp	27,621	24,473	+13%
Other equity consolidated	331	356	-25						
Spain	152	177	-25						
US	179	179	-						

# EDPR CONTINUES TO DELIVER SOLID SELECTIVE GROWTH

10,408

11,007

With a top-quality portfolio, EDPR has a strong track record and proven capability to execute superior projects and deliver on targets. The installed asset base of 11.0 GW is not only young, on average 7 years, it is also mostly certified in terms of environmental and health and safety standards. Since 2008, EDPR has more than doubled its installed capacity by adding 7 GW, resulting in a total installed capacity of 11,007 MW (EBITDA + Net Equity). As of year-end 2017, EDPR had installed 5,213 MW in Europe, 5,464 MW in North America and 331 MW in Brazil.

+600

### 2017 INSTALLATIONS CONCENTRATED IN NORTH AMERICA

The largest growth in installed capacity occurred due to the completion of 424 MW in North America. All of the MW had previously secured PPA contracts, thus providing long-term stability and visibility on the revenue stream. In Europe there were 49 MW net added, with 25 MW net installed in Spain (related to the acquisition of a 50% stake in a Spanish wind farm that was previously accounted as equity), 22 MW in France and 3 MW in Portugal. In Brazil 127 MW were added with the installation of the JAU and Aventura wind farms.

### 11.0 GW EBITDA + Net Equity



### +600 MW in 2017





≝SP PT RoE NA BR

### Assets' Average Age and Useful Life

	(years)						
Spain	10.2	·					
Portugal	8.7						
France	7.3			······			
Belgium	8.0	,)	······				
Poland	5.3						
Romania	5.7						
Italy	3.2						
US	6.4						
Canada	4.1						
Mexico	1.0		······				
Brazil	2.5		······································				
EDPR	7.2		· · ·				
	0	10	20	30			

### EDPR generated 27.6 TWh during 2017. When adding around 2 TWh produced from our equity projects, enough clean energy was produced to serve 59% of the electricity demand of Portugal.

**13% INCREASE IN YOY GENERATION** 

The 13% year-on-year increase in the electricity output benefited from the capacity additions over the last 12 months along with the higher realized load factor.

EDPR achieved a 31% load factor during 2017 (vs 30% in 2016) benefiting from a strong recovery of the wind resource in the last quarter of the year.

EDPR also achieved a 98% availability, in line with the previous year. The company continues to leverage on its competitive advantages to maximize wind farm output and on its diversified portfolio across different geographies to minimize the wind volatility risk.

### PREMIUM PERFORMANCE AND DIVERSIFIED PORTFOLIO DELIVERS **BALANCED OUTPUT**

EDPR's operations in North America were the main driver for the electricity production growth in 2017, increasing by +20% YoY to 15.1 TWh and representing 55% of the total output. This performance was driven by EDPR's unique ability to capture the wind resource available along with the contribution from new additions in the US. EDPR achieved a 35% load factor in North America, an increase of +1pp vs. 2016.

EDPR's production in Brazil increased by +29% YoY, reaching 861 GWh in 2017, benefiting from the positive impact of the latest capacity additions along with higher wind resource (43% load factor vs 35% in 2016; +127 MW).

In Europe, EDPR's output increased 4% YoY to 11.7 TWh mainly supported by 3% output increase in Spain and 12% in the Rest of Europe, with outstanding wind resource in the last quarter of the year.

EDPR achieved a 27% load factor in Portugal reflecting slightly lower wind resource (-1pp YoY). In Spain, EDPR delivered a load factor of 27% with a solid premium over the Spanish market average load factor (+3pp), benefiting from a strong 4Q17 (+8pp YoY) and offsetting the lower performance of the first nine months of the year. In the Rest of Europe EDPR posted higher year-on-year generation (+12%) supported by a 27% load factor (vs 25% in 2016).

### PROPELLED BY THE CAPACITY ADDITIONS IN 2017, EDPR MANAGES A PORTFOLIO OF 11.0 GW SPREAD **OVER 11 COUNTRIES**

By the end of 2017, EDPR had 828 MW of wind onshore under construction. In the US 480 MW were under construction, namely Turtle Creek 202 MW (Iowa), Meadow Lake VI 200 MW (Indiana) and Arkwright 78 MW (New York) projects. In Europe 211 MW were under construction (77 MW in Italy, 68 MW in Spain, 55 MW in Portugal and 11 MW in France). In Brazil a total of 137 MW related to Babilonia wind farm were under construction.

As a result of continuous growth effort, EDPR also has a young portfolio with an average operating age of 7 years, with an estimate of over 22 years of useful life remaining to be captured.

### **3.1.2. FINANCIAL PERFORMANCE**

### Revenues increased 11% YoY to €1.8 billion and EBITDA summed €1.4 billion.

In 2017, EDPR's revenues totaled  $\notin$ 1,827 million, an increase of  $\notin$ 176 million when compared with 2016 mainly due to higher MW in operation, positive impact from prices despite lower average selling price year on year ( $\notin$ 59/MWh vs  $\notin$ 61/MWh in 2016) mainly as a result of capacity additions mix (product vs price), along with higher wind resource which also propelled EDPR's electricity output to an increase of 13% vs 2016.

Reported EBITDA increased by 17% year on year to €1,366 million leading to an EBITDA margin of 75%. If adjusted by non-recurring items, 2017 EBITDA increased 13% and EBITDA per MW in operation increased 7% to €134 thousand. Core opex (defined as Supplies and Services along with Personnel Costs) per average MW in operation decreased 2% year on year reflecting strict control over costs and EDPR's asset management strategy.

Other operating costs decreased to €128 million, mainly explained by one-offs in 2016 despite 2017 higher capacity in operation.

FINANCIAL HIGHLIGHTS (C MILLIONS)	2017	2016	Δ% / €
Income Statement			
Revenues	1,827	1,651	+11%
EBITDA	1,366	1,171	+17%
Net Profit (attributable to EDPR equity holders)	276	56	+390%
Cash-Flow			
Operating Cash-Flow	981	869	+13%
Retained Cash-Flow	1,114	698	+60%
Net investments	1,036	96	+976%
Balance Sheet			
Assets	16,224	16,734	-511
Equity	7,895	7,573	+322
Liabilities	8,329	9,161	-833
Liabilities			
Net Debt	2,806	2,755	+51
Institutional Partnerships	1,249	1,520	-271

### Net profit reached €276 million.

All in all, Net Profit totaled  $\in$ 276 million and Adjusted Net Profit  $\in$ 226 million, if adjusted for non-recurring events (one-offs: 2016 + $\in$ 110 million, including depreciation schedule adjustment to 30 years; 2017 - $\in$ 50 million, mainly related to positive adjustments on asset rotation past transactions, impairment losses and one-offs in taxes).

### Retained cash flow increased 60% YoY to €1,114 million, capturing assets' cash generation capabilities.

Despite the challenging year EDPR was able to deliver a robust cash-flow generation. Following EBITDA cash-generation, income tax of the year, interests, banking and derivatives expenses and minority dividends/interest payments, 2017 Retained Cash-Flow increased 60% to  $\epsilon$ 1,114 million. In 2017, RCF includes a non-recurrent event (+ $\epsilon$ 168 million from bonus depreciation) in Tax Equity realized revenues, if adjusted by such event, RCF increased by 35% year on year.

Capital expenditures totaled  $\pounds$ 1,051 million reflecting the capacity added in the year, the capacity under construction and enhancements in capacity already in operation. Pursuing the strategic partnership between EDPR's main shareholder (EDP) and CTG, in 2017 occurred the settlement of CTG – ENEOP transaction for a total amount of  $\pounds$ 247 million.

Net Debt totaled €2,806 million, €51 million higher year on year, mainly reflecting the investments done and changes from consolidation perimeter variations in Mexico.

### INCOME STATEMENT

the acquisition of assets.

in 2016 despite 2017 higher capacity in operation.

### SOLID TOP LINE PERFORMANCE

EDPR revenues increased 11% year on year to €1,827 million, an increase of €176 million when compared with 2016 mainly due to higher installed capacity, positive impact from prices despite lower average selling price due to generation mix, along with higher wind resource year on year.

Other operating income amounted €95 million with the year on year performance benefited by a gain (+€29 million) following the sale of a stake and loss of control of a UK offshore project and gains in past asset rotation transaction's adjustments along with a revaluation gain related to

Operating Costs (Opex) totaled €556 million, with higher capacity in operation. In detail, Core Opex totaled €428 million, with Core Opex per Avg. MW and per MWh decreasing by 2% and 5% respectively, reflecting strict control over costs and EDPR's asset management strategy. Other operating costs decreased to €128 million, mainly explained by one-offs

EBITDA increased by 17% year on year to €1,366 million, leading to an EBITDA margin of 75% and unitary EBITDA per MW in operation totaled €134 thousand (+7% vs 2016). Adjusted EBITDA summed €1,339 million (+13% vs Adj. EBITDA in 2016 of €1,184 million) if adjusted by non-recurrent events.

Operating income (EBIT) increased 42% year on year to €803 million, driven by the positive top line performance as well as a 7% decrease in depreciation and amortization cost (including provisions, impairments and net of government grants) due to EDPR's change in depreciation schedule that offset the negative impact from higher capacity in operation.

At the financing level, Net Financial Expenses decreased to €302 million mainly reflecting the lower Net interest cost of debt after favorable negotiations along with lower average debt and with yearly comparison impacted by a €30 million one off accounted (in 2016) in Other financial expenses mainly on the back of early cancelation and optimization of certain project finances.

In 2017, Pre-Tax Profit summed €504 million, with income taxes totaling €48 million. Effective tax rate was 10%, positively impacted by the outcome of the US tax reform by the end of the year. Non-controlling interests amounted to €180 million, increasing year on year in line with top line performance and changes in depreciation schedule along with EDPR settlement of previous minority stakes transactions. All in all, Net Profit totaled €276 million and adjusted Net Profit € 226 million (+36% vs 2016 adjusted at €166 million) if adjusted for non-recurring events.

CONSOLIDATED INCOME STATEMENT (€ MILLION)	2017	2016	∆% / €
Revenues	1,827	1,651	+11%
Other operating Income	95	54	+77%
Supplies and services	(327)	(305)	+7%
Personnel costs	(101)	(94)	+7%
Other operating costs	(128)	(135)	(5%)
Operating Costs (net)	(461)	(480)	(4%)
EBITDA	1,366	1,171	+17%
EBITDA/Net Revenues	75%	71%	+4pp
Provisions	0.2	(4.7)	-
Depreciation and amortisation	(583)	(624)	(7%)
Amortization of government grants	20	22	(12%)
EBIT	803	564	+42%
Financial Income / (expenses)	(302)	(350)	(14%)
Share of profits of associates	2.7	(0.2)	(1567%)
Pre-tax profit	504	214	+136%
Income taxes	(48)	(38)	+28%
Profit of the period	456	176	2
Net Profit Equity holders of EDPR	276	56	4
Non-controlling interest	180	120	+51%





**REVENUES EVOLUTION (€ million)** 

### **BALANCE SHEET**

### Total equity increases by €322 million.

Total Equity of  $\notin$ 7.9 billion increased by  $\notin$ 322 million in 2017, of which  $\notin$ 112 million attributable to non-controlling interests. The increased equity attributable to the shareholders of EDPR by  $\notin$ 220 million is mainly due to  $\notin$ 276 million of Net Profit and  $\notin$ 96 million of Asset Rotation transactions, reduced by the  $\notin$ 44 million in dividend payments.

Total liabilities decreased 9% by - $\varepsilon$ 833 million, mainly due to a decreased in accounts payable (- $\varepsilon$ 479 million), institutional partnerships (- $\varepsilon$ 271 million) and financial debt (- $\varepsilon$ 169 million).

With total liabilities of  $\in$ 8.3 billion, the debt-to-equity ratio of EDPR stood at 105% by the end of 2017, which is a decrease from the 121% in 2016. Liabilities were mainly composed of financial debt (39%), liabilities related to institutional partnerships in the US (15%) and accounts payable (28%).

Liabilities to tax equity partnerships in the US decreased 18% to  $\leq 1,249$  million, including +\$507 million of new tax equity proceeds received in the 2017. Deferred revenues related to institutional partnerships primarily represent the non-economic liability associated to the tax credits already realized by the institutional investor, arising from accelerated tax depreciation, and yet to be recognized as income by EDPR throughout the remaining useful lifetime of the respective assets.

Deferred tax liabilities reflect the liabilities arising from temporary differences between the accounting and the tax basis of assets and liabilities. Accounts payables include trade suppliers, PP&E suppliers, deferred income related to investment grants received and derivative financial instruments.

As total assets totaled  $\leq$ 16.2 billion in 2017, the equity ratio of EDPR reached 49%, versus 45% in 2016. Assets were 81% composed of net PP&E - property, plant and equipment, reflecting the cumulative net invested capital in renewable energy generation assets.

Total net PP&E of €13.2 billion changed to reflect €1,047 million of new additions during the year and €222 million from other (changes in Mexico consolidation perimeter and the acquisition of 50% stake in a Spanish wind farm partially offset by the loss of control over Moray (UK) and other impairments), reduced by €984 million from negative exchange differences along with €537 million from depreciation charges, impairment losses and write-offs.

Net intangible assets of  $\leq 1.5$  billion mainly include  $\leq 1.3$  billion from goodwill registered in the books, for the most part related to acquisitions in the US and Spain, while accounts receivable is mainly related to loans to related parties, trade receivables, guarantees and tax receivables.

### STATEMENT OF FINANCIAL POSITION (€ MILLION)

STATEMENT OF FINANCIAL POSITION (C MILLION)	2017	2016	Δ% / €
Assets			
Property, plant and equipment, net	13,185	13,437	(252)
Intangible assets and goodwill, net	1,546	1,596	(50)
Financial investments, net	312	348	(36)
Deferred tax assets	64	76	(11)
Inventories	29	24	+5
Accounts receivable – trade, net	364	266	+98
Accounts receivable - other, net	235	338	(103)
Collateral deposits	43	46	(3)
Cash and cash equivalents	388	603	(215)
Assets held for sale	58	-	+58
Total Assets	16,224	16,734	(511)

STATEMENT OF FINANCIAL POSITION (€ MILLION)	2017	2016	∆% / €
Equity			
Share capital + share premium	4,914	4,914	-
Reserves and retained earnings	1,146	1,155	(10)
Net profit (equity holders of EDPR)	276	56	+220
Non-controlling interests	1,560	1,448	+112
Total Equity	7,895	7,573	+322
Liabilities			
Financial debt	3,237	3,406	(169)
Institutional partnerships	1,249	1,520	(271)
Provisions	276	275	+1
Deferred tax liabilities	356	365	(9)
Deferred revenues from institutional partnerships	915	819	+95
Accounts payable – net	2,297	2,776	(479)
Total Liabilities	8,329	9,161	(833)
Total Equity and Liabilities	16,224	16,734	(511)

### CASH FLOW STATEMENT

### STRONG OPERATING CASH-FLOW

In 2017, EDPR generated Operating Cash-Flow of €981 million, an increase of 13% year on year, reflecting EBITDA performance and reinforcing the generation capabilities of its assets in operation.

The key items that explain 2017 cash-flow evolution are the following:

- Funds from operations, resulting from EBITDA after net interest expenses, share of profits of associates and current taxes, increased to €1,184 million.
- Operating Cash-Flow, which is EBITDA net of income tax and adjusted by non-cash items and net of changes in working capital, was €981 million.
- Capital expenditures with capacity additions, ongoing construction and development works totaled €1,051 million. Other net investing activities amounted to €29 million (cash-in).
- Pursuing the strategic partnership between EDPR's main shareholder (EDP) and CTG, in 2017 occurred the settlement of CTG ENEOP transaction, for a total amount of €247 million.
- Proceeds from new institutional tax equity financing structure totaled €445 million, related to the tax equity signed in the US for 363 MW of wind energy projects and 60 MW of Solar PV plants. Payments to institutional partnerships totaled €195 million contributing to the reduction of Institutional Partnership liability. Total net dividends and other capital distributions paid to minorities amounted to €115 million (including €44 million to EDPR shareholders). Forex & Other had a negative impact increasing Net Debt by €269 million, mainly reflecting the consolidation of Mexican wind farm, despite dollar depreciation vs Dec-16.
- Retained Cash Flow, which captures the cash generated by operations to re-invest, distribute dividends & amortize debt, increased to €1,114 million. In 2017, RCF includes a non-recurrent event (+€168 million from bonus depreciation) in Tax Equity realized revenues, if adjusted by such event, RCF increased 35% vs 2016. Net Debt & Institutional Partnership Liability decreased by €220 million.

