



# **Key Elements of Power Purchase Agreements to support Project Financing**

June 5, 2012

# EDPR is a global leader in the renewable energy sector; ranked 3<sup>rd</sup> in the world in terms of installed wind capacity



Platforms

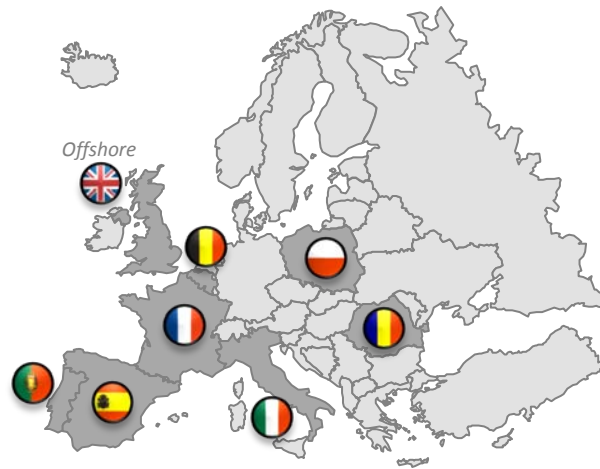
North America

Europe

Brazil



Houston, TX



Madrid, Spain  
*Headquarters*



São Paulo, Brazil

**6.9 GW**  
Of Installed Capacity

**485 MW**  
Of Capacity Under  
Construction

**~20 GW**  
Of Pipeline

Operations in **11**  
Countries

**800+** Employees



# EDPR North America has a diversified portfolio of US wind assets

## WECC (402 MW)

Elkhorn Valley – 101 MW  
Kittitas Valley – 101 MW  
Rattlesnake Road – 103 MW  
Wheat Field – 97 MW

## MISO (603 MW)

Prairie Star – 101 MW  
Pioneer Prairie – 300 MW  
Rail Splitter – 101 MW  
Lost Lakes – 101 MW

## NY ISO(324 MW)

Maple Ridge I & II – 322 MW  
Madison – 12 MW  
*Marble River – 216 MW*

## SPP (625 MW)

Blue Canyon I – 74 MW  
Blue Canyon II – 151 MW  
Blue Canyon V – 100 MW  
Blue Canyon VI – 99 MW  
Meridian Way – 201 MW

## PJM (1,297 MW)

Meadow Lake I – 200 MW  
Meadow Lake II – 99 MW  
Meadow Lake III – 104 MW  
Meadow Lake IV – 99 MW  
Timber Road II – 99 MW  
Top Crop I – 102 MW  
Top Crop II – 198 MW  
Twin Groves I – 198 MW  
Twin Groves II – 198 MW

## ERCOT (400 MW)

Lone Star I – 200 MW  
Lone Star II – 200 MW

**3, 600 + MW**  
Of Installed Capacity

**314 MW**  
Under Construction

**27 Projects Operational in 11**  
US States

**250+ Employees**



# Key Highlights of Strategic Partnership with China Three Gorges

## CTG as new shareholder

- CTG to acquire 21.35% equity stake in EDP for €3.45 per share (€2.7bn)

## CTG as new partner

- EDP and CTG to combine efforts to become worldwide leaders in renewable energy, through joint development and ownership of selected renewable projects
- From 2012-2015, CTG to invest €2bn in 34-49% equity stakes in operational and ready-to-build projects, representing 1.5 GW (net), from which €800m to be invested in the first 12 months after closing deal
  - 600 – 800 MW Renewables in US
  - 600 – 800 MW Renewables in Europe
  - 0 – 200 MW Renewables in South America

## CTG background

- 100% owned and fully supported by Chinese Government (Moody's Aa3 / S&P AA-)
- 25.4 GW Installed capacity (25.2 GW Hydro, 0.2 GW Wind)
- 101 TWh Generation (2010)
- Clean energy development strategy and international development goals
- 50.8 GW capacity under construction (48.9 GW hydro)
- **2020 target: 90 GW (70 GW hydro, 20 GW wind)**

For more information, please visit: <http://www.edp.pt/en/Investidores/Pages/HPInvestidores2.aspx>



