



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

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February 5, 2015

SENT VIA FIRST CLASS MAIL AND ELECTRONIC MAIL:

Luly E. Massaro
Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, Rhode Island 02888

RE: Rhode Island Distributed Generation Board Report and Recommendation
Regarding 2015 Renewable Energy Growth Classes, Ceiling Prices and Targets
(Docket No. 4536-B)

Dear Ms. Massaro:

Enclosed is an original and ten (10) copies of the prefiled testimony of Jason Gifford, Christopher Kearns and Kenneth Payne for submission in the above referenced matter.

If you need anything further, please feel free to contact me.

Sincerely,

Daniel W. Majcher, Esq.

DWM/njr

Enclosure

c. Docket 4536-B

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

IN RE: RHODE ISLAND DISTRIBUTED
GENERATION BOARD REPORT AND
RECOMMENDATION REGARDING 2015
RENEWABLE ENERGY GROWTH CLASSES,
CEILING PRICES AND TARGETS

DOCKET 4536-B

DIRECT TESTIMONY

OF

JASON GIFFORD

FEBRUARY 6, 2015

Direct Testimony of Jason Gifford – Sustainable Energy Advantage

I, Jason Gifford, hereby testify under oath as follows:

1. Please state your name, employer and title?

My name is Jason Gifford. I am a Senior Director at Sustainable Energy Advantage, LLC (“SEA”).

2. Can you please provide your background related to renewable energy technologies?

I have over 15 years of experience in the development of renewable energy policy, market, and financial analysis. My practice with SEA focuses on policy, strategy and financial advisory services to a broad range of both public and private sector clients.

3. Can you please provide SEA’s background related to renewable energy technologies?

Sustainable Energy Advantage has been a national leader on renewable energy policy analysis and program design for over 15 years. In that time, SEA has supported the decision-making of more than 100 clients—including more than 20 governmental entities— through the analysis of renewable energy policy, strategy, finance, projects and markets. SEA is known and respected widely as an independent analyst, a reputation earned through the firm’s ability to identify and assess all stakeholder perspectives, conduct analysis that is objective and valuable to all affected, and provide advice and recommendations that are in touch with market realities and dynamics.

4. What was SEA’s role in the DG Standard Contracts program?

Since 2011, SEA has served as technical consultant to the Office of Energy Resources (OER) and, beginning in 2014, to the Distributed Generation Board (DG Board) in their implementation of the DG Standard Contracts program. SEA has enabled the OER and DG Board to make informed recommendations with respect to technology- and size-specific ceiling prices based on research and analysis. SEA has also acted as a joint facilitator of a lengthy process, each year, to incorporate stakeholder experience and comments into recommended ceiling prices. As part of this process, SEA, OER and the DG Board solicited modeling input data from all stakeholders and interested market participants, and utilized NREL’s CREST model to generate recommended ceiling prices through multiple rounds of analysis.

5. What was SEA’s role in the development of the 2015 Renewable Energy Growth program?

As with the DG Standard Contract program, SEA’s role in the Renewable Energy Growth (REG) program is to conduct detailed research and analysis in support of calculations for

each of the technology- and size-specific ceiling price categories identified by the DG Board.

6. Can you please explain the Cost of Renewable Energy Spreadsheet Tool (“CREST”) model?

The CREST model is a discounted cash flow analysis tool. The CREST model is available to the public and is fully transparent (that is, all formulas are visible to all users). CREST was developed specifically for use by policymakers in the development of renewable energy incentives, and has been peer reviewed by both the public and private sector. The model is designed to calculate the cost of energy, or minimum revenue per unit of production, necessary for the modeled project to cover its expenses and meet its equity investors’ assumed minimum required after-tax rate of return. CREST was developed in Microsoft Excel, so it offers the user a high degree of transparency, including full comprehension of the underlying equations and model logic. SEA was the primary architect of the CREST model, which was developed under contract to the National Renewable Energy Laboratory (NREL).