CASH FLOW (€ MILLION)	2017	2016	∆% / €
EBITDA	1,366	1,171	+17%
Current Income Tax	(46)	(50)	(7%)
Net interest costs	(139)	(179)	(22%)
Share of profits of associates	3	(0.2)	-
FFO (Funds from operations)	1,184	942	+26%
Net interest costs	139	179	(22%)
Income from associated companies	(3.0)	0.2	-
Non-cash items adjustments	(52)	(12)	+338%
Changes in working capital	(62)	(43)	+43%
Operating Cash Flow	981	869	+13%
Capex	(1,051)	(1,029)	+2%
Financial Investments	15	(31)	(149%)
Changes in working capital related to PP&E suppliers	14	10	+36%
Government Grants	(0.02)	0.8	(102%)
Net Operating Cash Flow	(41)	(181)	(77%)
Sale of non-controlling interests and shareholders' loans	247	1,189	(79%)
Proceeds/(Payments) related to Institutional partnerships	250	452	(45%)
Net interest costs (post capitalisation)	(123)	(156)	(21%)
Dividends net and other capital distributions	(115)	(146)	(21%)
Forex & Other	(269)	(207)	+30%
Decrease / (Increase) in Net Debt	(51)	952	(105%)







### FINANCIAL DEBT

### LONG-TERM AND STABLE DEBT PROFILE

EDPR's Net Debt totaled €2.8 billion, an increase of €51 million vs 2016, mainly reflecting the investments done in the year and changes resulting from consolidation perimeter variations in Mexico.

Loans with EDP group, EDPR's principal shareholder, accounted for 70% of the debt, while loans with financial institutions represented 30%.

As of December 2017, 42% of EDPR's financial debt was Euro denominated, 46% was funded in US dollars, related to the company's investment in the US and the remaining 12% was mostly related with debt in Polish Zloty and Brazilian Real.

EDPR continues to follow a long-term fixed rate funding strategy, matching the operating cash-flow profile with its financial costs and therefore mitigating interest rate risk. Accordingly, 84% of EDPR's financial debt had a fixed interest rate. As of December 2017, 11% of EDPR's financial debt had maturity in 2018, 12% in 2019, 28% in 2020 and 49% in 2021 and beyond. In 1Q17, EDPR renegotiated a maturity extension of €1.4 billion, which was initially contracted in 2009 with EDP and scheduled to mature in 2018.

In 2017, the average interest rate was 4.0% (flat YoY), reflecting EDPR's  $\in$ 2.8 billion debt restructured and early amortized since 1Q16.

### INSTITUTIONAL PARTNERSHIPS

Liabilities referred to Institutional Partnerships totaled  $\in 1,249$  million (- $\in 271$  million vs 2016) reflecting the benefits captured by the projects and by the establishment of a new institutional Tax Equity financing structure along with forex translation.

FINANCIAL DEBT (€ MILLION)	2017	2016	ΔC
Nominal Financial Debt + Accrued interests	3,237	3,406	-169
Collateral deposits associated with Debt	43	46	-3
Total Financial Debt	3,194	3,360	-166
Cash and Equivalents	388	603	-215
Loans to EDP Group related companies and cash pooling	0.02	1	-1
Financial assets held for trading	-	-	-
Cash & Equivalents	388	605	-217
Net Debt	2,806	2,755	+51

### DEBT INTEREST RATE TYPE PROFILE



### DEBT MATURITY PROFILE (%)



### COST OF DEBT (%)



### **EUROPE**

### REVENUES

In Europe, EDPR delivered revenues of €943 million, an increase of €30 million versus 2016, reflecting the impact from higher electricity output that increased 4% versus 2016 to 11.7 TWh, and despite lower average selling price. European output benefited from capacity additions over the year along with higher load factor 31% (vs 30% in 2016). In 2017, European generation accounted for 42% of EDPR total output.

In detail, the increase in revenues was mainly the result of higher revenues in Spain, France, Italy and Romania on the back of higher generation or higher average selling prices.

### AVERAGE SELLING PRICE

In 2017, EDPR average selling price in Europe decreased 1% to  $\in$ 81 per MWh, mainly driven by a 17% lower average selling price in Poland, on the back of lower green certificate prices and a regulatory change in the substitution fee calculation method (now calculated as 125% of previous year GC avg. price).

### NET OPERATING COSTS

Net Operating costs decreased €32 million, to €215 million, mainly explained by the

increased in Other operating income totaling  $\in$ 66 million, with the increase year on year mainly explained by a capital gain following the sale, and loss of control, of a stake on an offshore UK project ( $\in$ 29 million) and gains in past asset rotation transaction's adjustments along with a revaluation gain related to the acquisition of assets. Supplies and Services and Personnel costs increased year on year on the back of higher capacity in operation and Other operating costs decreased 5%, reflecting EDPR's strict control over costs.

In 2017, Core Opex (Supplies & Services and Personnel Costs) per average MW in operation totaled €39 thousand (+0.4% year on year) and Core Opex per MWh decreased 2% year on year to €17 benefited from the higher output in the year.

All in all, EBITDA in Europe totaled  $\notin$ 729 million reflecting an EBITDA margin of 77% and leading to an EBIT of  $\notin$ 437 million. In 2017, depreciations and amortizations (including provisions, impairments and net of amortizations of government grants) decreased by 5% YoY, reflecting the change in EDPR depreciation schedule from 25 to 30 years.

EUROPE STATEMENT (€ MILLION)	2017	2016	Δ% / €
Revenues	943	913	+3%
Other operating income	66	35	+90%
Supplies and services	(167)	(162)	+3%
Personnel costs	(30)	(30)	(2%)
Other operating costs	(84)	(89)	(5%)
Operating Costs (net)	(215)	(247)	(13%)
EBITDA	729	666	+9%
EBITDA/Net Revenues	77%	73%	+4pp
Provisions	(0.2)	(5)	-
Depreciation and amortisation	(295)	(303)	(3%)
Amortization of government grants	3	1	+159%
EBIT	437	360	+21%

### **REVENUES EVOLUTION (€ million)**



AVERAGE SELLING PRICE (C/MWh)




### NORTH AMERICA

### REVENUES

In 2017, Revenues increased \$150 million to \$930 million, (+19% year on year) on the back of the 20% increase in electricity output and a stable average selling price in the year.



### AVERAGE SELLING PRICE

Average selling price in the region was flat year on year at \$46 per MWh. In the US, reflecting capacity additions and different mix of load factors vs prices, the average price totaled \$46 per MWh (-1% vs 2016). In Canada, EDPR average selling price was \$112 per MWh (+2% vs 2016) and in Mexico average selling price was \$60 per MWh.



US INSTALLED CAPACITY BY TAX INCENTIVE

PTC/ITC (Tax Equity)
 Cash Grant Flip (Tax Equity)
 Cash Grant

### NET OPERATING COSTS

Net Operating costs summed \$254 million, \$29 million higher vs 2016, mainly explained by higher Personnel costs and Supplies and Services, justified by the higher capacity in operation and the Operational and Maintenance strategy. Core Opex (Supplies and Services and Personnel costs) per average MW in operation decreased by 1% versus 2016 to \$47 thousand, reflecting EDPR focus on efficiency and control over costs along with an increase in average MW in operation. Core Opex per MWh decreased by 4% to \$15, also benefitting by the higher wind resource in the year.

### INSTITUTIONAL PARTNERSHIPS AND GOVERNMENT GRANTS

Income from institutional partnerships was 17% higher year on year to \$255 million, reflecting new tax equity partnerships and the output from projects generating PTCs, along with PTCs upward price revision to \$24 per MWh.

EDPR completed \$507 million of tax equity financing in exchange for an interest in the 100 MW Meadow Lake V, 99 MW Redbed Plains, 98 MW Quilt Block and 66 MW Hog Creek US wind farms along with 60 MW of three solar PV plants in South Carolina.

NORTH AMERICA STATEMENT (US\$ MILLION)	2017	2016	∆%/US\$
Electricity Sales & Other	676	562	+20%
Income from Institutional Partnerships	255	219	+17%
Revenues	930	781	+19%
Other operating income	25	26	(3%)
Supplies and services	(176)	(154)	+14%
Personnel costs	(57)	(49)	+17%
Other operating costs	(47)	(48)	(3%)
Operating Costs (net)	(254)	(225)	+13%
EBITDA	676	555	+22%
EBITDA/Net Revenues	73%	71%	+2pp
Provisions	0.4	0.1	+315%
Depreciation and amortisation	(311)	(343)	(9%)
Amortization of government grants	18	23	(21%)
EBIT	384	235	+63%

Due to the strong North America top line performance, EBITDA increased to \$676 million (+22% year on year) and reached an EBITDA margin of 73% (+2pp vs 2016).

### BRAZIL

### REVENUES

In Brazil, EDPR reached revenues of R\$226 million (+R\$94 million vs 2016), representing a year on year increase of 71%, explained by an increased in electricity generation on the back of higher installed capacity and a stronger wind resource.



### AVERAGE SELLING PRICE

The average selling price in Brazil increased to R\$289 per MWh in the year, reflecting a temporary PPA unwinding at Baixas do Feijão wind farm (120 MW).

As of December 2017, EDPR had a total installed capacity of 331 MW in Brazil including 127 MW of new additions related to JAU & Aventura wind farms. Brazilian projects operate under programs with long-term contracts to sell the electricity produced for 20 years, providing long-term visibility over cash-flow generation throughout the projects' life.





#### NET OPERATING COSTS

Net Operating costs totaled R\$23 million, a decrease of R\$12 million versus 2016 mainly due to higher Other operating revenues, that increased R\$18 million related to adjustments in past minority stake sales transactions. Operating costs totaled R\$47 million (+R\$5 million vs 2016) in line with higher installed capacity. Reflecting the strict control over costs, higher average capacity in operation and increased efficiency, Core Opex totaled R\$41 million, with Core Opex per Avg. MW and per MWh decreasing by 27% and 13% respectively, year on year.

Following the outstanding top line performance, in 2017, EBITDA reached R\$203 million (vs R\$97 million in 2016), with higher YoY EBITDA margin (90%; +17pp vs 2016).

BRAZIL INCOME STATEMENT (R\$M)	2017	2016	P%/R\$
Revenues	226	133	+71%
Other operating income	24	6	+298%
Supplies and services	(33)	(28)	+17%
Personnel costs	(8)	(8)	(4%)
Other operating costs	(6)	(6)	+12%
Operating Costs (net)	(23)	(36)	(35%)
EBITDA	203	97	+110%
EBITDA/Net Revenues	90%	73%	+17pp
Provisions	(0.03)	-	-
Depreciation and amortisation	(37)	(31)	+21%
Amortization of government grants	0.21	0.18	+17%
EBIT	166	66	+152%

### REVENUES EVOLUTION (\$R million)



### OTHER REPORTING TOPICS

### **RELEVANT AND SUBSEQUENT EVENTS**

The following are the most relevant events from 2017 that have an impact in 2018 and subsequent events from the first months of 2018 until the publication of this report.

- Completion of sale of minority stake in Portuguese assets to CTG
- Increase of EDP qualified shareholding over EDPR to 82.56%
- Sale of a 23% stake in UK wind offshore project Moray Offshore Windfarm (East)
- EDPR secures 125 MW long-term contract in Northern Indiana, US
- EDPR consortium is awarded with long-term CfD for 950 MW in the UK
- EDPR is awarded a long-term RESA for 248 MW of wind onshore in Canada
- EDPR is awarded long-term contracts for 218 MW of wind at the Brazilian energy auction
- EDPR completed \$507 million funding of tax equity in the US for all its 2017 projects
- EDPR secures a 200 MW PPA for a new wind farm in the US

For additional information on these events, please refer to Note 39 of EDPR Consolidated Annual Accounts.

### INFORMATION ON AVERAGE PAYMENT TERMS TO SUPPLIERS

In 2017 total payments made from Spanish companies to suppliers, amounted to  $\leq$ 173,264 thousand with a weighted average payment period of 51 days, below the payment period stipulated by law of 60 days.

ANNUAL REPORT EDPR 2017

### **3.2. STAKEHOLDERS**

3.2.1. EMPLOYEES



EDPR, which is home to three different generations, has currently presence in 12 markets and is constantly adapting to the changing business reality. Its HR policies are based on the Business Plan Achievements and actions focused on active listening its employees. EDPR has launched different initiatives along 2017 resulting on different tools to be a more human company.

A customized value proposition is offered to the employees throughout their employee journey, which allows them to join a multinational team and grow with it. The most relevant initiatives launched in 2017 are based on **flexibility, efficiency, transparency and development**.



EDPR has an ongoing commitment to seek new HR initiatives, programs and measures and it is essential to practice active listening by hearing employees' opinions, viewpoints and needs and work upon them. With the 2016 Climate survey and the active participation of all employees, an Action plan was developed with the main objective of turning EDPR a greater place to work. As a result, new initiatives, programs and activities were launched during the year of 2017.

With the 5 main pillars in mind (1. Work, Structure & Process; 2. Performance Management; 3. Authority & Empowerment; 4. Collaboration/Communication; 5. Flexibility & Work Life Balance), 82% of those planned actions have already been implemented and completed.

In this context, EDPR measures in an annual basis two dimensions as main global metrics of organizational climate: engagement, which refers to employees' level of commitment and motivation, and enablement, which concerns their perception of organizational support. For the following year, with the measures and actions executed in 2016 and 2017, EDPR has defined a target of increasing 2.5% the engagement and enablement of its employees.





BEING EDPR GROWING WITH THE COMPANY

### JOINING & INTEGRATING

### ATTRACTING TALENT

At EDPR, we strive to attract and retain professionals who seek to excel in their work in order to position the company as the "the first choice for employees" in the labor market. In this sense, EDPR launches some activities on an ongoing basis to strengthen its image as a leading employer. Some of those initiatives are Job fairs and Universities visits which gives EDPR visibility to different generations. During 2017, EDPR welcomed 259 employees, of whom 32% women. The average age of new hires was 31 years old. 71% of the total hires correspond to levels of Specialists and Technicians, of which 67% have University degree and above. 91% of the hires in 2017 were allocated in permanent positions and EDPR counted with 24 different nationalities among that group. Furthermore, 102 internships were offered, of which 11% were translated into new hires.

In EDPR, non-discrimination and equal opportunities are enshrined during all the selection processes. This is reflected in the Code of Ethics, which contains specific clauses on non-discrimination and equal opportunities, in line with the company's culture of diversity. Regarding the respect for human and labor rights.

### INTEGRATING NEW EMPLOYEES

The Welcome and Integration initiatives are activities that aim to:

- Facilitate new employees' integration;
- · Provide with fundamental knowledge about the culture and business;
- Promote internal networking;
- Contribute to make new employees feel the EDPR spirit.

Among the initiatives to integrate new staff, EDPR includes an Onboarding Kit with general information about the company and helpful contacts and a Welcome Day. The Welcome Day is a three-days event which helps new hires to reach the goals mentioned previously with different activities, such as a visit a windfarm or a remote dispatch center.



### BEING EDPR

#### TRANSPARENCY

Part of EDPR value proposition is a competitive remuneration package, aligned with the best practices in the market. EDPR Compensation Package includes (i) an Annual Base Salary and (ii) a Variable Pay depending on the achievements of individual, area and company KPIs, and also an (iii) above market practice benefits package such as Health Insurance or Pension Plan.

The Remuneration package is not static, which means that it evolves at the same pace of employees' needs and concerns as well as the business. In 2017, the Human Resources Department has focused on analyzing the life-cycle status of EDPR employees (by generation, personal situation - meaning with or without children) in order to offer a tailor-made Benefits Package, with an individualized approach from a communication perspective.

### ANNUAL REPORT EDPR 2017

### EFFICIENCY



With the aim of delivering excellent results and meeting deadlines, EDPR employees need to be flexible and highly responsible on their daily routine. Around this dynamic, EDPR has designed Work Smarter de EDPR a Code that includes a set of guidelines to work efficiently by maximizing the time efficiency of each daily tasks. These tasks are mainly regarding work organization, email & phone and meetings.

Additionally, different initiatives have taken place during the year in order to involve employees around this new way of working. Some of the initiatives were placing inspiring sentences and clocks in the meeting rooms to remind that time is gold.

### FLEXIBILITY

EDPR believes that Work Life Balance (WLB) must be a shared responsibility and its practices have been awarded for seven years now the Responsible Family Employer Certification (EFR – Empresa Familiarmente Responsable) by Spain's Fundación MásFamilia. To continue this achievement, it is important to have a constant improvement on the measures in order to provide the most suitable and updated benefits to employees. The offered benefits include different areas, such as, Maternity/Paternity Leave, Kindergarten allowance, Dependent Allowance, Flexible working hours as well as several actions thinking about savings and future, mobility and communication.