# Key Areas of Concern when Negotiating a PPA for Project Finance

|  | Description  |
|--|--|
| <b>Term of PPA and Protection of PPA Cashflows</b> | <ol style="list-style-type: none"><li>1. Length of PPA will factor directly into the amount of financing that can be obtained.</li><li>2. Various provisions can create risk to the expected revenues to Seller under the PPA and need to be protected to limit lender concerns of such risk.</li></ol>  |
| <b>Termination Events and Lender Cure Rights</b>   | <ol style="list-style-type: none"><li>1. Events of default in the PPA allowing Buyer to terminate the revenue instrument supporting the project financing need be limited and within the control of the Seller to reduce the risk of early termination of the PPA.</li><li>2. Events of Default and Consent need to allow Lender to step into Seller position in the PPA and cure and potential termination event.</li></ol> |
| <b>Credit of Buyer under the PPA</b>               | <ol style="list-style-type: none"><li>1. Lender will look to see that the credit quality of the Buyer under the PPA is of investment grade or better with protections on the credit support to be provided should credit quality of Buyer deteriorate during the term of the PPA or the counterparty to the Seller change during the term of the PPA.</li></ol>  |

# Term of PPA and Protection of PPA cashflows under various provisions in the PPA are vital to support Project Financing

|   | Description  |
|---|--|
| <b>Term of PPA</b>                                  | Length of PPA will factor directly into the amount of financing that can be obtained. The longer the tenor of the PPA the more financing can be obtained.  |
| <b>Output Guarantees</b>                            | Probability of coming below the guarantee amount, LD if below guarantee amount, credit for curtailments and other non Seller related shortfalls are key issues that need to be addressed to contain Seller liability.  |
| <b>New and existing market cost risk allocation</b> | Who wears costs incurred by selling power in the market? Who wears cost of imbalance charges, BOR/RSG charges, wind integration charges etc? Which party is responsible for scheduling the energy into the market?   |
| <b>Curtailment Risk (Economic and Reliability)</b>  | Who is responsible for curtailed energy by the ISO for reliability purposes? Does Buyer have economic curtailment right? How is Seller compensated? How are curtailments due to how facility was scheduled allocated?  |
| <b>Adjustments to Contract Price</b>                | Is the PPA a single price round the clock or is it shaped based on the expected generation profile of the wind resource? Is the contract price subject to any other adjustments such as a settlement on the price basis between the wind farm and a nearby liquid hub? |
| <b>Point of Delivery</b>                            | Are Seller's obligations to deliver only to the wind farm interconnection point or does the Seller have delivery obligations beyond the interconnection point and how are those costs managed in the PPA?  |
| <b>Conditions Precedent to Buyer's Obligations</b>  | Are there conditions precedent to the PPA prior to Buyer having a binding obligation to purchase energy from the project? Project financing financial close will be based on having conditions to PPA satisfied.   |

# Termination Events and Lender Cure Rights

|   | Description   |
|---|---|
| <b>Failure to achieve COD by a date certain</b>                   | How much of a buffer period is allotted in the PPA between the guaranteed COD with the construction contractor and the guaranteed COD under the PPA? Are there LDs payable prior to Buyer termination right? Can the PPA go effective with the less than the planned MWs of capacity?                           |
| <b>Failure to achieve a certain level of output in given year</b> | Is there a termination right for Buyer if a certain level of energy is not produced and delivered to the Buyer in a given year or over the 2-3 year period, which if not met give rise to a Buyer termination right? Does Seller get credit for Force Majeure events and curtailments against this requirement? |
| <b>Failure to maintain any credit support required by Buyer</b>   | Is credit support required by the Buyer from the Seller? What is the amount and type of credit support required? How much time does Seller have to replace if credit support does not continue to meet the requirements under the PPA.  |
| <b>Force Majeure</b>  | Does the PPA protect the Seller against events of force majeure? What is the amount of time and the extent of the impact of the event of force majeure that trigger force majeure termination rights in the PPA?  |

**PPA needs to include a consent from Buyer which requires Buyer to notify Lender of any events of default under the PPA and allows the Lender to step in to Seller's shoes in the PPA to cure such event of default**

# Credit Quality of Buyer and Credit Support to be provided by Buyer under the PPA

|  | Description  |
|--|--|
| What is the credit quality of the Buyer    | <p>The amount and the cost of debt being borrowed will be largely tied to the credit quality of the Buyer or the credit support being provided by the Buyer under the PPA.</p> <p>Is the Buyer a rated entity, if not, what other forms of credit support is Buyer providing under the terms of the PPA?</p> |
| Deterioration of Buyer Credit              | <p>How is a deterioration in the credit quality of the Buyer during the term of the PPA handled? Are there credit triggers or performance assurance provisions in the PPA requiring Buyer to replace and/or supplement the level of credit support should the Buyer's credit quality deteriorate?</p>        |
| Credit quality impacts of Buyer Assignment | <p>Does the Buyer have the right to assign its rights and obligations under the PPA to another party? If so, how is the same level of credit quality maintained with the new party to the PPA to that of the original Buyer of the PPA?</p>  |