7. Were the CREST models made available to stakeholders?

The CREST models are always available to the public. Any stakeholder may download a CREST model from NREL’s website and enter any number of different input configurations. During the ceiling price development process, several stakeholders asked SEA to share the CREST models populated with the final inputs. SEA distributed these models by email. SEA also provided CREST modeling support by phone to assist stakeholders with the use of the model.

8. How many public meetings did SEA participate in during the development of the 2015 ceiling prices?

Five.

9. Is it your understanding that SEA was contracted by the Board to conduct research, collect and review stakeholder data and comments, and recommend 2015 ceiling prices for each renewable energy category?

Yes. SEA conducted this research and analysis in order to enable the OER, DG Board and Commission to make an informed decision with respect to 2015 ceiling prices.

10. Are those recommendations reflected in the Report and Recommendation submitted to the Commission?

Yes.

11. Can you verify the ceiling prices included in the Report and Recommendations?

Yes. The ceiling price for each technology category and federal incentive regime is presented below. The recommended 2015 ceiling prices are with the ITC for all solar categories and without the ITC or PTC for all other ceiling price categories.

Technology & Class (kW)	2015 Proposed Ceiling Prices		
	With ITC	With PTC	Without ITC or PTC
Small Solar I, Host Owned (15-yr Tariff)*	41.35		
Small Solar I, Host Owned (20-yr Tariff)*	37.75		
Small Solar I, 3rd Party Owned/Financed*	32.95		
Small Solar II*	29.80		
Medium Solar*	24.40		
Commercial Solar*	20.95		
Large Solar*	16.70		
Wind I	18.40	19.85	22.75
Wind II	18.20	19.45	22.35
Anaerobic Digestion I		20.20	20.60
Anaerobic Digestion II		20.20	20.60
Small Scale Hydropower I		19.80	21.35
Small Scale Hydropower II		18.55	20.10
* The DG Board only considered Ceiling Prices which included ITC incentives for solar technology classes.			
** Anaerobic Digestion and Small Scale Hydropower technology classes modeled assuming the PTC only.			

12. Are these the same ceiling prices that were developed through the CREST modeling in conjunction with stakeholders and OER, and recommended to the Board?

Yes.

13. How were these ceiling prices developed and what factors were considered in developing them?

The ceiling prices were developed through a collaborative process between SEA, OER, the DG Board and stakeholders. Through a formal data request, OER, the DG Board and SEA encouraged all interested parties to provide market data (including sources) with respect to each of the technologies and sub-categories being evaluated. Recent transactions in ISO-NE, bid pricing received during the DG Standard Contracts program, and other publicly available reports and data sources were also considered in SEA's review and analysis. Analysis testing the impact of a range of inputs was conducted using the CREST model. Three pricing iterations were shared with stakeholders and discussed at public meetings before recommendations were submitted to OER and the DG Board.

14. How many stakeholder comments were received in response to the formal data request?

SEA received responses from one anaerobic digester developer, one wind developer, and a (partial) response from one residential solar developer. No responses were received from non-residential solar developers. One informal phone call was conducted with a hydro developer to explain how the requested inputs were used in CREST, but no written comment was received in response to the data request.

15. So, the recommended ceiling prices are not just based on stakeholder input? Why?

Correct. While stakeholder input is extremely important, it would be difficult to explain and defend a contract price based solely on the reported assumptions of the entities seeking such contracts – particularly if inputs and comments are received only from one project developer. The recommended ceiling prices take other recent data sources into account – particularly with respect to cost and financing trends .

16. Did the Board allow SEA to have direct communication with the stakeholders on the development of the ceiling prices, including by email, phone calls and face to face meetings?

Yes. The Board encouraged stakeholders to ask questions of SEA directly by phone, email or in person.