Along 2017, the following benefits were launched for the first time:

- **Sport Aids**: This is a benefit which aims to support healthy lifestyle by giving a monetary aid per month to employees for the usage on sports activities.
- **Flexible Work**: EDPR gives the possibility to work from another location in exceptional situations by providing the means to perform with the same efficiency as working in the usual work office.
- **Book Club**: A recent initiative with the aim to share the emotions that only good books can offer us between employees by switching a book by another at the Club. Once a year all existing books in the Clubs will be donated.
- Energy School Kit: To respond the most common request of the employees, it was created a kit with the necessarymaterial to explain in a didactic way what are renewable energies. This action is done in schools for children starting to have the first touch with jobs.

JOINING & INTEGRATING BEING EDPR



### **GROWING WITH THE COMPANY**

### DEVELOPMENT

EDPR is committed to the development of its employees, offering them an attractive professional career and aligning their capabilities and skills with the current and future needs of the company. The growth and development of the Group's business has led EDPR able to invest in the employees by discovering, improving and emphasizing the potential of each, which can contribute to the value creation. EDPR objective is to create opportunities for its employees through mobility and development actions to boost the employees aptitudes. The HR strategy supports different initiatives to give them visibility and foster their professional development inside the company.

Vacant positions are advertised internally as a result, 71% of new Directors have been hired internally in 2017. The cornerstones of development at EDPR are Mobility & Training and Development Programs.

### MOBILITY

EDPR considers mobility, both functional and geographical, as a human resources management tool that contributes to the organizational development. It is considered internally as a way of stimulating employees' motivation, skills, productivity and personal fulfilment. The mobility processes within EDPR aim to respond to the different challenges and needs of the Group, taking into account the particular characteristics of the different geographies.



12 GEOGRAPHICAL 10 FUNCTIONAL AND GEOGRAPHICAL

### TRAINING AND DEVELOPMENT PROGRAMS

The employees' development is a strategic target for EDPR. That is why a job-specific ongoing training opportunities are offer with the purpose of contributing towards the enhance of knowledge and skills, as well as specific development programs aligned with the company's strategy.

The 360 potential appraisal process is created for all employees with the objective of defining each person training needs along with their manager, being the main foundation to define a customized Training Plan.

The Training Plan consists of up to two courses from the Renewable Energy School - EDP University, one Technical, Management or Behavioral training course, optional languages courses and others from free election which are seen as important for the improvement of the employee. The differentiation point about EDP University's courses is that usually contains subjects to promote the development of the skills needed to ensure the sustainability of EDPR's business across all the markets where the company is present. Here, the networking and the share of best practices within EDP tutors and participants are unreplaceable experiences.

Furthermore, in order to support the company's growth, aligning current and future organizational demands with employees' capabilities, as well as to enhance their professional development, EDPR has designed development programs for middle management, with the goal of providing them with the proper tools to take on new responsibilities.

During 2017, EDPR carried with the Coaching Program which are sessions given to middle management to fine-tune their skills with the support of internal directors.

With the total of:



All these measures and commitment with the employee' well-being were recognize by Great Place to Work as EDPR was once again ranked as one of the 50 best companies to work in Spain and Poland. EDPR believes that motivated workforce aligned with the company's strategy is one of the key drivers behind the ability to deliver results.

### **3.2.2. COMMUNITIES**

During the entire lifecycle of the wind farms, EDPR provides several economic benefits to the surrounding areas.

### INFRASTRUCTURE INVESTMENTS

For the construction of wind farms, some infrastructures like roads, are required for the transportation of heavy equipment. Therefore, the construction of new roads and the rehabilitation of the existing ones will also benefit the surrounding community improving the connection for the local inhabitants. In addition, to continue with the construction flow of the wind farm and mainly in areas where wind energy is in early stages, it may be essential an upgrade of the distribution and transmission grids from the existent distribution and transmissions system operators. EDPR supports these upgrades, financially and technically, indirectly benefiting the quality of the electric service on the area. In 2017, EDPR invested c.  $\notin$ 7 million to develop community roads and  $\notin$ 1.6 million to improve public electric facilities.

### LOCAL HIRING AND PROCUREMENT PRACTICES

With the aim of improving the local economic development, a high percentage of the employees and 99% of the purchases come from locations where EDPR operates. These employees usually are designated to operational activities, such as wind farm management, wind turbines operation and maintenance, electrical and civil works maintenance environmental surveillance and other support services. EDPR benefits from the specific knowledge from the local workers.

### TAX CONTRIBUTION

It is an ethical and civic duty to contribute to the financing of the general functions of the States where the Group is present through the payment of taxes, contributing to the welfare of citizens, to a sustainable development of the Group's local businesses and to the value creation for shareholders. The total tax contribution of EDPR Group to the public finances amounts to  $\leq$ 171 million in year 2017. Moreover, EDPR's Social Security contribution amounts to  $\in$ 13 million.



### COMMUNITY PROJECTS:

EDPR believes that in order to make a positive impact on the communities where is operating and to enhance the responsible company reputation, it is vital to work for the common good by promoting and supporting social and environmental initiatives.

In 2017, EDPR invested €2 million in initiatives with the community and approved the Social Investment Policy. This policy establishes the corporate objectives and strategies related to EDPR's Social Investment, which is expressed in Corporate Social Responsibility programs and activities in the communities where EDPR is present through internally developed and collaborative initiatives, donations and volunteering. This initiatives will impact positively the promotion and development of the following four main areas: Culture & Art; Social inclusion, Sustainable ways of living & Access to energy; Natural heritage and Biodiversity and Renewable Energy & Energy Efficiency.



In 2017, these were the most relevant initiates throughout EDPR's geographies:

### EDPR RURAL

EDPR Rural was launched in Brazil in 2016 in partnership with SEBRAE. The goal of this partnership is to qualify and train rural farmers to effectively produce and market their products in order to increase family incomes, better organize production and guarantee a diverse and secure supply. The program also contributes to restoring dignity and pride to agricultural professions. During 2017, two big initiatives called "Mais Negocio" were held in two municipalities of Rio Grande do Norte in order to provide training on entrepreneurship and business management to the rural families enrolled in the program.

### **CLOSER2YOU**

EDPR invests in the development of communities located near its operations and strives to form close relationships with them in order to guarantee a positive legacy for future generations. In keeping with these commitments, the company created the Closer2You initiative, whose first edition was held in Constanta County, Romania in 2016.

This year EDPR extended the initiative to Poland, Brazil and Portugal and rehabilitated a total of five homes. The biggest challenge was in Babilônia, Brazil, where EDPR worked with a low-income family with three children, two of whom suffer from a mental illness. The house was in such poor condition that it was decided build the family a new one. Collaboration agreements were reached with local authorities and suppliers in order to provide the family with water and more dignified conditions.



Before and after the house

The initiative is a way of enriching EDPR's relationships with stakeholders and is focused on sustainable communities. In 2018, Closer2You will continue to help families close to EDPR's facilities.

### **GENERATION EDPR**

Generation EDPR, like the other programs, is a Corporate Social Responsibility (CSR) initiative. The differentiation point is its educational approach through renewable energy. Currently, there are four main projects: Your Energy, University Challenge, Windexperts and Green Education.

YOUR ENERGY	<b>University Challenge</b> aims to foster the spirit of innovation and creativity within the academic community, which in turn will promote a			
5,258 students in Spain, Italy and Poland	greater bond between universities and the business world. The program continued this year in its ninth edition in Spain and its second edition in			
UNIVERSITY CHALLENGE	Poland. It saw a significant increase in the number of projects submitted.			
126 projects in Spain and Poland	Your Energy is an international program that helps children discover the world of renewable energy, and Green Education supports the education			
GREEN EDUCATION	of children and teenagers from families with limited resources.			
+100 students in Spain, France, Romania and Italy	Wind Experts is an educational program for children aged 10 to 13 about renewable energy while developing their sense of creativity. Through a			

Learn more at generationedpr.edpr.com

### EDPR SUPPORTS HURRICANE HARVEY RELIEF EFFORTS

In August 2017, the city of Houston and other surrounding cities were devastated by Hurricane Harvey and the damage caused by the severe flooding and wind. Having its headquarters there, EDPR reacted quickly in helping all the community affected by the disaster.

Both the company and its employees jumped into action by assisting their colleagues and the rest of the community. Initiatives including housing assistance, disaster pay, and additional paid volunteer time were offered to EDPR's employees. For the communities, several actions like home tear-downs and repairs, food banks and city clean-ups were organized by a group of volunteer EDPR employees, who dedicated some of their time (during or after work) to help. EDPR also donated over \$100,000 to some charities helping Hurricane Harvey Relief. These initiatives showed the spirit of share and compassion for the community that the company constantly strives to achieve.

### FUNDACIÓN EDP

Fundación EDP's mission is to reinforce EDP's social responsibility with its stakeholders in the geographical areas in which it carries out its activity. This happens every year with the implementation of several programs and initiatives that seek to create value for society in different areas:

- In social matters, "EDP Solidaria" stands out for its support program for social transformation, which in 2017 has
  invested in 18 projects with a total amount of €0.5 million; and the "Energía Solidaria" program, which strives to
  increase the security, well-being and energy efficiency of the most disadvantaged families and the NGOs that
  collaborate with them.
- Fundación EDP's commitment to education and the first job continues to be reinforced year after year through
  different programs, with the main focus on the scholarships of first work experience which facilitate the entry of
  students in the business world.
- In the environmental area, it stands out the support to entities dedicated to environmental conservation by doing activities of conservation of different species.
- Fundación EDP also carries out activities in the cultural field, being particularly noteworthy in 2017, with the presence of Fundación EDP in the 76th Madrid Book Fair, in which Portugal was the guest country, showing the Portuguese cultural reality, with activities related to literature, cinema and music.

### HUMAN RIGHTS:

According to the code of ethics, EDPR respects and undertakes to promote human rights, particularly in its supply chain.

The Principles of Sustainable Development of EDPR affirm the commitments to integrate the social aspects in planning and decision-making, to respect and promote respect for human rights in their sphere of influence, to reject abusive and discriminatory practices, as well as to ensure equal opportunities.

Additionally, EDP Group assumes the Universal Declaration of Human Rights and the conventions, treaties or international initiatives, such as the conventions of the International Labor Organization, the United Nations Global Compact and the guiding principles for business and human rights endorsed by the United Nations Human Rights Council – Ruggie Framework.

The strong sense of ethics at EDPR requires that its suppliers do not have conflicts with EDPR ethical standards. In this way, the acceptance of alignment with the spirit of EDPR's Code of Ethics and the UN Global Compact principles is required. Additionally, the EDP Group Sustainable Procurement Policy includes a reference to the promotion of respect for dignity and human rights and rejection of any form of forced labor or child labor, harassment, discrimination, abuse or other types of physical or psychological violence.

The channel for complaining to and questioning the Ethics Ombudsman of EDPR is the preferred means of contact related to the matters of human rights and labor, including in the context in the supply chain.

### 3.2.3. SUPPLIERS

## The EDPR's market leadership, based in value creation capacity, innovation and relationship with its stakeholders, is much influenced by the performance of its suppliers.

## EDPR bases its relationship with suppliers on trust, collaboration and creation of shared value. This results in a joint capacity to innovate, strengthen sustainability policy and improve quality of operations.

### EDPR SUPPLY CHAIN

After a period of an extensive characterization study of EDPR's purchases, aiming a deeper knowledge about the economic, social and environmental impacts of EDPR's supply chain, 2017 was a year for definition of priorities concerning sustainability management.

The suppliers are evaluated throughout an multi criteria matrix (annual value spend; supply frequency; access to customers; access to technical equipment or sensitive data; supplier substitutability; component substitutability; supply failure consequence; supplier segmentation; safety risks, environmental risks and obligations) to identify their criticism.

Streamlining, from the point of view of criticism for the business, EDPR's suppliers are categorized in:

- Critical suppliers: Turbines, BOP (Balance of Plant) and O&M (Operation and Maintenance), and;
- Non-critical suppliers: Indirect purchases.

After the implementation of the Sustainable Procurement Policy, a better control has been introduced in the suppliers management process. This year, EDPR has worked in many areas, namely in the definition of pre-qualification and evaluation processes of its suppliers.

Over **5,050**<sup>(1)</sup> suppliers contribute to EDPR success

**93**<sup>(2)</sup> suppliers are considered as critical

Critical suppliers represent **67%**<sup>(3)</sup> of the invoiced volume in Europe & Brazil and **83%**<sup>(4)</sup> in North America 99%(5) Local Purchases (Purchases in countries of operation of EDPR)

### SUSTAINABLE MANAGEMENT OF THE SUPPLY CHAIN

EDPR has defined **policies and procedures** to ensure the several aspects that fill in with the sustainability of the supply chain, as well as the management and mitigation of any type of environmental, social or ethical risks in the supply chain.

### PROGRESS

### SUSTAINABLE PROCUREMENT POLICY

2017

In EDPR, 2017 has been a year of work in the definition and creation of the beginning of the processes of pre-qualification and evaluation of its suppliers. Never losing of site the EDP Group Sustainable Procurement Policy, EDPR as the firm intention of continue to work with the best practices in this field.

EDPR continues to work with mature suppliers and companies that look to meet the demanding requirements on quality, environment and prevention, as well as to comply with economical/financial solvency requirements.

3 & 4 Based on the total invoiced volume in 2017

<sup>5</sup> Based on purchase orders placed in 2017. Local purchases are considered these ones realized in countries where EDPR has activities: from Brazil purchasing center in Brazil; from Europe purchasing center in all the European countries where EDPR operates, and from North America in US, Canada and Mexico.

<sup>&</sup>lt;sup>1</sup> Based on purchase orders placed in 2017

<sup>&</sup>lt;sup>2</sup> Critical suppliers as defined as per EDP formal corporate standard methodology

### ANNUAL REPORT EDPR 2017

POLICIES, PROCE	DURES AND STANDARDS
	<ul> <li>After an extensive characterization study of EDPR's purchases, aiming a deeper knowledge about the economic, social and</li> </ul>
Procurement	environmental impacts of EDPR's supply chain, a congregation of policies started to be defined.
Policy	• EDPR takes into account the 10 principles of the UN Global Compact and Code of Ethics acceptance, the Health & Safety and
	Quality certificates, as well as technical quality and economical/financial solvency of suppliers.
	• EDPR has a Procurement Manual, which includes sustainability principles to be taken into account when ordering products or
Procurement	contracting services.
Manual	• These principles summarize the most relevant aspects for EDPR in terms of sustainability in the supply chain: health and safety,
	respect for the environment, ethics, local development and innovation.
	• In the end of 2017, EDP Group approved a Code of Conduct for all Suppliers. EDPR propelled all its suppliers to know and accept
	all the commitments involved (Compliance; Ethical; Environmental; Labor; Workplace, Safety and Health; Community and
Code of Conduct	Human Rights and Management Commitments).
	It spells out the general and common contractual rules
	B EDP Code of Conduct is available in <b>www.edp.com</b>
	EDPR is governed under a strong sense of ethics and requires its suppliers to have no conflicts with the
EDPR's Code of	company's ethical standards. 100% of the EDPR
Ethics	• EDPR's suppliers must know and accept by written the principles established in the Code of Ethics. critical suppliers
	EDPR's Code of Ethics is available in www.edpr.com are aligned with
	EDPR is a signatory of the UN Global Compact for Sustainable Development and is committed to Global Compact
UN Global	implement these principles as well as to promote the adoption of these principles on its area of influence. criteria and EDPR's
Compact	• EDPR 's suppliers must accept to comply with the UN Global Compact's ten principles, on human rights, Code of Ethics
	labor, environment and anti-corruption and provide the confirmation as signatories of the UN Global
	Compact directives or a written declaration of their acceptance.
	Health & Safety System, based on the OHSAS 18001:2007 specifications require EDPR's employees and all other individuals
Health & Safety	working on behalf of EDPR to follow best practices in those areas, as required in EDPR's OH&S Policy.
System and OH&S Policy	The health and safety management system is supported by different manuals, control procedures, instructions and     apacifications which appure the effective execution of EDDP/a OURC Belley.
	specifications which ensure the effective execution of EDPR's OH&S Policy.
	<ul> <li>EDPR is committed to integrate the respect for the environment into all phases of the business through the value chain and</li> </ul>
	ensure that all stakeholders, including suppliers, have the necessary skills to do so.
	<ul> <li>EDPR's suppliers shall adopt all necessary measures to ensure strict compliance with all applicable environmental regulations</li> </ul>
	as well as EDPR's Environment and Biodiversity Policies, internal norms, procedures and systems in place as regards to
EDPR's Environment and	environmental management.
Biodiversity	• EDPR has implemented an Environmental Management System (EMS) developed and certified according to the international
Policies	standard ISO 14001. EDPR's suppliers shall know and understand the EMS and ensure the full compliance with the procedures
	set.
	<ul> <li>Suppliers shall make the EMS available to its employees and subcontractors.</li> </ul>
	A EDPR's Environment and Biodiversity Policies are available in www.edpr.com

EDPR suppliers have successfully perform the approval processes established by EDP Group. The rule "pass or fail" is applied to suppliers. If they do not meet the main requirements set by EDPR they will not be selected to provide services.

