

**RIPUC DOCKET NO. 4574
REVIEW OF POWER PURCHASE AGREEMENT
COPENHAGEN WIND FARM, LLC
PURSUANT TO R.I. GEN. LAWS § 39-26.1-1 ET SEQ.
WITNESS: JOHN MARCHAND
ON BEHALF OF INTERVENOR COPENHAGEN WIND FARM, LLC
SEPTEMBER 11, 2015**

PRE-FILED DIRECT TESTIMONY

OF

JOHN MARCHAND

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1 **I. Introduction and Qualifications**

2 **Q. Please state your name and business address.**

3 A. My name is John Marchand. My business address is 15445 Innovation Drive, San Diego
4 CA. 92130, which is the corporate headquarters for EDF Renewable Energy, Inc. (“EDF
5 Renewable Energy”).

6
7 **Q. Please describe your general background and qualifications.**

8 A. I am Vice President of Valuations and Transactions at EDF Renewable Energy. My
9 primary role is the negotiation of all offtake agreements, power purchase agreements
10 (“PPAs”), hedges, structured Renewable Energy Certificate (“REC”) transactions,
11 acquisitions of renewable energy projects, and other similar and related transactions. I
12 also oversee three groups: (1) Valuation and Analytics, which performs sophisticated
13 energy project and wholesale energy market modeling, (2) Transmission, which performs
14 analysis around transmission issues such as curtailment and congestion, and (3) Power
15 Marketing, which manages the offtaker negotiations and project and/or company
16 acquisitions. I have worked in this capacity at EDF Renewable Energy for 7 years, and I
17 have worked in the electricity field for a total of 17 years. Before I began working for
18 EDF Renewable Energy, I spent 10 years working on complex structured transactions for
19 conventional (non-renewable) energy projects.

20

1 **Q. Please provide an overview of your involvement in the development of the**
2 **Copenhagen Wind Farm and the negotiation of the PPA.**

3 A. As part of the OwnEnergy acquisition my team reviewed the commercial terms of the
4 PPA and also provided analysis and commercial support to the OwnEnergy team
5 negotiating the deal during the latter part of the PPA and also participated directly in the
6 negotiations regarding the acquisition of OwnEnergy by EDF Renewable Energy.

7
8 **Q. Have you previously testified in regulatory proceedings before the Rhode Island**
9 **Public Utilities Commission (the “Commission”) or a similar regulatory body in**
10 **another state?**

11 A. Although I have been involved in the development of many energy projects, I have not
12 previously provided testimony to a regulatory body like the Commission.

13
14 **II. Purpose of Testimony**

15 **Q. What is the purpose of your testimony?**

16 A. My testimony is offered in support of Power Purchase Agreement (“PPA”) entered into
17 between The Narragansett Electric Company d/b/a National Grid (“National Grid”) and
18 Copenhagen Wind Farm, LLC (“Copenhagen”) that National Grid submitted to the
19 Rhode Island Public Utilities Commission (the “Commission”) for review and approval
20 in this docket. My testimony will supplement the testimony of Corinne M. DiDomenico,
21 filed on behalf of National Grid explaining certain provisions of the PPA.

1 **III. Explanation of Terms of PPA**

2 **Q. Why did Copenhagen seek to sell its power into the ISO-New England Control area**
3 **instead of the NYISO control area?**

4 A. Copenhagen sought a buyer that would facilitate the development of the Copenhagen
5 Wind Farm. National Grid is purchasing the power at a reasonable price and taking
6 delivery of the power in a timeframe that allows Copenhagen to meet the deadline to
7 qualify for the federal Production Tax Credit, which, as explained below, is important for
8 the financing of the non-construction portions of the development of the wind farm.

9
10 **Q. Is the pricing in the PPA consistent with the pricing for other wind energy projects**
11 **that you have developed?**

12 A. Yes. The bundled price for energy and RECs under the PPA is consistent with other
13 wind energy projects that EDF Renewable Energy has developed, owns and operates in
14 California and Pennsylvania. The pricing in the PPA is also consistent with wind energy
15 projects EDF Renewable Energy is evaluating for potential acquisition in New York,
16 New England, and Pennsylvania.

17
18 **Q. Does the PPA provision that allows National Grid to delay its payment for RECs**
19 **until after the NEPOOL GIS Certificates are generated, as opposed to when the**
20 **applicable energy is generated, pose any potential operational problems for**
21 **Copenhagen?**

1 A. No. It is purely a financial settlement consideration. Although, National Grid notes in its
2 testimony that it previously has paid for RECs at the time energy is generated, the
3 practice of paying for RECs at the time the certificates are actually created is common.
4 EDF Renewable Energy has experience with such payment arrangement on projects in
5 other control areas, including in Texas with the Electric Reliability Counsel of Texas
6 (“ERCOT”), and the Midcontinent Independent System Operator (“MISO”) control area.