17. Did SEA give presentations regarding the 2014 DG Program?

Yes. SEA gave three presentations. SEA presented the first draft of proposed ceiling price inputs and results for all technology categories in a public meeting on October 20th, the second draft of proposed inputs and results in a public meeting on November 20th, and presented the proposed final draft ceiling price inputs and results for all technology categories in a public meeting on December 2nd. SEA also participated in two additional meetings – on November 10th and 17th – during which ceiling price inputs were reviewed and discussed. SEA answered questions posed by the Board, OER and/or stakeholders, as applicable, in each of these meetings.

18. Are those presentations attached to the Report and Recommendation?

Yes.

19. Did SEA, on behalf of the Board, consider all of the stakeholder feedback given in the development of recommended 2015 ceiling prices?

Yes.

20. Were adjustments made by SEA to the proposed 2015 ceiling prices from their 2014 values?

Yes. First, it is important to note that all of the ceiling price categories (kW ranges) changed between 2014 and 2015, making direct comparisons challenging. In addition, small solar projects (less than 50 kW, and including residential installations) were included for the first time, and so no comparisons to 2014 values are possible.

In this context, adjustments were made to all ceiling price categories. Solar ceiling prices decreased. Wind, anaerobic digester and hydroelectric ceiling prices increased. The primary drivers of 2015 ceiling prices are installed cost, production (capacity factor) and property taxes:

Technology & Class	Installed Cost		Capacity Factor		Yr-1 Property Tax	
	2014	→ 2015	2014	→ 2015	2014	→ 2015
Large Solar (1-5 MW)	\$2,550	→ \$2,151/kW	14.65%	→ 14.18%	\$50,231	→ \$78,946
Wind (1.5-2.9 MW)	\$3,400	→ \$3,307/kW	26%	→ 21%	\$75,240 ¹	→ \$84,607
Anaerobic Digester (150-500 kW)	\$10,300	→ \$10,275/kW	82% ²	→ 78% ²	\$46,313 ³	→ \$49,166
Hydroelectric (10-250 kW)	\$4,150	→ \$4,600/kW	40%	→ 40% No Change	\$28,500	→ \$15,552

¹ Adjusted so that both values assume a project size of 1,650 kW.
² 2014 comprised of 92% availability and 10% station service; 2015 comprised of 92% availability and 15% station service.
³ Adjusted so that both values assume a project size of 325 kW.

21. Does SEA believe that the importance of both policy objectives and cost effectiveness was considered in its recommendations?

Yes. SEA believes that the recommended ceiling prices represent a balance among all of the policy objectives of the law.

22. Does this conclude your testimony?

Yes.

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DOCKET 4536-B

DIRECT TESTIMONY
OF
CHRISTOPHER KEARNS

FEBRUARY 6, 2015

Direct Testimony of Christopher Kearns – RI Office of Energy Resources

I, Christopher Kearns, hereby testify under oath as follows:

1. Please state your name, employer and title?

Chris Kearns, Office of Energy Resources, Chief Program Development

2. What is your role in the development of the 2015 Renewable Energy Growth Program (REG) Program?

I oversee the OER role in staffing and assisting the Distributed Generation Board ("Board") with the development of the 2015 program recommendations.

3. What is your experience with the Distributed Generation Standard Contracts program over the last 4 years?

I have been involved in the direct oversight of the Distributed Generation Standard Contracts (DG) program's implementation in coordination with National Grid over the past 4 years. I have viewed the projects/locations being proposed; the different renewable energy technologies and systems sizes submitted; the price per kWh of the DG applications; and arranging public outreach and presentations on the DG program. I have been directly involved in the first 4 years of the DG program filings before the Public Utility Commission (PUC), including the launch of the DG program in December 2011.

4. What is the role of the OER and Commissioner in assisting the Board?

In accordance with R.I. Gen. Laws § 39-26.2-11(a), the Commissioner of OER is the executive secretary and executive director of the Board and is also a non-voting member of the DG Board. The OER provides assistance to the Board in the development of the annual program plan, including contracting with the Board's selected contractor performing the ceiling price analysis.