For all suppliers considered as critical (regardless of the purchase volume) EDPR ensures from the bidding to the time of providing the service (work execution or maintenance) the compliance of technical quality, economical/financial solvency, and health, safety and environmental management.

### MANAGEMENT AND MITIGATION OF ENVIRONMENTAL, SOCIAL OR ETHICAL RISKS

EDPR monitors critical suppliers during their services delivery, taking into account aspects as quality, safety, health and environment (waste management, oil spills, etc.). EDPR also ensures the compliance with standards, commitments and procedures of EDPR in all value chain.

A) During the execution phase, the construction manager works closely with a health & safety supervisor and environmental supervisor, plus holds weekly meetings with suppliers (BOP contractor and, where applicable, the turbine supplier).

Contractors receive feedback and improvement plans are established in the areas of quality, health & safety and environment through performance reports. In addition, the company also has external supervision in these areas.

B) During the wind farms operation phase, the wind farm manager is responsible for service quality and compliance with the rules and health & safety and environmental procedures. These processes are reinforced by the management systems according to OHSAS 18001 and ISO 14001.

Given the impact of their performance in these areas, contractors assuming these management systems as own systems is crucial for EDPR.

Suppliers share with EDPR their new solutions, products or upgrades to improve collaboration between both parties.

EDPR uses applications for health and safety and environmental management, including regulatory and obligation tracking, which work as collaborative tools, therefore involving the entire organization and suppliers to prevent work and environmental accidents. Furthermore, in the wind farms are carried out drills regarding health and safety and environmental accidents or incidents.

The relevant aspects for EDPR in relation to sustainability in the supply chain are Innovation, Health and Safety, Respect for the Environment, Ethics and Local Development. These aspects are expressed in the Procurement Manual.



\*Data resulting from characterization of the supply chain performed by PwC using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) tool, based on 2014 purchasing data.  $\sim \! 0 \left/ \right/^*$  EDPR's purchases identified as having significant risk for incidents of child labor, forced or compulsory labor, freedom of association.

### 3.2.4. MEDIA

EDPR's reputation and brand visibility depend, among other things, on media organizations, which represent an extremely important stakeholder group within the company. In order to maintain this stakeholder informed, EDPR works to keep all media organizations up-to-date about initiatives the company carries out, whether related to financial issues, company performance, corporate social responsibility or any other relevant activities. To better achieve this, EDPR always strives to respond quickly to all questions and/or comments that might appear, and it has developed a media calendar.

For better understanding between both parties and to pursue a fluid and dynamic dialogue with this stakeholder group, EDPR has developed several communication channels that allows the media to easily get in touch with the organization. The innovation this year was the improved corporate website (**www.edpr.com**), which includes three large sections dedicated to media: news repository, multimedia area and the contact center. With the release of this new website, EDPR believes that following the current trends and the best practices which always tries to achieve, it made it more user-friendly and mobile-first for its users. Other kind of media communication channels are press conferences, interviews with company top-management and conference calls. Currently, EDPR is developing a new media kit which will improve the clarification of the company's business and its main indicators to the opinion-makers and the media.

In 2017, the mainly interactions with the media generated news primarily in Portugal, Spain, North America and Brazil. These news items reflect the company's strategy for each of these markets. Portugal was the largest source of the news items, with highest favorability. Some other important news items mention this year included: the conclusion of wind farm projects, plans to advance with new wind farms in various countries, government approval of new projects, data on EDPR increasing energy production, positive developments of the company's shares on the stock exchange, power purchase agreements, charitable actions such as a donation to Hurricane Harvey repair and rebuilding efforts, actions in support of start-ups, financial results and strategic divestments. Brazil also had a strong impact on news by the end of the year due to the December power generation auctions where EDPR was one of the active bidders.



### **3.3. SAFETY FIRST: PROACTIVE APPROACH**

### ZERO ACCIDENTS MINDSET

At EDPR, is top priority to guaranty the health, safety and well-being of its employees and contractors. A commitment that is supported by the Health and Safety (H&S) policy. The company is aware that it works in a sector particularly sensitive to occupational risk, which is why the primary goal is to set an EDPR way for maintaining health and safety requirements across all geographies. To achieve it, the main focus is on hands-on training by rigorously verifying the implementation of safety standards and updating the standard operating procedures to match the regulatory changes.

As an integral part of the H&S strategy, employees actively engage in both behavior-based safety and risk assessment activities based on the potential risks associated with their tasks. They rigorously follow the guidelines and always strive to achieve the safest workplace for all those who provide services in the facilities. H&S committees and subcommittees throughout EDPR pursue and support the implementation of H&S measures by collecting information from different operational levels and involving employees with the establishment and communication of the preventative plan. These committees, present on every working field, ensure that employees' and contractors' concerns are listened and resolved.

With the intention of promoting positive and healthy interactions/discussions, EDPR promotes employees' and contractors' to work as a team to improve safety performance. The main principles are:

- Employees feel ownership for safety and take responsibility for themselves and others.
- Employees do not accept low safety standards and risk-taking.
- Employees actively talk and listen the others to understand their perspective.
- Employees believe true improvement is only achieved as a group, and that zero injuries is an attainable goal.

To constantly keep improving the safety programs, EDPR encourages multiple safety campaigns throughout the year with several positive (safety) incentive programs for its employees'.

Furthermore, in order to achieve the zero accidents target, EDPR has implemented H&S management systems based on the OHSAS 18001:2007 specifications. The standards and procedures of these systems

are adapted to the specificities of each geography where they are implemented and are developed based on the country's regulation and industry's best practices. The commitment to the H&S is further supported through the OHSAS 18001 certification. By the end of 2017, this certification covers  $91\%^1$  of EDPR's installed capacity.

EDPR focus on an approach that is data driven to identify and react to leading indicators of injuries. The implementation of the H&S management systems allows it to manage and prevent future accidents with the objective of reaching the zero accident goal.



### During 2017, EDPR registered a substantial improvement in its H&S ratios.

The number of accidents with absence registered for employees and contractor personnel decreased by 40%, resulting in a drop of 49% in the injury rate to  $1.9^2$  impacted by lower number of accidents and more worked hours. Additionally, the lost work day rate decreased by 59% to 69<sup>3</sup>, driven by lower average lost work days per accident.

A greater focus on proactive approach in the H&S management plus the realization of the benefits from OHSAS certification results in a significant improvement in the statistics.

<sup>&</sup>lt;sup>1</sup> Calculation based on 2016YE installed capacity.

<sup>&</sup>lt;sup>2</sup> Injury Rate calculated as [# of accidents with absence/Hours worked \* 1,000,000]

<sup>&</sup>lt;sup>3</sup> Lost Work Day Rate calculated as [# of working days lost/Hours worked \* 1,000,000]

### **3.4. ENVIRONMENT**

EDPR protects the environment complementing the strategy of fighting against climate change with its responsable management along the whole value chain.

Wind power is one of the most environmentally friendly ways of producing energy. The impact of EDPR's business on the environment is small but nevertheless, the company works on a daily basis to hold itself to a higher standard. EDPR believes that proactive environmental management generates value and constitutes the duty of any socially responsible company, that's why it is one of the pillars of EDPR's Environmental Policy.



EDPR produces competitive energy based on renewable sources that contribute to sustainable economic growth

Engaged with biodiversity

Fighting against climate change is the best contribution to tackle biodiversity loss

EDPR core business activity inherently implies the reduction of GHG emissions. Wind and solar energy has zero carbon emissions, contributing to the world's fight against climate change and does not produce harmful SO<sub>x</sub>, NO<sub>x</sub> or mercury emissions, protecting valuable air and water resources.

Besides, generation from wind and solar energy does not consume water in its operational processes.

EDPR is aware of the sensitivity of natural ecosystems and the pressures affecting biodiversity. The main approach to contribute to the global challenge of reducing biodiversity loss is clear: produce clean energy (without emissions), to fight against climate change, one of the greatest threats for biodiversity.

The environmental strategy of the company complements this approach ensuring the minimization of the impacts on biodiversity along the whole value chain and seeking an overall positive balance with projects focused on the conservation of wildlife. It is EDPR's duty, as a sustainable company, to contribute to the development of research and conservation programs, as well as, to broadening scientific knowledge on biodiversity matters, by supporting institutions and strengthening dialogue and partnerships.



Prosorving natural rosourcos



EDPR promotes the efficient use of natural resources in all activities, within the framework of a circular economy

The wind turbine is mainly made of recyclable material, which according to the Life Cycle Assessment of EDPR's main turbine supplier it is around 80% to 90%<sup>1</sup>. The missing percentage is concerning the turbine's blades that are composed and manufactured by complex materials (glass or carbon fibers, thermos-hardened resins, sandwich structures, coatings, etc.), make it very hard to recycle.

The volume of these wastes can't still be compared with the size of the wind energy business, since it has been developed recently. Though, with the increasing maturity of the business, it is believed that these numbers will progressively increase.



<sup>1</sup> According to the Life Cycle Assessments of our main turbine suppliers



EDPR is strongly committed to contribute to the protection of the environment through a proactive environmental management of its facilities in operation, assured through the Environmental Management System (EMS). The EMS is developed in accordance with the ISO 14001 international standard and certified by an independent certifying organization.

In 2017, EDPR's activities avoided the emission of 22,051 thousand tons of  $\mbox{CO}_2.$ 



These emissions represent 0.1% of the total amount of emissions avoided and 50% of the total emissions are from the necessary electricity consumption by the wind farms. In 2017, 100% of the emissions related to electricity consumption in windfarms and our own offices in Spain and US have been compensated by Certifications of Origin in Spain and Renewable Energy Certificates (RECs) in US, obtained from the renewable energy generation.

2017 was a hard year in terms of natural disasters mainly driven by Climate Change affecting a lot of countries, including some where EDPR has presence. EDPR is especially concerned about forest fires since rural communities where the company's facilities are located are particularly vulnerable to disasters of this nature.

 $\gg$ 

Apart of counting with a business model that relies on clean energy generation, fighting against Climate Change and the risk it poses to forest fires, EDPR is firmly committed to contribute in reducing and preventing forest fires. Beyond the emissions related to the operation phase, from a life cycle point of view others shall be considered (manufacture of components, transport, construction...). EDPR wind farms with a projected life span of 30 years, will pay back its life cycle energy consumption in less than a year<sup>1</sup>, meaning, more than 29 years of a wind farm's life will be producing clean energy.

Furthermore, reinforcing the commitment to biodiversity and the local communities, during 2017, EDPR approved a Forest Fire Prevention Plan which includes the following initiatives:

- Investment in partnerships with Local Communities in Spain and Portugal;
- Collaboration with NGOs in the prevention and mitigation of impacts related to forest fires through activities such as tree planting and land preservation for conservation purposes;
- Volunteering actions.

The management of wind energy waste is a significant and constant concern for EDPR. The lack of a technique to recycle wind turbine blades at the end of their useful life is recognized as one of the challenges of the industry. In this regard, in 2017, the company announced a cooperation agreement with the start up Thermal Recycling of Composites (TRC) to support the development of the R3FIBER technique, a viable, maximum-efficiency system for recycling wind turbine blades that are no longer in use, and implement a wind turbine blade recycling program.

Developed by TRC and a team at CSIC's National Center for Metallurgical Research, the R3FIBER technology is based on using materials without producing waste.

This technology fully harnesses mass, energy and the reuse of materials. The highlight is its unique feature of creating high-quality fibers (without resins) suitable for reuse. Therefore, R3FIBER technology is both sustainable since it does not generate waste, and efficient because it allows a maximum energy recovery.

This pilot program will apply to damaged wind turbine blades that need to be replaced, and in the future, blades from EDPR wind farms that have reached the end of their life cycle. To address the situation of managing this non-hazardous waste going forward, EDPR has partnered with TRC to create a new, sustainable system that allows wind turbine blades to be put to use.

### **3.5. INNOVATION**

## Exploring new business options as technology keeps developing and put into practice inventive solutions that improve processes are key steps in EDPR's value creation strategy.

During 2017 EDPR launched innovative projects focused on adding value to existing areas of the business, such as the combination of existing power plants (wind and hydro, in alliance with EDP) with solar PV and storage. These are tangible examples of combined effort with partners and suppliers with the goal of bringing the renewable industry forward.

At the same time the Company's high-skilled teams kept implementing new solutions in day-to-day business operations, boosting value creation through the application of innovative and lean initiatives.

### FLOATING SOLAR - A JOINT EFFORT WITH EDP

Generating electricity since January 2017 in the Alto Rabagão reservoir in Northern Portugal this project is a combined effort of EDP Produção, EDP Comercial and EDP Renováveis in which each company of the group brings its expertise to the dashboard.



Alto Rabagão floating solar plant

The experimental solar plant was the world's first power plant to combine hydro and solar technologies. It has an installed capacity of 0.2 MW and occupies 2,500 square meters, floating in waters 60 m depth. The 840 solar panels installed are expected to deliver 300 MWh/year of clean energy to the hydro power plant substation already existent nearby.

This is the first project where the floating panels work in tandem with the dam's hydroelectric rotors, meaning that the solar panels produce energy during the day while saving hydro power to compete during intermittent demand peaks. When there is no demand the electricity produced by the solar panels allows the hydro plant to be autonomous from the network, consuming renewable energy to keep its systems running.

One of the main goals of the pilot, in which EDPR's expertise is vital, is to compare the offshore solar production versus a similar plant located onshore nearby. It's been proven that if the panels reach an excessive temperature its performance decreases. Those installed in the floating plant, naturally refrigerated, are able to deliver a better performance than the similar plant onshore.

This solution combined with the fact that floating solar plants would need less space than onshore to reach the same installed capacity, as floating power plants do not need to avoid terrain constrains due to the morphology of the lands, will open new opportunities for this brand new technology.

While studies in Alto Rabagão will continue, the EDP group is already considering the extension of this experience to larger facilities.



### HYBRID TECHNOLOGIES - COMBINING WIND, SOLAR AND STORAGE

In 2017 EDPR installed, in collaboration with Vestas, an array of solar panels directly connected with one operating wind turbine generator in "El Conilete" wind farm (Andalucia, Spain). This installation will provide deeper knowledge about the benefits of combining both technologies. This option has several upsides, as it makes use of the existing infrastructure with almost no investment, excluding the solar panels, as the new capacity will take advantage of inverters, transformers, switchgears and cables. A new software was developed between Vestas and EDPR to control and monitor the performance of the combined generator.

A second phase of this project has already been launched, consisting in the addition of coupled batteries to create a combined wind, solar and storage generator. EDPR will benefit in this project from the experience acquired in the storage systems it has already installed in its solar and wind power plants in Romania.



El Conilete hybrid power plant installation

### INNOVATING IN DAY-TO-DAY OPERATIONS

After more than a decade of continuous expansion EDPR's capacity to deliver top quality assets has been more than proven. Always looking for improvement, 2017 saw new innovative solutions in the construction and commissioning procedures of our power plants, making the process faster, safer and more environmentally friendly.

As an example, in the Meadow Lake V wind farm (Indiana, USA), on top of the already established "98 out of the gate" program (target is to reach 98% of availability in each turbine as fast as possible) that resulted in 99% pre-COD availability generating 22.7 million KWh of test energy, field-driven innovations piloted by EDPR's team in collaboration with Mortenson, civil contractor, successfully crystalized in the completion of a full scale stay-form foundation pedestal which eliminated risk associated with heavy materials, equipment, and suspended overhead loads from the turbine foundation and reduced the cost while improving safety for the construction workers.

Another initiative launched was the utilization of a digital transition process – making this the first project that turned 100% digital documents to EDPR. This has an estimated savings of \$30,000 in paper and printing costs, with an additional \$30,000 of savings in administrative costs to assemble binders and store and scan documents into EDPR's internal document management system.

### CORPORATE-WIDE PLANNING TOOL

During 2017 EDPR also implemented a new planning methodology based on a single tool and integrated process throughout the organization. Effective implementation lowered lead times, decreased budgeting work peaks, allowed for planning full useful life of assets, and improved scenario and reforecasting capabilities. The new planning system is cloud-based, easy to access to all the personnel involved from any geography, thus improving work-life balance and data integrity and accountability.

As a direct upside, it will add important insights to top level discussion and a deeper understanding of business driver impact on financial performance, helping EDPR to reach another level in the business analysis. During 2018 the tool will keep its roll-out to all the departments involved in the budgeting process of the company.