7
8 **Q. How does the PPA address the issue of potential curtailments that might impact the**
9 **delivery of energy under the PPA?**

10 A. Under the PPA, the Copenhagen Wind Farm must deliver 85% of its annual energy
11 output to the Roseton, Massachusetts substation in the ISO-NE control area. The
12 delivery obligation is calculated based on the amount of energy that the wind farm first
13 delivers at the point of interconnection with the NYISO system. If the wind farm fails to
14 deliver this output percentage, the PPA obligates Copenhagen to pay liquidated damages
15 to National Grid. The purpose of this provision of the PPA is to address any congestion
16 and curtailment that could arise between the NYISO and ISO-NE.

17
18 **Q. Does Copenhagen have any concerns about its ability to provide the additional**
19 **security required by Section 6.2(a) of the PPA?**

1 A. No. EDF Renewable Energy maintains lines of credit for security purposes of
2 approximately \$800 million, and these lines of credit will be available, if necessary, to
3 provide the additional security required under Section 6 of the PPA.
4

5 **IV. Compliance with Goals of Long-Term Contracting Statute**

6 **Q. Can you explain how the PPA, and in particular National Grid's selection of the**
7 **Copenhagen Wind Farm for the PPA, is consistent with the Rhode Island Long**
8 **Term contract standard?**

9 A. National's Grid selected the Copenhagen Wind Farm pursuant to a request for proposal
10 ("RFP") process, which, as explained in the testimony of Corinne DiDomenico on behalf
11 of National Grid, conformed to the requirements for such RFPs under the Rhode Island
12 Long-Term Contracting Standard. It is our understanding that the Copenhagen Wind
13 Farm response to the RFP was selected because it presented the best overall value to
14 National Grid.
15

16 **Q. How does National Grid's selection of the Copenhagen Wind Farm serve the**
17 **purposes of the Rhode Island Long-Term Contracting Standard?**

18 A. The Copenhagen Wind Farm will benefit Rhode Island electric consumers by providing a
19 fixed price, long term source of power to National Grid, which National Grid has
20 determined will result in below-market prices for its customers over the life of the

1 contract. This fixed price allows National Grid's customers to be less susceptible to the
2 recent fluctuations in market price for natural gas that have caused higher prices for
3 electricity during the winter months in recent years. Additionally, the Copenhagen Wind
4 Farm will provide Rhode Island with a substantial source of renewable energy that will
5 have a positive environmental impact through reduced reliance on conventional energy
6 sources, such as coal.

7
8 **Q. When does Copenhagen intend to qualify as an Eligible Renewable Energy**
9 **Resource with the Commission?**

10 A. Copenhagen will apply to qualify with the Commission as an Eligible Renewable Energy
11 Resource contemporaneous with completion of its registration as a Market Participant
12 with both NYISO and ISO-NE, as well as its registration with NEPOOL-GIS for the
13 creation of RECs. Copenhagen plans to begin these tasks at or around the time it issues
14 the Notice to Proceed to its general construction contractor as called for under the PPA.
15 Copenhagen must and will commence the process of qualifying as an Eligible Renewable
16 Energy Resource in time to complete the qualification before the commercial operation
17 date, as required under the PPA.

1 **V. Discussion of New York Public Service Commission and NYISO Obligations**

2 **Q. Are there any regulatory obligations Copenhagen has with the NYISO or with the**
3 **New York Public Service Commission (“NY PSC”) that impact Copenhagen’s**
4 **ability to perform under the PPA?**

5 A. Copenhagen is not aware of and has no reason to believe there are any regulatory
6 obligations with NYISO or with NY PSC that impact Copenhagen’s ability to perform
7 under the PPA.

8
9 **Q. Does the provision in the PPA that exempts Copenhagen from participation in the**
10 **Forward Capacity Market with ISO-NE conflict with any regulatory obligations**
11 **Copenhagen has with the NYISO or with the New York Public Service**
12 **Commission?**

13 A. No. Copenhagen is not aware of any NYISO or NY PSC rules that would require the
14 wind farm to participate in the ISO-NE Forward Capacity Market.

15
16 **Q. Why does section 3.4(f) of the PPA require Copenhagen be a “Market Participant”**
17 **in the NYISO?**

18 A. All wholesale projects must register with a Regional Transmission Operator, grid
19 operator or local area balancing authority, or designate an authorized entity to register on
20 its behalf. The project, which is located in New York in NYISO Zone E and will export
21 its output and RECs into ISO-NE, must register with both NYISO and ISO-NE to be

1 permitted to schedule external transactions and to sell excess power and RECs into either
2 NYISO or ISO-NE, which may occur in certain circumstances.

3
4 **Q. Will any output from the Copenhagen Wind Farm be sold within the NYISO**
5 **control area?**

6 A. All output will be sold first within NYISO – the energy will be sold at the project’s point
7 of interconnection in NYISO Zone E, then be repurchased at the NYISO/ISO-NE
8 interface, and then simultaneously sold (delivered) at Roseton in NE-ISO.