The OER provides recommendations on the ceiling price process, eligible renewable energy technologies and how to allocate the megawatt capacity amongst the different technologies.

5. Were there public meetings organized by the Office of Energy Resources and the Board for the development of the 2015 program recommendations?

The Office of Energy Resources and the Board hosted several public meetings over numerous months on the development of the 2015 program.

6. Was public notice posted on the Secretary of State's website for those meetings?
Yes.
7. Was additional notice sent to stakeholders regarding the public meetings?
Yes. In addition to posting the meetings on the Secretary of State website, the OER also sent out reminder email notifications about the upcoming 2015 REG program development public meetings.
8. Did the Board hire Sustainable Energy Advantage ("SEA") to develop and recommend the 2015 ceiling prices on behalf of the Board, including collecting and reviewing stakeholder inputs into the development of the ceiling prices for the eligible renewable energy technologies? How was SEA hired?
Yes. The Rhode Island Division of Purchases facilitated a public procurement process on behalf of the OER and DG Board. SEA was selected after proposals were submitted and evaluated. The OER has already provided substantial information to the Commission on the bidding and contracting process under the previous Docket.
9. Why was SEA hired?
SEA was hired due to their extensive experience in the renewable energy market and the development of projects. SEA was also one of the co-authors of the Cost of Renewable Energy Spreadsheet (CREST) modeling tool.
10. How many years has SEA been involved with the development of the annual ceiling prices?
This will be SEA's 5th year being involved with the annual ceiling prices for the DG program. SEA had developed the ceiling prices for the prior 4 years of the DG program using the CREST model.
11. How and when did the Board/OER/SEA solicit input from stakeholders to establish the ceiling prices/allocation?
The Board through SEA solicited input from stakeholder through requests for information starting in September. The OER distributed the request for information to stakeholders on the Board's behalf. SEA presented three drafts of the 2015 ceiling prices at public meetings, and also collected additional feedback and comments from stakeholders at those meetings. Through the Board's approval, SEA was made available to stakeholders by phone or email.

12. Did the OER and SEA on behalf of the Board consider all of the stakeholder feedback given in the development of the DG program?

Yes.

13. Does the Report and Recommendation submitted to the Commission reflect a fair and accurate representation of the Board's determination and vote at its December 15, 2014 public meeting?

Yes.

14. Does OER believe a balance was provided in providing the most cost effective ceiling prices for the eligible renewable energy technology classes to encourage development and meet the policy objectives of the REG law?

Yes, the OER believes a balance was struck in the development of the 2015 program recommendations, including the ceiling prices for the eligible renewable energy technologies, and meeting the policy objectives.

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DOCKET 4536-B

DIRECT TESTIMONY

OF

KENNETH PAYNE

FEBRUARY 6, 2015

**Direct Testimony of Kenneth F. Payne, PhD – Chairperson of Distributed
Generation Board**

I, Kenneth F. Payne, hereby testify under oath as follows:

1. Please state your name, employer and title?

My name is Kenneth F. Payne, I am principal of Systems Aesthetics LLC and chairperson of the Distributed Generation Board.

2. Can you please provide your background in the area of renewable technologies?

I have been actively involved in renewable energy issues in Rhode Island for more than a decade. In 2004 as senior policy advisor to the RI Senate I drafted the Renewable Energy Standard Act, (RIGL chapter 39-26). In 2007 I joined the research faculty of the University of Rhode Island; while at URI I helped organize the Energy Fellows, oversaw the Fellows first major research project, and served as the chairperson of the stakeholder process for Ocean Special Area Management Plan. In 2010, I was appointed head of the Office of Energy Resources. During 2011 I represented the Chafee Administration in drafting the comprehensive overhaul of the State's renewable energy financing laws, the package of bills included the Distribute Generation Standard Contracts Act. I have been a member and the chairperson of the Distributed Generation Standard Contract Board, now the Distributed Generation Board since 2013.