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## **04 SUSTAINABILITY**

### **4.1. MATERIALITY ASSESSMENT**

The macro-economic context, where the challenges of sustainability are increasing, summing up with the diversity of EDPR's stakeholders, results in a large and complex list of important issues, which must be prioritized according to its relevance and significance. An issue is considered material when it influences the decision, the action and the performance of an organization and its stakeholders.

### 4.1.1. BACKGROUND AND OBJECTIVES

EDPR's material issues were identified and the results achieved supported the preparation of this Annual Report, as reflected in the company's management strategy and, in particular, in its agenda for sustainability.

### 4.1.2. METHODOLOGY

The methodology adopted is based on the Accountability Standards and this information is collected corporately and within each business units.

Materiality is acquired by the interception of the issues identified by stakeholders with the importance given internally by the business. The topics identified by the company are prioritized according to the frequency with which they appear in different categories analyzed.

### **RELEVANCE FOR SOCIETY**

The relevance for society is determined by the importance/impact of a specific theme from an external perspective to the company, designated as society perspective. Therefore, the society vision reflects the vision idea/concept of the several stakeholder groups that have influence on or are influenced by EDPR's activities. This vision must be obtained through sources that ensure independence from the company by means of collecting on most cases external data. This vision must be achieved through sources that are independent from the company to collect, on most cases, external data.

In parallel, the establishment of a society vision is also supported by documents, analysis and international/national specific studies that allow a broad perspective of the emerging trends in the sustainability area. Consequently, the company considers that the vision of the several stakeholders reflects the vision of society, thus allowing the assessment of the expectations outside EDPR.

### **RELEVANCE FOR BUSINESS**

The vision of the business is obtained through the evaluation of the importance/impact of a specific theme from an internal perspective to the company. This vision is originated from the analysis of the defined business strategic goals as these, depict the current positioning and concerns of EDPR, reflect the future vision of the business.

### RESULTS

The materiality matrix describes visually and promptly the most sensitive and impacting themes by comparing the relevance to society with the relevance to the business. The critical and sensitive themes for the business, obtained from the analysis of the materiality matrix, allows the company to drive the strategy and support the decision-making process as well as to focus the report of information based on shared interests between company and stakeholder, therefore, facilitating the relationship among them.

### MATERIALITY MATRIX



### 4.2. ECONOMIC TOPICS

GRI 201-1 - DIRECT	ECONOMIC VALUE GENERATED AND DISTRIBUTED
OUT TOT Y DYNCEON	ECONOMIC VALUE GENERATED AND DISTRIBUTED

E MILLION 2017	2016
ECONOMIC VALUE GENERATED AND DISTRIBUTED	
Turnover 1,637	1,485
Other income 321	251
Gains/(losses) on the sale of financial assets 0	2
Share of profit in associates 3	0
Financial Income 41	54
Economic value generated 2,001	1,792
Cost of raw material and consumables used 35	31
Supplies and services 327	305
Other costs 128	135
Personnel costs 101	94
Financial expenses 343	404
Current tax 46	50
Dividends 133	153
Economic value distributed 1,113	1,172
Economic value accumulated 888	620

### ECONOMIC VALUE GENERATED IN 2017 (€ million)



## GRI 201-2 - FINANCIAL IMPLICATIONS AND OTHER RISKS AND OPPORTUNITIES FOR THE ORGANIZATION'S ACTIVITIES DUE TO CLIMATE CHANGE

According to the International Renewable Energy Agency (IRENA), renewable energy, coupled with energy efficiency gains, can provide 90% of the CO<sub>2</sub> emissions reductions needed by 2050 to stay within the Paris Agreement boundaries. In this scenario, renewable technologies could generate more than 80% of all electricity by 2050, including a 52% share from wind and solar which would have to grow from today's approximately a 5.5% share. The leading role of renewables has been noticed by governments around the world and most countries have included renewable energy targets in their NDCs.

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A clean energy revolution is naturally underway not only because it is sustainable but also because economically, onshore wind and solar PV costs have been declining and these technologies are now among the cheapest sources of energy in a growing number of countries, as highlighted by Lazard, Bloomberg New Energy Finance and IRENA. The competitiveness of renewables has been clearly evidenced in 2017 with wind (onshore and offshore) and solar PV's tenders beating a record of low prices all around the globe.

This awareness is increasingly growing in all sectors. Corporations, for instance, have been signing power purchases agreements (PPA) with renewable generators in order to fill their electricity needs. Renewables represent now an increasingly share of new investments in power-generating facilities<sup>1</sup> and according to BNEF, renewable energy sources are set to represent almost 75% of the investments in new power generation technologies until 2040. Not surprisingly, Europe's major utilities pledged to become carbon-neutral "well before 2050" and even several oil and gas major companies have significantly increased their investment in renewables during the recent years. Funding institutions are also stepping back from fossil fuel projects; the World Bank announced in December 2017 that it would cease to finance upstream oil and gas after 2019 and investment funds, such as the Norway's wealth fund, banks and pension funds have announced similar pledges. Likewise, global green bond<sup>2</sup> issuance hit a record of USD 155.5 billion in 2017 and could reach USD 250-300 billion in 2018, according to a research from the Climate Bonds Initiative.

According to a study published by IRENA, the EU could double the renewables' share in its energy mix, cost effectively, even without considering the economic value associated with health and environmental benefits. The share could rise to 34% in the total energy mix and up to 50% in the electricity mix (compared to 29% in 2015).

#### GRI 201-3 - DEFINED BENEFIT PLAN OBLIGATIONS AND OTHER RETIREMENT PLANS

Information on EDPR benefit plan obligations, can be found in Note 10 in the Financial Statements.

#### **GRI 201-4 - FINANCIAL ASSISTANCE RECEIVED FROM GOVERNMENT**

Information on EDPR financial assistance received from government through Production Tax Credits, Cash Grants and other Tax savings in the US, can be found In Income from institutional partnerships in US wind farms and Amortization of deferred income (government grants) in the Consolidated Income Statement and additional details on Note 7, Note 12 and Note 30 in the Financial Statements.

### GRI 202-1 - RATIOS OF STANDARD ENTRY LEVEL WAGE COMPARED TO LOCAL MINIMUM WAGE

The values presented in the table below, show the average standard entry-level wage compared to the local minimum wage for each one of the countries where EDPR has presence. To protect the privacy of employees' wages in those countries where the headcount is smaller, the analysis is not disclosing the information by country and gender.

%				2017	2016
STANDARI	D ENTRY LEVEL W	AGE VS LOC	AL MINIMUM WAGE		
Europe				190%	204%
North Ame	erica			247%	234%
Brazil				309%	337%

Note: European ratio is calculated by using the sum of the entry-level wages (in  $\in$ ) of every country where EDPR operates (except Belgium, that was removed to protect the privacy of employees due to the small headcount) and the sum of the minimum wage of all these countries (in  $\in$ ). 2016 data has been restated using the same criteria.

Note 1: Canada and Mexico information was also removed to protect the privacy of employees in the country due to the small headcount.

#### GRI 202-2 - PROPORTION OF SENIOR MANAGEMENT HIRED FROM THE LOCAL COMMUNITY

The Code of Ethics contains specific clauses of non-discrimination and equal opportunities in line with the company's culture of diversity. This is reflected in the procedures for hiring people via a non-discriminatory selection processes.

<sup>&</sup>lt;sup>1</sup> According to Bioomberg, global clean energy investment in 2017 was the second highest ever at USD 333.5 billion and representing an annual increase of 3% <sup>2</sup> Debt instruments to be used for projects that promote climate and environmental sustainability purposes

A potential employee's race, gender, sexual orientation, religion, marital status, disability, political orientation or opinions of any other nature, ethnic or social origin, place of birth or trade union membership are not considered.

There are no specific procedures explicitly requiring local recruitment. However, a high percentage of EDPR employees' are hired from the same country in which the company operates.

### 71% of the new Directors have been hired internally.

%	2017
% OF LOCAL RECRUITMENT	DIRECTORS
Europe	70%
North America	79%
Brazil	100%
Corporate	71%

### **GRI 203-1 - INFRASTRUCTURE INVESTMENTS AND SERVICES SUPPORTED**

### Wind and solar energy require infrastructure investments which benefit surrounding communities.

This includes the reinforcement of existing electricity networks and the rehabilitation of existing roads or the construction of new roads.

The investment in roads is necessary in order to transport heavy equipment (wind turbine components, power transformers, etc.) to the site during construction. The improved road system facilitates future maintenance activities after construction works, as well as improves access to remote locations for the surrounding communities. During the operation of the wind farms, these roads are maintained and further opportunities may be identified to increase the positive impact in the community.

The integration of the generation capacity may also require upgrades in the distribution and transmission grids that belong to the system operators. Those upgrades indirectly benefit the quality of service offered in the surrounding areas by minimizing electricity supply interruptions.

## In 2017, EDPR invested €7 million to develop community roads and €1.6 million to improve public electric facilities.

### GRI 203-2 - SIGNIFICANT INDIRECT ECONOMIC IMPACTS

Renewable energy technologies are viewed not only as tools for mitigating climate change, but are also increasingly recognized as investments that can provide direct and indirect economic advantages by reducing dependence on imported fuels (and hence, improving trade balances), enhancing local air quality and safety, advancing energy access and security, propelling economic development, and, creating jobs.

### **GRI 204-1 - PROPORTION OF SPENDING ON LOCAL SUPPLIERS**

At EDPR, there is no specific policy or in-house procedure for preferring locally based suppliers.

Nevertheless, under equal commercial terms, EDPR chooses local suppliers in order to enhance the socio-economic sustainability of the 12 countries across Europe and the Americas where it is present.

## In this way, around 99%\* of the purchases were sourced from local suppliers (purchases in countries of operation of EDPR).

### ANNUAL REPORT EDPR 2017

Moreover, during the construction of the company's projects, the local community can see an influx of temporary local construction workers and suppliers that provide a positive impact on the local economy.

Note: \* is based on # of purchase orders placed in 2017,

### **GRI 205-1 - OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION**

EDPR analyses all the new markets were enters operations through a Market overview. This study also evaluates the corruption risk.

EDPR during 2015, implemented an Anti-Bribery Policy of application to all EDPR Group. This Anti-Corruption Policy involves a series of procedures regarding the relationships of EDPR employees with external parties, namely the approval of certain actions regarding hospitality to and from external parties, charitable donations, and sponsorships.

Additional information on the Whistleblowing Channel and the Ethics Channel can be found at Section 5 Corporate Governance, C. II. Reporting Of Irregularities or visit the ethics information on the corporate governance section, in the website, **www.edpr.com.** Moreover, additional information is detailed in the Integrity and ethics Section.

### Anti-Bribery Policy is available at www.edpr.com.

### GRI 205-2 - COMMUNICATION AND TRAINING ON ANTI-CORRUPTION POLICIES AND PROCEDURES

There is a strong commitment by the Company in relation to the dissemination and promotion of compliance with the Code of ethics, which includes Bribery & Corruption section, available to all employees through training, questionnaires, and open discussions of the findings. To this extent, from March to December 2016, EDP offered an online Ethics training ("Ética EDP") available to all employees of both Europe/Brazil and North America. This course achieved a major participation of around 900 EDPR employees. This type of training will be performed periodically.

### **GRI 205-3 - CONFIRMED INCIDENTS OF CORRUPTION AND ACTIONS TAKEN**

EDPR has no knowledge of any corruption-related incidents recorded during 2017.

Moreover, the company has internal procedures to monitor compliance with the Code of Ethics and defines actions to be taken in case of incidents.

Additional information on the Whistleblowing Channel and the Ethics Channel can be found at Section 5 Corporate Governance, C. II. Reporting Of Irregularities or visit the ethics information on the corporate governance section, in the website, **www.edpr.com.** Moreover, additional information is detailed in the Integrity and ethics Section.

## GRI 206-1 - LEGAL ACTIONS FOR ANTI-COMPETITIVE BEHAVIOR, ANTI-TRUST, AND MONOPOLY PRACTICES

EDPR has no knowledge of any legal actions for anti-competitive behavior, anti-trust or monopoly practices recorded during 2017.



For additional information related to Economic topics, please refer to Business Environment, Financial, Employees, Communities and Safety Organization Structure Sections.

### **4.3. ENVIRONMENTAL TOPICS**

Note: EDPR reports EBITDA windfarms environmental indicators the year after the COD (Commercial Operating Date), when the trial periods is over and the indicators are already significant. So that, the windfarms that have entered into operation in 2017 will be included in the environmental indicators of 2018.

### **GRI 302-1 - ENERGY CONSUMPTION WITHIN THE ORGANIZATION**

Wind turbines and solar panels require a small amount of electricity to operate. This energy consumption is generally self-consumed. Given the intermittency of wind generation, sometimes it is needed to consume electricity from the grid.

МШН	2017	2016	%
ENERGY CONSUMPTION			
Wind farms:			
Electricity consumption	64,964	67,423	-4%
Offices:			
Electricity consumption	4,475	3,776	19%
Gas	999	1,009	-1%

Note: Gas conversion factor according to Agência Portuguesa do Ambiente.

### **GRI 302-4 - REDUCTION OF ENERGY CONSUMPTION**

EDPR' activity is based on clean energy generation, and it produces about 398 times the electricity consumed by itself. Nonetheless, the company is conscious about promoting a culture of rational use of resources and promotes many internal campaigns to encourage sustainable behaviors as is explained in its website **www.edpr.com**.

### **GRI 303-1 - WATER WITHDRAWAL BY SOURCE**

Generation from wind energy does not consume water in its operational processes. The water is consumed mainly for human use. The consumption of water per electricity generated accounts for 0.51 liters/MWh. Even so, the company actively seeks to adopt more eco-efficient practices. An example of this, in 2017, 38 substations had rainwater collection and treatment systems installed to cover their own water supply needs.





Source: 2014 EWEA, Saving water with wind energy.

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### ANNUAL REPORT EDPR 2017

COUNTRY	FACILITY NAME	TYPE OF OPERATION	POSITION IN RELATION WITH PROTECTED AREA	FACILITY AREA IN PROTECTED NATURAL AREA (ha)	% FACILITY AREA IN PROTECTED NATURAL AREA (%)	ATTRIBUTE OF THE PROTECTED AREA	STATUS OF THE PROTECTED AREA
	Cerfontaine	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000
Belgium Chimay	Chimay	Wind farm	Adjacent	0.0	0%	Terrestrial - Freshwater	Natura 2000
France	Patay	Wind farm	Inside	41.6	100%	Terrestrial	Natura 2000
	Ségur	Wind farm	Inside	1.3	100%	Terrestrial	National protected area
	Ayssènes - Le Truel	Wind farm	Inside	1.3	100%	Terrestrial	National protected area
	Marcellois	Wind farm	Inside	1.1	100%	Terrestriai	Natura 2000
	Massingy	Wind farm	Inside	0.9	100%	Terrestrial	Natura 2000
	Tarzy	Wind farm	Inside	39.9	100%	Terrestrial	Regional park
	Francourville	Wind farm	Inside	41.2	100%	Terrestrial	ZICO
	Ilza	Wind farm	Inside	30.2	91%	Terrestrial	Regional park
Poland	Tomaszow	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000

### GRI 304-1 - OPERATIONAL SITES OWNED, LEASED, MANAGED IN, OR ADJACENT TO, PROTECTED AREAS AND AREAS OF HIGH BIODIVERSITY VALUE OUTSIDE PROTECTED AREAS