9
10 The export of the energy is a separate additional transaction. As an export resource,
11 Copenhagen will be subject to specific NYISO export scheduling procedures. NYISO
12 and ISO-NE jointly coordinate those procedures using the Joint Energy Scheduling
13 System (“JESS”), which is the NYISO software application to be used for external
14 transactions at the New England Roseton interface.

15
16 The logistics of such transaction are complex, but in short, Copenhagen will submit an
17 export schedule into the JESS 75 minutes prior to each operating hour. ISO-NE and
18 NYISO confirm that schedule, and it receives a corresponding North America Electric
19 Reliability Corporation (“NERC”) e-tag for the move of the physical power from one
20 ISO into another. The PPA requires that the delivered quantity of power is the lesser of
21 the scheduled energy and the actual metered output for any hour. As such, the quantity of

1 power and RECs delivered into ISO-NE and purchased by National Grid under the PPA
2 cannot exceed metered output in any hour.

3
4 Given the export schedule is submitted into the JESS system 75 minutes prior to the
5 operating hour, there will inevitably be mismatches in some hours between the scheduled
6 output and the actual output. When the scheduled energy exceeds the actual metered
7 output, the excess energy will be sold into the ISO-NE market after paying any
8 congestion charges. In hours when the actual metered output exceeds scheduled energy,
9 the excess metered output and associated RECs will not be covered by the PPA, and,
10 therefore, the excess energy will be sold into the NYISO real time market.

11
12 Copenhagen may also have to sell power into NYISO when the export schedule is
13 curtailed due to system reliability conditions that prohibit the sale into ISO-NE.

14 In all cases, the MWs of power delivered into ISO-NE will be identifiable as coming
15 from the Copenhagen Wind Farm through the NERC e-tag and Copenhagen's NEPOOL
16 Generation Identification Number. The meter data from the output will reconcile the
17 REC portion of the transaction.

1 **VI. Status of Project Financing**

2 **Q. Has Copenhagen secured all the necessary financing to complete the Copenhagen**
3 **Wind Farm by the projected commercial operation date? If not, what is the plan**
4 **for doing so?**

5 A. EDF Renewable Energy receives all its construction financing from its affiliate, EDF
6 Energies Nouvelle, and all construction financing is in place for the Copenhagen Wind
7 Farm through this arrangement. The remaining aspects of the project will be financed
8 through the monetization of the federal Production Tax Credit. EDF Renewable Energy
9 will sell the tax credits it receives to investors through a tax equity sponsor, and use those
10 proceeds as equity capital. This process will begin at approximately the same time the
11 Copenhagen Wind Farm received its Notice to Proceed, and it will likely conclude
12 between 30 and 90 days before the commercial operation date.

13
14 **Q. Has EDF Renewable Energy already identified tax equity investors for this portion**
15 **of the financing?**

16 A. No, but there are numerous entities that invest in Production Tax Credits on a regular
17 basis, and EDF Renewable Energy has considerable experience working with many
18 entities that have acted as tax equity investors for its projects. In recent years EDF
19 Renewable Energy has completed tax equity finance transactions with General Electric,
20 Electronic Funds Source, LLC, JP Morgan, Bank of New York, MUFG Union Bank,
21 Google, Met Life, New York Life, Bank of America Merrill Lynch, and CitiBank. EDF

1 Renewable Energy raised \$1.6 billion in tax equity in 2012, \$200 million of tax equity in
2 2013, and more than \$1 billion in tax equity in 2014. Additionally, EDF Renewable
3 Energy will raise more than \$1 billion in tax equity in 2015.

4
5 **Q. Will the tax equity investors have any interest in the project?**

6 A. For the duration of the tax equity investment, which is typically 10-12 years, the entity or
7 entities that provide tax equity will be, essentially, co-investors in the project. During
8 this period, the tax equity sponsor will effectively be a co-owner of the wind farm. Under
9 the structure of the investment, the tax equity sponsor exits the project and full ownership
10 returns to EDF Renewable Energy at the conclusion of the 10-12 year investment period.

11 **Q. Why is it critical that final approval of the PPA occur by November 16, 2015 for**
12 **Copenhagen to be eligible to claim the Production Tax Credit?**

13 A. This date is necessary to meet the timeline to order turbines and receive delivery in
14 sufficient time to meet the commercial operation deadline under the current timeline for
15 expiration of the Production Tax Credit, taking into account the limitations on
16 construction that arise because the wind farm is being constructed in a cold weather
17 climate.

1 **VII. Conclusion**

2 **Q. Have you reviewed the pre-filed testimony of Corinne DiDomenico submitted by**
3 **National Grid in this docket?**

4 A. Yes.

5

6 **Q. Do you agree with the testimony provided by Ms. DiDomenico regarding the**
7 **provisions of the PPA?**

8 A. Yes.

9

10 Q. Does this conclude your testimony?

11 A. Yes.