



GOVERNMENT OF BERMUDA
Ministry of Economic Development

Energy Commission

Net Metering Inquiry Response

Recommendations

Presented to the Minister of Economic Development – October 11, 2016

Net Metering Inquiry Response

Recommendations

1. Preamble

Background

On August 15, 2016 BELCO advised the Commission that it was stopping its current net metering scheme effective that date, and moving to a transitional avoided cost scenario for all new residential solar PV customers. As part of the transitional program existing residential solar PV customers will continue to be compensated as per the original agreement for a 2 year period. This announcement by BELCO resulted in a number of industry stakeholders expressing their concern with the move to the new program. As a result of this the Minister of Economic Development issued a request to the Commission to conduct an inquiry into the matter.

The intent of the BELCO Net Metering Inquiry as directed by the Minister is as illustrated below:

The inquiry should include:

- *An analysis and assessment of the current Residential Net Metering and Commercial Renewable System Excess Energy Rate (CRSEER) programmes*
- *A review of cost-based ratemaking principles and feed in tariffs for PV customers that are used in similar sized jurisdictions*
- *Recommendations for development of transitional feed-in-tariffs rates for independent power producers (residential and commercial) who wish to use the electric grid to distribute the power they generate*
- *Recommendations for development of rate structures for independent power producers (residential and commercial), which accurately reflect costs incurred by the Bermuda Electric Light Company The inquiry should be carried out in consultation with relevant stakeholders, including BELCO and members of the renewable energy industry.*

The content of this response is a presentation of the Commission's recommendations.

Inquiry Process

In an effort to ensure the Inquiry progressed in as expeditious a manner as possible, the Commission determined that the Inquiry be conducted with public and industry stakeholder participation included in the process by way of submissions in accordance with a notice published in the daily gazette. In addition, a radio announcement was made informing the public of the commencement of the Inquiry and to invite interested parties to make submissions. The steps taken in relation to the matter were as follows:

- The Commission determined timelines and identified milestones for the Inquiry;
- Discussions held with BELCO in relation to inquiry matter;
- A notice of the inquiry was issued inviting stakeholder submissions;
- The Commission conducted a review of all related information currently in its possession;
- Information gaps were identified which were required to be filled regarding the matter;
- The Commission requested that BELCO submit a more detailed filing;
- The Commission sent out letters to BELCO and the Solar PV installers requesting further information relating to the current market status;

- The Commission requested that the Department of Energy conduct research into the state of play in other jurisdictions regarding net metering;
- Review, assessment, and discussion of the BELCO and stakeholder responses was carried out.

BELCO submitted a more detailed filing as requested by the Commission, and this was made available to the public via the website. The Department of Energy provided the Commission with the results of its research. A number of stakeholders made independent submissions to the Commission in response to the publish notice, albeit there were some that were received after the stated submission deadline but were admitted into the Commission's deliberations. BELCO provided solar PV market data as per the Commission's request letter dated September 22, 2016 which was treated as confidential in accordance with the confidentiality Clause 26A contained in the Energy Act 2009. Regrettably, only one major solar PV installer responded to the Commission's request to provide solar PV market data. It should be noted that two solar PV installers did make individual submissions to the Minister and to the Commission prior to the commencement of the inquiry and publication of the public notice requesting stakeholder input and their submissions did contain limited installed system data. The presentation of recommendations are based on the limited information and data the Commission had at hand and the rather tight timeframe in which to deliberate. The Commission is has not shared any submissions received from stakeholders with BELCO, and is not aware of whether or not any of its submissions were forwarded to BELCO directly by the respondents.

Net Metering Scheme

The original net metering scheme was officially implemented in 2010/11 at the beckoning of BELCO in light of growing interest in the community for the installation of solar PV systems. This initiative at that time was welcomed by the Commission, as members of the public had made informal contact with the Commission seeking information on grid interconnection and power purchase rates. BELCO did submit a filing to the Commission and there was some consultation between the parties at that time. It was established however, that the power purchase arrangements were outside of the remit of the Commission since the Energy Act 2009 was very specific about what the Commission was empowered to regulate. In this case it was only the rates and pricing of electricity BELCO (or any regulated entity listed in the Act) charged its customers. BELCO proposed to pay the full retail rate for the purchase of power from residential solar PV producers. The company did proceed with the scheme in accordance with its filing. In the opinion of the Commission, the net metering scheme was a BELCO initiative, although the Commission did provide input and recommendations. It should be noted that unlike the residential producers, the commercial solar PV producers are paid an avoided cost rate for power purchased.

Based on BELCO supplied data to date, there are 336 Residential and 10 Commercial Solar PV power producers. The residential systems range from 0.5 KW to 15 KW, whereas the commercial systems range from 5 KW to 444 KW. Only four of the commercial producers are participating in the current CRSEER program. The average cost of solar PV systems is \$4180 per KW based on data provided by the lone solar PV installer respondent. The amount of solar PV installed is 1931 KW for residential and 913 KW for commercial for an overall total of 2844 KW (2.8 MW) according to BELCO supplied data.

As of the writing of this response, the Commission does not have sufficient data to ascertain or confirm the solar PV system cost trend direction (increasing or decreasing) in the Bermuda context.

Proposed Transitional Avoided Cost Rate

Research appears to indicate that the trend within the power industry is moving to a cost based rate determination for power purchase and delivery from renewable power producers, including the conditions of non-prejudicial practices, and unreasonable cost burdens for all stakeholders. Furthermore, the cost elements to be included in the rate determinations involve a rigorous ex-

ercise which may include but are not limited to avoided fuel, generational investment and maintenance, transmission & distribution maintenance and investment, system losses, and other environmental impact costs.

BELCO is proposing to utilize an avoided cost rate that includes not only fuel costs as shown below.

Component	Cost
Avoided Fuel Cost	15.73¢/kWh
Avoided Lubricants	0.59¢/kWh
Avoided Transmission Losses	+1.6% /kWh
Total	17.36¢/kWh

2. Recommendations

1. The original net metering scheme is to run in parallel with the proposed transitional program until December 31, 2016 at which time it will be terminated to minimize the subsidization financial impact to non-solar PV customers. All original PV producers should be migrated over to the transitional avoided cost program effective January 1, 2017.
2. The transitional solar PV power purchase program should be adopted for both the residential and commercial solar PV producers with the BELCO avoided cost proposed rate of \$0.1736 per kWh for new solar PV systems going forward, with no limit on the number of participants as proposed by BELCO.
3. A more thorough and complete solar PV economic and market study be carried out by the Regulatory Authority as a matter of priority, with a view to establishing sustainable policies and power purchase rate determination methodology. The new policies and rate determinations should be in accordance with the Government's mandated industry policies and the Electricity Act 2016.
4. The financial cost of power purchase is fully absorbed by BELCO until a new power purchase regime is implemented by the Regulatory Authority. Costs for power purchase are to be allocated to a FAR like recovery account as of January 1, 2017 as stated in the Commission's recent rate case filing directive.
5. The Government is to be encouraged to give serious consideration to establishing a policy regarding importation and utilization of power storage solutions with a view to grant tax relief concessions for such power storage solutions as soon as possible.