COUNTRY	FACILITY NAME	TYPE OF OPERATION	RELATION WITH PROTECTED AREA	IN PROTECTED NATURAL AREA (ha)	AREA IN PROTECTED NATURAL AREA	THE PROTECTED	PROTECTED AREA
	Cerfontaine	Wind farm	Adjacent	0.0	(%) 0%	Terrestrial	Natura 2000
Belgium	Chimay	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000
	Patay	Wind farm	Inside	41.6	100%	- Freshwater Terrestrial	Natura 2000
	Ségur	Wind farm	Inside	1.3	100%	Terrestrial	National protected
	Avssènes - Le Truel	Wind farm	Inside	1.3	100%	Terrestrial	area National protected
rance	Marcellois	Wind farm	Inside	1.1	100%	Terrestrial	area
	Massingy	Wind farm	Inside	0.9	100%	Terrestrial	Natura 2000 Natura 2000
	Tarzy	Wind farm	Inside	39.9	100%	Terrestrial	Regional park
	Francourville	Wind farm	Inside	41.2	100%	Terrestrial	ZICO
Poland	Ilza	Wind farm	Inside	30.2	91%	Terrestrial Terrestrial	Regional park
oland	Tomaszow	Wind farm	Adjacent	0.0	0%	- Freshwater	Natura 2000
	Pena Suar	Wind farm	Inside	6.3	100%	Terrestrial	Natura 2000
	Açor Açor II	Wind farm Wind farm	Partially Within Partially Within	0.1 6.0	1% 88%	Terrestrial	Natura 2000 Natura 2000
	Cinfaes	Wind farm	Inside	4.9	100%	Terrestrial Terrestrial	Natura 2000 Natura 2000
	Bustelo	Wind farm	Inside	8.9	100%	Terrestrial	Natura 2000
	Vila Cova	Wind farm	Inside	14.6	100%	Terrestrial	Natura 2000
	Falperra-Rechäzinha	Wind farm	Partially Within	30.3	91%	Terrestrial	Natura 2000
	Fonte da Quelha	Wind farm	Inside	8.1	100%	Terrestrial Terrestrial	Natura 2000
	Alto do Talefe	Wind farm	Inside	9.2	100%	- Freshwater	Natura 2000
	Fonte da Mesa	Wind farm	Partially Within	8.2	83%	Terrestrial	Natura 2000
	Malanhito Madrinha	Wind farm Wind farm	Partially Within Inside	1.5 4.1	3% 100%	Terrestrial Terrestrial	Natura 2000
	Safra-Coentral	Wind farm	Inside	19.7	100%	Terrestrial	Natura 2000 Natura 2000
	Negrelo e Guilhado	Wind farm	Inside	9.5	141%	Terrestrial	Natura 2000
ortugal	Testos	Wind farm	Partially Within	2.9	22%	Terrestrial	Natura 2000
	Serra Alvoaça	Wind farm	Partially Within	7.8	61%	Terrestrial	Natura 2000 National
			r ar ciany within	7.0		reneachar	protected area
	Tocha	Wind farm	Inside	6.8	100%	Terrestrial	Natura 2000
	Padrela/Souteio Guerreiros	Wind farm Wind farm	Partially Within Partially Within	1.0 0.1	41% 0%	Terrestriai Terrestrial	Natura 2000
	Vila Nova	Wind farm	Partially Within	7.1	42%	Terrestrial	Natura 2000 Natura 2000
	Vila Nova II	Wind farm	Partially Within	9.1	34%	Terrestrial	Natura 2000
	Balocas	Wind farm	Partially Within	0.4	1%	Terrestrial	Natura 2000
	Ortiga S. João	Wind farm Wind farm	Adjacent Adjacent	0.0 0.0	0% 0%	Terrestrial Terrestrial	Natura 2000
	Alto Arganil	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000 Natura 2000
	Salgueiros-Guilhado	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000
	Serra do Mú	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000
	Pestera	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000
omania	Sarichioi Burila Mica	Wind farm Solar plant	Partially Within Inside	0.1 22.7	0% 100%	Terrestrial Terrestrial	Natura 2000
	Sierra de Boguerón	Wind farm	Inside	10.4	100%	-Freshwater Terrestrial	Natura 2000 Natura 2000
	La Cabaña	Wind farm	Partially Within	8.2	53%	Terrestrial	Natura 2000 Natura 2000
	Corme	Wind farm	Partially Within	2.6	17%	Terrestrial	Natura 2000
	Hoya Gonzalo	Wind farm	Partially Within	0.7	4%	- Marine Terrestrial	Natura 2000
							Natura 2000
	Tahīvilla	Wind farm	Adjacent	0.0	0%	Terrestrial	National protected area
	Coli de la Garganta	Wind farm	Partially Within	0.1	1%	Terrestrial	Natura 2000
	Puntaza de Remolinos		Partially Within	1.8	57%	- Freshwater Terrestrial	Natura 2000
	Planas de Pola	Wind farm	Partially Within	6.2	55%	Terrestrial	Natura 2000
	Avila	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000
			-			- Freshwater Terrestrial	
	Buenavista	Wind farm	Adjacent	0.0	0%	- Marine	Natura 2000
	Serra Voltorera	Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000
	Villoruebo	Wind farm	Partially Within	2.0	41%	Terrestrial - Freshwater	Natura 2000
	Villamiel	Wind farm	Partially Within	4.9	75%	Terrestrial	Natura 2000
Spain	La Mallada	Wind farm	Partially Within	1.4	8%	- Freshwater Terrestrial	Natura 2000
	Las Monjas	Wind farm	Partially Within	0.01	0%	- Freshwater Terrestrial	Natura 2000
	Coll de la Garganta	Wind farm	Partially Within	0.06	1%	- Freshwater Terrestrial	Natura 2000
						- Freshwater	
	Tejonero	Wind farm	Adjacent	1.07	0%	Terrestrial Terrestrial	Natura 2000
	Ávila	Wind farm	Adjacent	0.0	0%	- Freshwater	Natura 2000
		Wind farm	Adjacent	0.0	0%	Terrestrial	Natura 2000
	Sierra de los Lagos		Adjacent	0.0	0%	Terrestrial	Natura 2000
	Sierra de los Lagos Mostaza	Wind farm	rajacene				
		Wind farm Wind farm	Adjacent	0.0	0%	Terrestrial - Freshwater	Natura 2000
	Mostaza Los Almeriques Suyal	Wind farm Wind farm	Adjacent Adjacent	0.0	0%	- Freshwater Terrestrial	Natura 2000 Natura 2000
	Mostaza Los Almeriques	Wind farm	Adjacent			- Freshwater Terrestrial Terrestrial	
	Mostaza Los Almeriques Suyal	Wind farm Wind farm	Adjacent Adjacent	0.0	0%	- Freshwater Terrestrial Terrestrial Terrestrial	Natura 2000
	Mostaza Los Almeriques Suyal Serra Voltorera Monseivane	Wind farm Wind farm Wind farm Wind farm	Adjacent Adjacent Adjacent Partially Within	0.0 0.0 17.3	0% 0% 98%	- Freshwater Terrestrial Terrestrial	Natura 2000 Natura 2000 Natura 2000
	Mostaza Los Almeriques Suyal Serra Voltorera	Wind farm Wind farm Wind farm	Adjacent Adjacent Adjacent	0.0 0.0	0% 0%	- Freshwater Terrestrial Terrestrial Terrestrial - Freshwater	Natura 2000 Natura 2000

According to GRI requirements



With the Implementation of its Disclosestry Policy, EDP Renewables (EDPR) is contributing to the world's dejective of reducing Biodiversity less due to human activity. In particular, EDPR:

- Is oware of the sensitivy of natural ecosystems and of the pressures that these are subject to, as well as of the intrinsic value of the initiatives climed at protecting blockwesky.
   Has significant experience in minimizing the impact on blockwesky resulting from its
- activitias: • Warns to have an even more active role in the conservation of bladiversity and its reservation
- EDPR deems blodvanky to be integrated in the management of its companies. The object is to achieve an overall pasitive impact on blodversity.

To that end, EDRR is committed to: Lineque No blob/cm/m programment in de phases of its octubities project design. Interpreter No blob/cm/m phases and compare promotion and distribution interpreter wave control interpreter on blob/endry of promise protection and phases. Wave control interprets compare provide promise protection interprets. Wave control interprets compare provide provide and phases and phases. The control interprets compare provide phases and phases and phases. The control interpret compare phases and phases and phases and phases and phases. The control interpret phases and phases and phases and phases and phases and phases and phases. The control interpret phases and p

calisatival accognization medianes, which allows the end/herment of a griabally passive biodimatrix blacks are backeting scientific knowledge on the different supercised of backetines, in a combine the paper by passive and an origination memory and in accessional with a specific backeting and the science of the science of the science of the science transmission of paper backeting and the science of the science of the science transmission of paper backeting and the science of the sc



## GRI 304-2 - SIGNIFICANT IMPACTS OF ACTIVITIES, PRODUCTS, AND SERVICES ON BIODIVERSITY

Potential environmental impacts are analyzed in detail in the environmental impact studies of the projects. Additionally, feasible alternatives are assessed and preventive, corrective and compensation measures are determined.

The company has defined general procedures in its Environmental Management System to prevent, correct or compensate impacts in the environment. In addition, efforts are intensified with specific monitoring procedures in the small number of sites located inside or close to protected areas.

## Potential environmental impacts are analyzed in detail in the environmental impact studies of the projects.

## GRI EU13 - BIODIVERSITY OF OFFSET HABITATS COMPARED TO THE BIODIVERSITY OF THE AFFECTED AREAS

In the small number of sites located inside or close to protected areas, EDPR intensifies the efforts with specific monitoring procedures, as defined in the Environmental Management System.

### **GRI 304-3 - HABITATS PROTECTED OR RESTORED**

After the construction period, it is EDPR duty to return the site to its initial state. Therefore, the company performs morphological restoration and reseeding works. In 2017, almost 6 hectares of affected land were restored.

Furthermore, EDPR collaborates with Fundación Patrimonio Natural and Migres to promote, maintain and manage the natural heritage.

Fundación Patrimonio Natural is linked to the Castilla y León Regional Government. In 2017, an economic contribution of  $\in$  25,000 was made to work in collaboration with the Fundación Patrimonio Natural in the following actions:

- Repositioning of a transmitter acquired in 2016 in an adult real kite individual and reception of data from the transmitters in operation placed since the beginning of the radiolabelling program.

- Follow-up actions of the breeding population of the royal kite in the regions of Pinares (Valladolid), Tierra del Vino and Guareña (Zamora) and analysis of the movements of the radio-marked individuals.

Fundación Migres is linked to the Andalucía Regional Government. In 2017, an economic contribution of €10,000 was made to work in collaboration with the Fundación Migres in the following actions:

### 1. Coordination and follow-up of the environmental surveillance plan carried out in the wind farms

Through the execution of this measure:

- The surveillance protocol is coordinated in all wind farms in the Tahivilla area
- The spatiotemporal monitoring of the accident occurrence is carried out
- The correct execution of the surveillance is supervised
- The establishment of the period to the reinforcement of the surveillance
- The continuous training of the people responsible for the environmental monitoring.

In addition, in 2017, a quality protocol for environmental monitoring has been designed, where several measures were established for quality control, as well as indicators for monitoring which contribute in obtaining the best results. This protocol must ensure a quality that allows a maximum reduction in accident rate.

## 2. Proposal for environmental measures for the conservation of threatened raptures in the environment around the wind farms of la Janda

This measure has not been executed yet. It will be carried out in 2018 with what has already been paid in 2017. It has not been started because there are some measures that have not yet been approved by the Environment.

### 3. Scientific monitoring of migration in the strait of Gibraltar

With this monitoring, we can know the fluctuations that occur in the number of specimens of the different migratory species, as well as detect possible conservation problems of these species and their habitats. This is especially important in a scenario of global change. Through the development of a specific program for monitoring the migration of gliding, marine and passerine birds in the Strait of Gibraltar, the aim is to detect:

- Changes in migratory populations that may be related to the trends of these species globally, as indicators of their conservation status.
- Changes in the migratory patterns of the species.
- Reveal the biological meaning of these changes in relation to the current scenario of global change.

### GRI 305-1 - DIRECT (SCOPE 1) GHG EMISSIONS

EDPR's Scope 1 emissions represent 1,604 tons of  $CO_2$  equivalent. 1,020 tones are emitted by transportation related to the windfarms operation, 177 tones by gas consumption in the company's offices and the rest of it is related to SF6.

Part of the equipment used for electricity generation purposes contains SF6 gasses and during 2017, EDPR registered emissions of 17 kg of this gas, which is equivalent almost to 407t CO<sub>2</sub>.

Note: Emissions were estimated according to GHG Protocol (including official sources such as IPCC or the U.S Department of Energy)

### GRI 305-2 - ENERGY INDIRECT (SCOPE 2) GREENHOUSE GAS (GHG) EMISSIONS

EDPR's  $CO_2$  indirect emissions represent 8,005 tons, 7,821 tons driven by electricity consumption by the wind farms and solar plants and 184 tons electricity consumption by the offices.

In 2017, 100% of the emissions related to electricity consumption in windfarms and our own offices in Spain and US have been compensated by Certifications of Origin in Spain and Renewable Energy Certifications (RECs) in US, obtained from the renewable energy generation.

Note 1: The emission factors used are based on the following sources: Portugal - EDP, Turbogás, Tejo Energia, Rede Eléctrica Nacional (REN), and Entidade Reguladora dos Serviços Energéticos (ERSE); Spain – Red Eléctrica de España (REE); Brazil - Ministry of Science and Technology - SIN (National Interconnected System); Other European Countries; and Canada - IHS CERA.

Note 2: Electricity consumption emissions were calculated with the global emission factors of each country.

### GRI 305-3 - OTHER INDIRECT (SCOPE 3) GREENHOUSE GAS (GHG) EMISSIONS

EDPR's work requires employees to travel and commute. Based on the estimates, the transportation used by employees accounted for a total of 6,124 tons of  $CO_2$  emissions.

Note: Emissions were estimated according to GHG Protocol, by following the DEFRA standard. Employee commuting emissions were calculated from data collected in a survey to all employees.





### CO, EQ EMITTED IN 20167 (K TONS) CO, EQ EMITTED IN 2017 (K TONS)

### GRI 305-5 - REDUCTION OF GREENHOUSE GAS (GHG) EMISSIONS

# Even though EDPR activity inherently implies the reduction GHG emissions, the company goes one-step forward by compensating 100% of the emissions related to grid connection of the windfarms and offices in Spain and US.

EDPR core business activity inherently implies the reduction GHG emissions. Wind and solar energy has zero carbon emissions, contributing to the world's fight against climate change and does not produce harmful SO<sub>x</sub>, NO<sub>x</sub>, or mercury emissions, protecting valuable air and water resources. In 2017, it was estimated that the company's activities avoided the emission of 22,051 thousand tons of  $CO_2$ .

The company's emissions represent 0.1% of the total amount of emissions avoided and 50% of the total emissions are from the necessary electricity consumption by the wind farms. Even though EDPR's activity is based on the clean energy generation, it is conscious about promoting a culture of rational use of resources. During 2017, EDPR continued promoting initiatives that foster environmental best practices in its offices.

In 2017, 100% of the emissions related to electricity consumption in windfarms and our own offices in Spain and US have been compensated by Certifications of Origin in Spain and Renewable Energy Certifications (RECs) in US, obtained from the renewable energy generation.

Note 1: To calculate the emissions avoidance, the energy generation has been multiplied by the CO<sub>2</sub> eq emission factors of each country and state within the US. EDPR considers the emission factor of just fossil fuel energy, as it is considered that by increasing the generation of renewable energy, there is a displacing of these technologies, while other renewable technologies and nuclear plants will continue with its quota of generation. Note 2: In order to calculate avoided emissions, generation in Mexico is included as well as the country is included at operational data. Note 3: The emission factors used are based on the following sources: Portugal - EDP, Turbogás, Tejo Energia, Rede Eléctrica Nacional (REN), and Entidade Reguladora dos Serviços Energéticos (ERSE); Spain – Red Eléctrica de España (REE); Brazil – Ministry of Science and Technology – SIN (National Interconnected System); USA - Emissions & Generation Resource Integrated Database (eGRID) for each state emission factor; Other European Countries, Mexico and Canada – IHS CERA.

### GRI 306-2 - WASTE BY TYPE AND DISPOSAL METHOD

The main contribution to the hazardous waste produced by wind farms is related to oil and oil-related wastes such as oil filters or oil containers, used mainly for lubrication of the turbines. The consumption of this oil is based on certain pre-defined replacement time frequencies (between 2 and 5 years, based on the component, oil type and manufacturer).

### ANNUAL REPORT EDPR 2017

During 2017, the recovery rate was 88% impacted mainly by a significant spill with a volume of 80 metric tons of soil contaminated brought to disposal. The increase in hazardous wastes is mainly due to the contamination of the soil. This soil was removed and fully restored. Excluding this fact and other accidents such as blades breakage that generate fiberglass, the recovery rate would have been 98%, what certifies that the company has been actively working to improve the recycling rate of its hazardous wastes, through authorized waste haulers. The increase shown in non-hazardous wastes is driven by glass fiber and metals from blades. These metals where fully recovered.

Annual fluctuations in hazardous waste generated are heavily dependent on the pluri-annual oil replacement programs above mentioned. Non-hazardous wastes generated by the company include metals, plastics, paper or domestic garbage which is recycled in their vast majority.