3. What was your role in the development of the 2015 Renewable Energy Growth (REG) Program?

I was, and am, a member and the chairperson of the Distributed Generation Board ("DG Board").

4. Did the Board participate in the retention of Sustainable Energy Advantage (SEA) to develop and recommend the 2015 REG Program ceiling prices on behalf of the Board?

Yes, the Board supported the use of a competitive bid process to select a consultant to do the ceiling price work. The competitive process was administered by the Department of Administration, Division of Purchases. The DG Board was represented on the review committee that made its recommendation to the Division of Purchase to retain SEA.

5. Were there any major changes in the Distributed Generation Program in 2015?

Yes. In 2014 the Renewable Energy Growth Program was enacted, it is a new chapter of the General Laws, RIGL chapter 39-26.6; it replaces the contract based program of RIGL chapter 39-26.2 with tariff based program, extends the life of the program for five years, increases its size from 40 MW nameplate capacity to 160 MW nameplate capacity, and

makes specific provision for the inclusion of small scale solar energy projects in the program, this means that residential scale projects are now included in enrollment plans, ceiling price calculations, and MW allocations.

6. Did the DG Board take the new provisions of law into account in developing its 2015 ceiling price recommendations?

Yes. Addressing the new requirements and the new expectations of law were major considerations of the DG Board in the course of its work since the enactment of REG Program on June 30, 2014.

7. In a public meeting on December 15, 2014, did the Board vote to approve the recommended ceiling prices, along with the allocations for the 2015 REG Program?

Yes.

8. Did the DG Board have a quorum?

Yes.

9. Were there any dissenting votes?

No.

10. Are recommendations voted on by the DG Board reflected in the Report and Recommendation submitted to the Commission?

Yes.

11. Is it your understanding that the OER and SEA on behalf of the DG Board considered and reviewed the stakeholder feedback given in the during the period of the development of the 2015 REG Program recommendations prior to the Board voting on the recommendations?

Yes.

12. Did SEA provide an overview of the CREST model and the process used in the development of the ceiling prices process to the DG Board?

Yes. One of the key things that SEA explored with Board was the sensitivity of the CREST model to inputs into the model, for example capacity factors, property taxes, etc. Changes in the value of certain inputs have a significant impact on ceiling prices. The sensitivity analysis was publicly presented.

13. Was the Board actively involved in the development of the ceiling prices?

Yes. The DG Board took an active interest stakeholder questions, discussed the implications of those questions, and took into consideration any ceiling price adjustments proposed from the OER staff and the SEA consultants. These actions by the Board are reflected in the minutes of the meetings.

14. Did the DG Board make any adjustments to the megawatt allocations for the renewable energy class targets, prior to voting on the program plan in December, based on stakeholder feedback?

Yes. For class sizes and allocations, the DG Board, with assistance from the OER, considered and weighed stakeholder comments and made any adjustments as appropriate. These adjustments are reflected in the recommendations.

15. Can you please provide the DG Board's reasoning for adopting the recommendations for the various ceiling prices and allocations of renewable energy technologies?

The DG Board reached a collective understanding that these recommendations should be made to the Commission. The DG Board discussed the requirements and implications of the requirements of the new REG Program statute, looked at prior actual experience with the Distributed Generation Standard Contracts program, received recommendations from OER staff, and took extensive input from SEA on what the CREST model runs showed. The DG Board, or SEA on behalf of the Board, received and discussed public and renewable energy developer comments, and the Board reached consensus that these recommendations for 2015 REG Program should be submitted to the Commission for its consideration and approval. The process was conducted with public meetings and public comment was allowed and welcomed at all meetings.

16. What constitutes the recommendation to the commission?

The recommendation essentially has two parts, first an allocation plan for 2015 by technology type and size, measured in kW nameplate capacity. The second part of the recommendation is the ceiling prices for technology types and sizes set forth in the allocation plan for the year.