The following table summarizes the amount wastes generated per GWh in EDPR's facilities and the rate of recycling. The following table summarizes the amount wastes generated:

	2017	2016	۵%
WASTE GENERATED BY EDPR			
Total waste (kg/GWh)	58.0	50.1	16%
Total hazardous waste (kg/GWh)	31.6	27.1	16%
% of hazardous waste recovered	88%	87%	1%
Excluding accidents			
Total waste (kg/GWh)	53.7	43.6	23%
Total hazardous waste (kg/GWh)	25.2	24.3	4%
% of hazardous waste recovered	98%	97%	1%
	2017	2016	Δ%
WASTE GENERATED BY EDPR			
Total hazardous wastes (t)	836	647	29%
Total hazardous waste disposed (t)	99	84	17%
Total hazardous waste recovered (t)	737	563	31%
Total non-hazardous wastes (t)	700	547	28%
Total non-hazardous waste disposed (t)	244	227	7%
Total non-hazardous waste recovered (t)	456	320	42%
Total wastes (t)	1,536	1,195	29%

Note: For the purposes of this report, all wastes have been classified as Hazardous or Non-hazardous according to European Waste Catalogue; However, in each country where EDPR has a geographic presence, each wind farm is required to adhere to national law by following company procedures for handling, labelling, and storage of wastes to ensure compliance. In cases, like in the United States, when the company's operations generate small quantities of substances which fall into additionally-regulated categories such as used oils and universal wastes, EDPR follows strict standards for handling and disposal of these waste types to ensure and remain compliant with all applicable laws.

Note 2: 2016 ratios per GWh has been restated.

### GRI 306-3 - SIGNIFICANT SPILLS

Given EDPR's activity and its locations, oil spills and fires are the major environmental risks the company faces. The Environmental Management System is designed and implemented to prevent emergency situations from happening. But, just to be cautionary, the system covers the identification and management of these, including the near-miss situations.

EDPR defines as significant spill the ones above 0.16 m<sup>3</sup> that reached the ground. Additionally, EDPR registers near miss situations, when registered incident does not reach the category of significant spill. In 2017, the company had 3 significant spills with a total volume of 0.64 m<sup>3</sup> of oil spilled, 1 incipient fire, 3 fires without environmental impact and 1 fire with minimal impacts (0.5 acre) on the neighboring forest. All cases were properly managed: oil spills were confined
early and contaminated soil was collected and managed. Additionally, 65 near miss were registered driven by small oil leaks that did not reach bare soil.

EDPR performs regular environmental drills to guarantee that all employees are familiar with the risks and have received the appropriate training to prevent and act, if necessary.

#### GRI 307-1 - NON-COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

During 2017, the company did not receive any penalty for non-compliance with environmental laws and regulations.

#### GRI 308-1 - NEW SUPPLIERS THAT WERE SCREENED USING ENVIRONMENTAL CRITERIA

EDPR's Environment and Biodiversity Policies reflect a responsible management of the environment along the whole value chain. According to these policies, EDPR is committed to ensure that everyone involved, including suppliers, has the necessary, adequate skills for the purpose.

The suppliers of EDPR shall adopt all necessary measures to ensure strict compliance with all applicable environmental regulations as well as EDPR's Environment and Biodiversity Policies, internal norms, procedures and systems in place as regards to environmental management.

EDPR has implemented, for all its wind farms in operation, an Environmental Management System (EMS) developed according to the international standard ISO 14001. EDPR's suppliers shall know and understand the EMS and ensure the full compliance with the procedures set. Supplier shall make the EMS available to its employees and subcontractors.

In 2017, 83% of EDPR's critical suppliers (defined as per EDP formal corporate standard methodology) in Corporate, Europe and Brazil and in North America had environmental systems.

#### GRI 308-2 - NEGATIVE ENVIRONMENTAL IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN

In 2015, EDPR carried out a study to characterize its Supply Chain, including the analysis of the exposure to economic, social and environmental risks. This analysis was performed using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) methodology developed by PwC. For the ESCHER calculation routine PwC used EDP Group 2014 data.

The study allowed EDPR to determine the following results: 300\* thousand-ton GHG emissions associated to EDPR's direct and indirect Supply Chain, 5%\* of which related to direct suppliers.

Through this study, EDPR aims to identify areas where should focus its improvement activities in order to significantly reduce its exposure to risk and optimize impacts.

Note: Analysis performed by PwC using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) tool, based on 2014 purchasing data. This study is still representative of EDPR reality and companies in the sector perform these studies every 2/3 years. Data presented in this chapter resulting from this study is marked with an \*.

For additional information related to Environmental topics please refer to the Positive Balance on the environment Section and Suppliers Section.

### 4.4. SOCIAL TOPICS

### GRI 102-8 - INFORMATION ON EMPLOYEES AND OTHER WORKERS

In 2017, EDPR had 1,220 employees. 22% worked at EDPR holding, 38% in the European Platform, 37% in the North American Platform and 3% in Brazil.

WORKFORCE BREAKDOWN	2017	% FEMALE	2016	% FEMALE
BY EMPLOYMENT TYPE:				
Full time	1,188	30%	1,050	31%
Part time	32	97%	33	94%
BY EMPLOYMENT CONTRACT:				
Permanent	1,203	32%	1,066	33%
Temporary	17	0%	17	24%
BY COUNTRY:				
Spain	406	34%	373	34%
Portugal	73	12%	72	10%
France	60	40%	53	38%
Belgium	3	33%	2	0%
Poland	35	34%	38	37%
Romania	32	41%	32	38%
Italy	28	36%	23	35%
UK	42	43%	34	47%
USA	488	31%	410	33%
Canada	5	0%	5	0%
Brazil	39	28%	34	29%
Mexico	9	33%	7	29%
Total	1,220	32%	1,083	33%

The average number of contractors' workers during the period has been 870 in Europe, 1,372 in North America and 559 in Brazil.

### **GRI 401-1 - NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER**

Throughout the year, EDPR hired 259 employees while 121 are no longer with the company, resulting in a turnover ratio of 16%, which is slightly higher than the previous year.

2,801 contractors involved in construction and operation and maintenance activities during 2017.

Rosewater Wind Farm LLC Attachment RJB-8 Page 121 THE LIVING ENERGY BOOK

EMPLOYEE TURNOVER	NEW HIRES	DEPARTURES	TURNOVER
BY AGE GROUP:			
Less than 30 years old	151	51	37%
Between 30 and 39 years old	74	38	10%
Over 40 years old	34	32	9%
BY GENDER:			
Female	82	45	16%
Male	177	76	15%
BY COUNTRY:			
Spain	61	31	11%
Portugal	4	3	5%
France	20	10	25%
Belgium	0	0	0%
Poland	0	1	1%
Romania	2	2	6%
Italy	8	3	20%
UK	17	6	27%
USA	133	58	20%
Canada	0	0	0%
Brazil	11	6	22%
Mexico	3	1	22%
Total	259	121	16%

Note: Turnover calculated as: (new hires+departures)/2

# GRI EU17 - DAYS WORKED BY CONTRACTOR AND SUBCONTRACTOR EMPLOYEES INVOLVED IN CONSTRUCTION, OPERATION AND MAINTENANCE ACTIVITIES

Contractors involved in construction, operation and maintenance activities worked 691,929 days during 2017.

# GRI EU18 - PERCENTAGE OF CONTRACTOR AND SUBCONTRACTOR EMPLOYEES THAT HAVE UNDERGONE RELEVANT HEALTH AND SAFETY TRAINING

As an integral part of the health & safety strategy, the company offers several training courses and risk assessment activities according to the potential risks identified for each position within the company.

EDPR is equally concerned with the health and safety standard of all employees and contractors. To this extent, the contractors are subject to a health and safety screening when they bid to work for the company. Once the contractor is selected, they are required to present proof of having completed the required training. 72% of contractors have undergone relevant health and safety training during 2017 given by EDPR. Nevertheless, is mandatory for the companies that work with EDPR to assure that all the contractors have undergone health and safety courses.

# GRI 401-2 - BENEFITS PROVIDED TO FULL-TIME EMPLOYEES THAT ARE NOT PROVIDED TO TEMPORARY OR PART-TIME EMPLOYEES

As a responsible employer, a quality employment that can be balanced with personal life is a priority for the company. The package of benefits provided to full-time employees does not differ from that offered to part-time employees, and generally it goes beyond what is agreed in collective bargaining agreements. This benefits package includes medical insurance, life insurance, pension plan and conciliation measures.

## EDPR recognized with ESR certificate – Socially Responsible Company - and ranked among the 50 best companies to work in Spain and Poland.

#### **GRI 102-41 - COLLECTIVE BARGAINING AGREEMENTS**

From EDPR's 1,220 employees, 20% were covered by collective bargaining agreements.

EMPLOYEES COVERED BY COLLECTIVE BARGAINING AGREEMENTS	2017	%
Spain	51	13%
Portugal	73	100%
France	55	92%
Belgium	1	33%
Poland	0	0%
Romania	0	0%
Italy	28	100%
UK	0	0%
USA	0	0%
Canada	0	0%
Brazil	39	100%
Mexico	0	0%
Total	247	20%

Collective bargaining agreements apply to all employees working under an employment relationship with and for the account of some companies of EDPR group, regardless of the type of contract, the professional group into which they are classified, their occupation or job. However, matters relating to the corporate organization itself, the laws of each country or even usage and custom in each country result in certain groups being expressly excluded from the scope of collective bargaining agreements.

### GRI 401-3 - PARENTAL LEAVE

PARENTAL LEAVE	MATERNAL	PATERNAL	TOTAL
Spain	7	11	18
Portugal	0	2	2
France	2	2	4
Belgium	0	0	0
Poland	4	4	8
Romania	0	0	0
Italy	4	1	5
UK	3	0	3
USA	6	25	31
Canada	0	0	0
Brazil	0	0	0
Mexico	0	0	0
Total	26	45	71

In 2017, 71 employees enjoyed a maternal or paternal leave. All returned but after that, six of them extended their leave. Additionally, 96% of the employees who enjoyed a parental leave in 2016 are still EDPR employees.

EMPLOYEES ELIGIBLE TO RETIRE	IN 10 YEARS	IN 5 YEARS
BY EMPLOYMENT CATEGORY:	81	31
Directors	21	9
Specialist	40	17
Managers	5	2
Technicians	15	3
BY COUNTRY:	81	31
Spain	20	8
Portugal	17	7
Poland	2	2
Italy	0	0
France	1	0
UK	0	0
Romania	1	0
USA	39	13
Brazil	1	1

GRI EU15 - PERCENTAGE OF EMPLOYEES ELIGIBLE TO RETIRE IN THE NEXT 5 AND 10 YEARS BROKEN
DOWN BY JOB CATEGORY AND BY REGION

Note that the employees eligible to retire in the next 5 years is with 60 years reference and in the next 10 years with 57 years reference.

### 38yr EDPR employees' average age.

#### GRI 402-1- MINIMUM NOTICE PERIODS REGARDING OPERATIONAL CHANGES

Per country case law, EDPR may have a minimum period which it must comply with for giving formal notice of organizational changes at the companies in the Group with an impact on employees. However, it is customary to communicate significant events to the affected groups in advance.

As an employer in the United States, EDPR complies with the Worker Adjustment and Retraining Notification (WARN) Act Guide to Advance Notice of Closings and Layoffs.

# GRI 403-1 - WORKERS REPRESENTATION IN FORMAL JOINT MANAGEMENT-WORKER HEALTH AND SAFETY COMMITTEES

A significant part of the organization plays a fundamental role in the implementation of its health and safety policy. The company created health and safety committees that collect information from different operational levels and involve employees in the definition and communication of a preventive plan.

During 2017, 4.0% of all employees attended health and safety committee meetings, representing 64% of the total workforce. All EDPR geographies have active health and safety committees in place.

# GRI 403-2 - TYPES OF INJURY AND RATES OF INJURY, OCCUPATIONAL DISEASES, LOST DAYS, AND ABSENTEEISM, AND NUMBER OF WORK-RELATED FATALITIES

H&S INDICATORS (EDPR AND CONTRACTORS PERSONNEL)	2017	2016	%
Number of industrial fatal accidents	0	0	0%
Europe	0	0	0%
North America	0	0	0%
Brazil	0	0	0%
Number of industrial accidents with absence	15	25	-40%
Europe	9	13	-31%
North America	2	12	-83%
Brazil	4	0	
Working days lost by accidents caused	534	1,124	-52%
Europe	397	820	-52%
North America	100	304	-67%
Brazil	37	0	
Injury Rate (IR) <sup>i</sup> :	1.9	3.8	-49%
Europe	3.1	4.9	-36%
North America	0.6	3.3	-83%
Brazi!	3.4	0.0	
Lost work day rate (LDR) <sup>2</sup> :	69	170	-59%
Europe	137	309	-56%
North America	28	83	-67%
Brazil	31	0	

<sup>1</sup> Injury Rate calculated as [# of accidents with absence/Hours worked \* 1,000,000]

<sup>2</sup> Lost Work Day Rate calculated as [# of working days lost/Hours worked \* 1,000,000]

Note: Minor first aid injuries are not included and number of days is calculated as the number of calendar days

#### EDPR did not record any fatal accidents during 2016 and 2017.

**During 2017, EDPR registered a substantial improvement in its H&S ratios.** The number of accidents with absence registered for employees and contractor personnel decreased by 40%, resulting in a drop of 49% in the injury rate to  $1.9^3$  impacted by lower number of accidents and more worked hours. Additionally, the lost work day rate decreased by 59% to  $69^4$ , driven by lower average lost work days per accident.

A greater focus on proactive approach in the H&S management plus the realization of the benefits from OHSAS certification results in a significant improvement in the statistics.

# GRI EU25 - NUMBER OF INJURIES AND FATALITIES TO THE PUBLIC INVOLVING COMPANY ASSETS, INCLUDING LEGAL JUDGMENTS, SETTLEMENTS AND PENDING LEGAL CASES OF DISEASES

During 2017, EDPR did not identify injuries or fatalities to the public involving company assets.

### GRI 404-1 - AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE BY EMPLOYEE



For a complete description of EDPR's Training and Human Resources strategy, please refer to the Employees Section.

#### GRI 404-2 - PROGRAMS FOR UPGRADING EMPLOYEE SKILLS AND TRANSITION ASSISTANCE PROGRAMS

EDPR strives to offer to the total workforce opportunities to develop professionally and assume new roles to reach the goals of the company. Employees are encouraged to take advantage of the functional and geographic mobility opportunities.

# GRI 404-3 - PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS

All of EDPR's employees, regardless of their professional category, are evaluated every two years to determine their development potential by providing the most suitable training. EDPR creates tailored development plan to address specific needs.

# EDPR's Code of Ethics contains specific clauses of non-discrimination and equal opportunities in line with the company's culture of diversity.

Moreover, EDPR offers the possibility to all employees to define a Personal Development Plan. This plan is very effective tool that enable us to structure training actions for the candidate aimed at widening their abilities and expertise since it requires a reflection upon the results of their skills assessment and identify the individual's strong points and areas where he can improve, taking into account the employee's development level, as well as the teamwork and organizational strategy.

<sup>&</sup>lt;sup>3</sup> Injury Rate calculated as [# of accidents with absence/Hours worked \* 1,000,000]

 $<sup>^4</sup>$  Lost Work Day Rate calculated as [# of working days lost/Hours worked \* 1,000,000]

The potential assessment process is independent from performance appraisal and is based on a 360 degree evaluation model which considers feedback from oneself, peers, subordinates and the manager.

"EDPR undertakes to ensure that its labor policies and procedures prevent unjustified discrimination and different treatment on the basis of ethnic or social origin, gender, sexual orientation, age, creed, marital status, disability, political orientation, opinion, birthplace or trade union membership." Principles of Action – Code of Ethics

#### **GRI 405-1 - DIVERSITY OF GOVERNANCE BODIES**

BOARD OF DIRECTORS COMPOSITION	2017
BY AGE GROUP:	
Under 30 years old	0%
Between 30 and 50 years old	18%
Over 50 years old	82%
BY GENDER:	
Female	6%
Male	94%

Following the best Corporate Governance practices, in 2016 EDPR analyzed and discussed about the possible criteria applicable in the selection of the new members of its Governing Bodies. As a conclusion, within others, it was agreed to take into account the following: the education, experience in the energy sector, integrity and independence, having a proven expertise and the diversity that such candidate may provide to the related body. Based on this, the Board of Directors would submit a proposal to the General Shareholders' Meeting which should be approved by majority, for an appointment for an initial period of three (3) years.

A detailed description of the governance bodies can be found at the Corporate Governance Chapter of this report, Annex - Biographies. Please refer to LA1 and LA13 to employees related information.

#### GRI 405-2 - RATIO OF BASIC SALARY AND REMUNERATION OF WOMEN TO MEN

M/F SALARY RATIO	M/F SALARY
Board Directors (non executive)	102%
Directors	113%
Specialist	107%
Managers	114%
Technicians	105%

Note: Ratios are calculated by using the average salary of men and the average salary of women per each category (in  $\in$ ). Ratios can be affected by the different levels included in each category.

#### **GRI 406-1 - INCIDENTS OF DISCRIMINATION AND CORRECTIVE ACTIONS TAKEN**

In 2017, EDPR had knowledge of a complaint for discrimination at the Equal Employment Opportunity Commission (EEOC). The issue was analyzed by the responsible area and finally, resolved and withdrawn by the complainant.

# GRI 407-1 - OPERATIONS AND SUPPLIERS IN WHICH THE RIGHT TO FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING MAY BE AT RISK

In 2015, EDPR carried out a study to characterize its Supply Chain, based on an analysis of the exposure to economic, social and environmental risks. This analysis was performed using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) methodology developed by PwC. For the ESCHER calculation routine PwC used EDP Group 2014 data related to suppliers. The study allowed EDPR to determine the following results:

 ~0%\* EDPR's direct suppliers identified in which the right to exercise freedom of association and collective bargaining may be at significant risk.

Note: Analysis performed by PwC using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) tool, based on 2014 purchasing data. This study is still representative of EDPR reality and companies in the sector perform these studies every 2/3 years. Data presented in this chapter resulting from this study is marked with an \*.



#### GRI 408-1 - OPERATIONS AND SUPPLIERS AT SIGNIFICANT RISK FOR INCIDENTS OF CHILD LABOR

EDPR's Code of Ethics has specific clauses against child or forced labor. The company did not identify any operation that could have a significant risk for incidents of child labor, forced and compulsory labor or indigenous rights.

#### EDPR Ethical Process guarantees transparency and confidentiality.

However, in 2015, EDPR carried out a study to characterize its Supply Chain, based on an analysis of the exposure to economic, social and environmental risks. This analysis was performed using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) methodology developed by PwC. For the ESCHER calculation routine PwC used EDP Group 2014 data related to suppliers.

The study allowed EDPR to determine the following results:

•  $\sim 0\%$ \* EDPR's direct suppliers identified as having significant risk for incidents of child labor.

Note: Analysis performed by PwC using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) tool, based on 2014 purchasing data. This study is still representative of EDPR reality and companies in the sector perform these studies every 2/3 years. Data presented in this chapter resulting from this study is marked with an \*.

For further information about the Code of Ethics and the Ethics Channel please visit the Section 5 Corporate Governance, C.II. Reporting Of Irregularities or visit the ethics information on the corporate governance section, in the website, **www.edpr.com**.

## GRI 409-1 - OPERATIONS AND SUPPLIERS AT SIGNIFICANT RISK FOR INCIDENTS OF FORCED OR COMPULSORY LABOR

EDPR's Code of Ethics has specific clauses against child or forced labor. The company did not identify any operation that could have a significant risk for incidents of forced and compulsory labor or indigenous rights.

However, in 2015, EDPR carried out a study to characterize its Supply Chain, based on an analysis of the exposure to economic, social and environmental risks. This analysis was performed using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) methodology developed by PwC.

For the ESCHER calculation routine PwC used EDP Group 2014 data related to suppliers.

The study allowed EDPR to determine the following results:

 ~0%\* EDPR's direct suppliers identified as having significant risk for incidents of forced or compulsory labor.

Note: Analysis performed by PwC using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) tool, based on 2014 purchasing data. This study is still representative of EDPR reality and companies in the sector perform these studies every 2/3 years. Data presented in this chapter resulting from this study is marked with an \*.

For further information about the Code of Ethics and the Ethics Channel please visit the Section 5 Corporate Governance, C.II. Reporting Of Irregularities or visit the ethics information on the corporate governance section, in the website, **www.edpr.com.** 

#### GRI 411-1 - INCIDENTS OF VIOLATIONS INVOLVING RIGHTS OF INDIGENOUS PEOPLES

EDPR did not identify any operation that could have a significant risk for incidents with indigenous rights.

# GRI 412-1 - OPERATIONS THAT HAVE BEEN SUBJECT TO HUMAN RIGHTS REVIEWS OR IMPACT ASSESSMENTS

EDPR has renewable plants in operation in 11 countries and is present in 12 countries, all of which are within the scope of the Code of Ethics premises and regulation.

#### GRI 412-2 - EMPLOYEE TRAINING ON HUMAN RIGHTS POLICIES OR PROCEDURES

There is a strong commitment by the Company in relation to the dissemination and promotion of compliance with the Code of Ethics, which includes a Human Rights section.

The Code of Ethics has been widely circulated among employees of the Group through internal communications mechanisms, individual shipments, delivery to new employees, and intranet publishing. The Code of Ethics is also attached to the labour agreements of the new hires to their written acknowledgement when they join the Company. Likewise, in the Welcome Presentation organized every year for the new hires of EDPR, it is also explained the main contents of these documents, as well as the Ethics Channel existence and functioning. This information is also published on the Intranet and website of the Company.

Additionally, from March to December 2016, EDP offered an online Ethics training ("Ética EDP") available to all employees of both Europe/Brazil and North America platforms. This course achieved a major participation of around 900 EDPR employees. This type of training will be performed periodically.

## GRI 412-3 - SIGNIFICANT INVESTMENT AGREEMENTS AND CONTRACTS THAT INCLUDE HUMAN RIGHTS CLAUSES OR THAT UNDERWENT HUMAN RIGHTS SCREENING

EDPR has a Code of Ethics that contains specific clauses for the respect for human rights. The Procurement Manual also includes a chapter to put the UN Global Compact principles into practice.

# GRI 413-1 – OPERATIONS WITH LOCAL COMMUNITY ENGAGEMENT, IMPACT ASSESSMENTS, AND DEVELOPMENT PROGRAMS

EDPR is aware of the impact that the activity has in the local communities where it develops wind farms and how it can maximize those potential benefits for the company and the inhabitants of the surrounding areas through an open communication with the stakeholders. Therefore, the company knows the importance of having a relationship of trust and collaboration with the communities where it has presence from the very initial stages of its projects. Usually, this relationship is encouraged by organizing some informative sessions, through open dialogs with these communities in order to explain the benefits of wind energy. EDPR also organizes volunteering and sport activities to promote a sustainable development of the society. Its business generates further indirect positive impacts in the areas where the company is present through local hiring and procurement and also by the development of infrastructures and the payment of taxes and rents.

## GRI 413-2 - OPERATIONS WITH SIGNIFICANT ACTUAL AND POTENTIAL NEGATIVE IMPACTS ON LOCAL COMMUNITIES

Wind farm energy is a long lasting economic development driver for the municipalities where it is present. EDPR performance of studies assessing the impact on the environment and the community before the construction, these studies include the most significant issues for the affected areas such as emissions, wastes, changes to land use, changes in landscape, health and safety impacts, affected economic activities, impacts on infrastructure, existence of historical and cultural heritage, presence of indigenous communities, and the need to displace local populations.

During operation, grievance mechanisms are also available to ensure that suggestions or complaints are properly recorded and addressed. This allows us not only to solve the complaints but to introduce improvements in all processes. A good example is the way EDPR handles the complaints related to possible interferences with TV signal. A procedure was settled involving the town halls to facilitate and speed up the collection of these complaints as soon as they arise, a proper analysis and communication with the plaintiff and a fast-satisfactory resolution.

EDPR has different programs in place to assess and manage the impact on communities, and to maximize the shared value of the company's projects.

#### **GRI 414-1 - NEW SUPPLIERS THAT WERE SCREENED USING SOCIAL CRITERIA**

# EDPR carried out a study to characterize its Supply Chain, including the analysis of the exposure to economic, social and environmental risks.

EDPR is governed by a strong sense of ethics and requires that its suppliers do not have conflicts with EDPR ethical standards. In this way, the acceptance of alignment with the spirit of EDPR's Code of Ethics is required. As part of a supplier qualification process the supplier shall provide a written declaration of acceptance of the principles established in EDPR's Code of Ethics.

Additionally, the EDP Group and EDPR, has a Procurement Manual, which includes a chapter that guides each Purchasing Department to put sustainability principles into practice. Therefore, when procuring and contracting goods and services EDPR appeals to all reasonable endeavors so that selected suppliers accept to comply with the UN Global Compact's ten principles in the areas of human rights, labor, the environment and anti-corruption. Procedures to guarantee this accomplishment are defined.

100% of the EDPR critical suppliers (defined as per EDP formal corporate standard methodology) are aligned with Global Compact criteria and EDPR's Code of Ethics.

#### GRI 414-2 - NEGATIVE SOCIAL IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN

In 2015, EDPR carried out a study to characterize its Supply Chain, based on an analysis of the exposure to economic, social and environmental risks. This analysis was performed using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) methodology developed by PwC. For the ESCHER calculation routine PwC used EDP Group 2014 data related to suppliers.

The study allowed EDPR to determine the following results:

- More than 20 000\* employment associated to EDPR's Supply Chain.
- More than €735\* million gross value added associated to EDPR's Supply Chain.
- ~0%\* EDPR's direct suppliers identified as having significant risk for incidents of child labor, forced or compulsory labor, freedom of association.

Through this study, EDPR aims to identify areas where should focus its improvement activities in order to significantly reduce its exposure to risk and optimize impacts.

Moreover, in terms of Health & Safety, in 2017, 88% of EDPR's critical suppliers (as defined as per EDP formal corporate standard methodology) had an Occupation Health & Safety System (OHS) in place. EDPR completed 1,681 hours of training on OHS to its suppliers, involving 71 companies and 2,020 workers. Additionally, EDPR audited 73 contractors companies, regarding OH&S issues.

Note: Analysis performed by PwC using ESCHER (Efficient Supply Chain Economic and Environmental Reporting) tool, based on 2014 purchasing data. This study is still representative of EDPR reality and companies in the sector perform these studies every 2/3 years. Data presented in this chapter resulting from this study is marked with an \*.

#### **GRI 415-1 - POLITICAL CONTRIBUTIONS**

EDPR made no contributions to political parties in 2017.

#### GRI 419-1 - NON-COMPLIANCE WITH LAWS AND REGULATIONS IN THE SOCIAL AND ECONOMIC AREA

During 2017, the company received a total penalty of €400,244 , mainly tax-related.

For additional information related to Social topics, please refer to Organization structure, Employees, Communities, Suppliers and Safety first Sections.

### **4.5. REPORTING PRINCIPLES**

This is the seventh year EDPR publishes an integrated report describing the company's performance, with respect to the three pillars of sustainability: economic, environmental and social.

Information is presented according Global Reporting Initiative (GRI) *Standard 101 Foundation* guidelines for Sustainability Reporting and provides also information on the additional electricity sector supplement indicators directly related to the company business, which is the power generation from renewable sources, basically wind.

A full GRI Standards Content Index for the report can be found in the website www.edpr.com.

#### UNITED NATIONS GLOBAL COMPACT

Global Compact is an initiative of the United Nations launched in 2000 that defines guideline directives for businesses that opt to contribute to sustainable development. EDPR has become signatory of this initiative and is committed to put these principles into practice, informing society of the progress it has achieved.

In addition, the company has a Code of Ethics that contains specific clauses on the respect for human rights. In compliance with the Code, EDPR expresses its total opposition to forced or compulsory labor and recognizes that human rights should be considered fundamental and universal, based on conventions, treaties and international initiatives like the United Nations Universal Declaration of Human Rights, the International Labor Organization and the Global Compact. EDPR's Procurement Manual also includes a chapter that guides each Purchasing Department to put these principles into practice, so, when procuring and contracting goods and services, EDPR appeals to all reasonable endeavors so that selected suppliers accept to comply with the UN Global Compact's ten principles in the areas of human rights, labor, environment and anti-corruption.

To learn more about the UN Global Compact, please visit www.unglobalcompact.org.

#### **GLOBAL REPORTING INITIATIVE**

The GRI Standards are the first global standards for sustainability reporting, representing the global best practice for reporting on a range of economic, environmental and social impacts. A company's adherence to this initiative means that it concurs with the concept and practices of sustainability. This Annual Report has been prepared in accordance with the GRI Standards in its Core option, and these Standards have been independently assured according to ISAE 3000 by KPMG.

To learn more about the GRI guidelines, please visit www.globalreporting.org.

### Matoriality

This report includes the relevant information for the company's stakeholders, as derived from the materiality studies performed.

### Stakeholder Inclusiveness

The concerns and the feedback received from the stakeholders were taken into account during the report's creation. For additional information about thestakeholders, please refer to The Company and Stakeholders Section or visit its website.

### Sustainability Context

This report is placed in the context of the company strategy to contribute to the sustainable development of society, whenever possible.

### Completeness + Balance

Unless otherwise stated, this report covers all the company's subsidiaries and is presented in a balanced and objective perspective.

### <u>Accuracy, Glarity,</u> Comparability And Roliability

The information presented follows the GRI guidelines aim to make information comparable, traceable, accurate and reliable.

### Timeliness

The information presented in this report relates to FY2017. EDPR is committed to report sustainability information at least once a year. Additionally, sustainability information is reported in market reports.

### **4.6. EXTERNAL CHECKS**

### 4.6.1. INDEPENDENT ASSURANCE REPORT



KPMG Asesores, S.L. P°. de la Castellana, 259 C 28046 Madrid

#### Independent Assurance Report to the Management of EDP Renováveis, S.A.

To the Management of EDP Renováveis, S.A.

We performed a limited assurance review on the non-financial information contained in EDP Renováveis, S.A., (hereinafter EDP Renováveis) Annual Report for the year ended 31 December 2017 (hereinafter 'the Report'). The information reviewed corresponds specifically to the GRI indicators described in chapters 03 Execution and 04 Sustainability.

EDP Renováveis management is responsible for the preparation and presentation of the Report in accordance with the *Sustainability Reporting Standards* of Global Reporting Initiative (GRI Standards), in its core option, as described in point 102-54 of the GRI Content Index of the Report. Management is also responsible for the information and assertions contained within the Report; for determining its objectives in respect of the selection and presentation of sustainable development performance, including the processes for determining the material issues and the key stakeholder groups; and for establishing and maintaining appropriate performance management and internal control systems from which the reported performance information is derived.

Our responsibility is to carry out a limited assurance engagement and to express a conclusion based on the work performed. We conducted our engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board and also in accordance with the guidance set out by the Instituto de Censores Jurados de Cuentas de España (ICJCE). These standards require that we plan and perform the engagement to obtain limited assurance about whether the Report is free from material misstatement.

KPMG applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the Internal Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our limited assurance engagement consisted of making enquiries of management and persons responsible for the preparation of information presented in the Report, and applying analytical and other evidence gathering procedures. These procedures included:

- Verification of EDP Renováveis processes for determining the material issues, and the participation of stakeholder groups therein.
- Interviews with relevant staff at group level and selected business unit level concerning sustainability strategy and policies and corporate responsibility for material issues, and the implementation of these across the business.
- Evaluation through interviews concerning the consistency of the description of the application
  of EDP Renováveis policies and strategy on sustainability, governance, ethics and integrity.

KPMG Assessras S.L., a limited liability Spanish company and a member firm of the KPIAG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. Reg. Mer Madrid, T. 14.972, F. 53, Sec. 8 , H. M.-249.480, Inscrip. 1.<sup>6</sup> N.I.F. B-82498650



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- Risk analysis, including searching the media to identify material issues during the year covered by the Report.
- Review of the consistency of information comparing GRI Universal Standards with internal systems and documentation.
- Analysis of the processes of compiling and internal control over quantitative data reflected in the Report, regarding the reliability of the information, by using analytical procedures and review testing based on sampling.
- Review of the application of the requirements of the Sustainability Reporting Standards of Global Reporting Initiative (GRI Standards), in accordance with core option.
- Reading the information presented in the Report to determine whether it is in line with our overall knowledge of, and experience with, the sustainability performance of EDP Renováveis.
- Verification that the financial information reflected in the Report was audited by independent third parties.

Our multidisciplinary team included specialists in social, environmental and economic business aspects.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is lower than that of a reasonable assurance engagement. This report may not be taken as an auditor's report.

Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this Independent Review Report. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Based on the limited assurance procedures performed and the evidence obtained, as described above, nothing has come to our attention that causes us to believe that the 2017 Annual Report of EDP Renováveis S.A. for the year ended 31 January 2017, have not in all material respects, been prepared and presented in accordance with the *Sustainability Reporting Standards* of Global Reporting Initiative (GRI Standards), in its core option, as described in point 102-54 of the GRI Content Index of the Report, including the reliability of data, adequacy of the information presented and the absence of significant deviations and omissions.

Under separate cover, we will provide EDP Renováveis management with an internal report outlining our complete findings and areas for improvement.

In accordance with the terms of our engagement, this Independent Review Report has been prepared for EDP Renováveis, S.A. in relation to its 2017 Annual Report and for no other purpose or in any other context.

KPMG Asesores, S.L José Luis Blasco Vázquez

28 February 2018





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