



Feed-in Tariff (“FIT”) Review

Report

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I. INTRODUCTION AND EXECUTIVE SUMMARY

1. The purpose of this report (the “FIT Report”) is for the Regulatory Authority of Bermuda (“RA”) to set the rate that Bermuda Electric Light Company Ltd. (“BELCO”) as the Transmission, Distribution & Retail (“TD&R”) Licensee must pay to distributed generators (“DGs”) for the energy that is exported to the TD&R network.
2. The Regulatory Authority Act 2011 established a cross-sectoral independent and accountable regulatory body “to protect the rights of consumers, encourage the deployment of innovative and affordable services, promote sustainable competition, foster investment, promote Bermudian ownership and employment and enhance Bermuda’s position in the global market.”
3. In accordance with the Electricity Act 2016 (“EA”), the RA is responsible for the regulation of the electricity sector in Bermuda, and its overarching responsibilities include to:
 - regulate tariffs and the quality of service provision to end-users;
 - ensure that access to the electricity infrastructure by current and prospective generators in Bermuda is transparent, fair, reasonable, and non-discriminatory; and
 - investigate and respond to complaints from end-users regarding the provision of electricity.
4. Section 36 of the EA requires the RA to set a pre-determined rate at which renewable energy is purchased by the Transmission Distribution & Retail Licensee from a distributed generator, for a predetermined period, and under pre-determined conditions in accordance with Part 6 of the EA (the “Feed-in Tariff” or “FIT”).
5. Section 36 of the Electricity Act 2016 (“EA”) provides that the RA shall determine the FIT in accordance with the FIT methodology (the “Methodology”) set by General Determination (“GD”) and in accordance with the principles set out in the EA.
6. On 19 October 2018, the RA issued the Regulatory Authority (Feed-in Tariff Methodology) General Determination (the “Methodology GD”), which outlined the methodology that the RA shall use to conduct future FIT reviews.
7. As a result, the RA has conducted a comprehensive analysis and review of the FIT according to the principles of avoided cost and economic benefit set out in the Methodology GD.
8. In order to evaluate the avoided cost and economic benefit, the RA issued information requests to BELCO, Government and the renewable energy installers in Bermuda.
9. The RA conducted a validation process in order to assess the information that it received in response to the above requests.
10. From the analysis and review of the information received, two main options emerged based on the avoided costs of generation and the potential economic benefit:

- (i) Avoided Costs of Generation with the Economic Benefit based on estimated Carbon Costs; and
 - (ii) Avoided Costs of Generation with the Economic Benefit of zero.
- 11. After further deliberation, the RA selected option (ii) Avoided Costs of Generation with the Economic Benefit of zero.
- 12. The RA therefore sets the value of the FIT at **0.2265 \$/kWh** based on the avoided cost of generation.
- 13. The FIT will remain in place for a period of up to three years by which time a new FIT review will be completed.

II. FEED-IN TARIFF

14. The RA set the FIT at Avoided Costs of Generation with the Economic Benefit of zero for the following reasons:
- (i) BELCO meets and exceeds the environmental standards of its operating licence. Increased uptake of distributed generation does not help BELCO reduce the costs associated with meeting these requirements.
 - (ii) The Methodology allows metrics to be used to evaluate the reduction of carbon emissions states in the absence of a reduction in cost associated with meeting environmental standards. However, currently there is no carbon market, carbon tax or carbon price in Bermuda. As a result, the RA would have to assume an implicit carbon price in order to evaluate the economic benefit associated with reduced carbon emissions.
 - (iii) It would be unprecedented for the RA to set a carbon tax or price, as this type of legislation or policy is implemented by the government rather than independent regulators in other jurisdictions. Furthermore, revenues raised from carbon taxes are typically collected by the government and used to stimulate market innovation and economic growth.
 - (iv) In other jurisdictions, emission producers (in this case fossil fuel generation plants) are taxed or required to pay a carbon price to incentivise them to reduce their pollution either by changing their fuel source, adding emissions reduction technology or paying for continued pollution. However, with an economic benefit applied to the FIT, the carbon tax will be applied to all energy consumers, through increased retail rates, rather than the emissions producer themselves.
 - (v) As energy consumers are the ones paying the carbon tax, a subsidy is paid by those who may be less likely to afford distributed generation systems, i.e. lower to middle income households. Energy consumers who are not DGs effectively subsidise DGs, which are typically middle to higher income households, through increased retail rates.
15. The final FIT calculated along with the components used to develop it are outlined in Figure 1 below.

Figure 1

Based on the analysis conducted by the RA the avoided cost of generation will be set at **\$0.2265 per kWh**.

	Total
Total avoided costs (\$)	1,298,127
Total solar production (kWh)	6,026,161
Avoided costs (\$/kWh)	0.2229
Avoided Transmission Losses Rate (%)	1.6%
Final FIT (\$/kWh)	0.2265

16. The RA was not able to reliably estimate the economic activity components of economic benefit due to:
 - (i) Data being collected by the government agencies not being specific to the renewable energy industry;
 - (ii) The lack of relevant information received from sectoral participants in the renewable energy industry in response to the RA's information requests; and
 - (iii) The qualitative and quantitative impact on non-distributed generation customers who would carry the subsidy in retail tariffs of any FIT value over the avoided costs.
17. The environmental standards benefit from distributed generation would only be able to be estimated following the assignment of a carbon price. As there is no carbon price program in Bermuda or carbon tax initiative by the government, the RA would have to assume this carbon price. This would result in the subsidisation of DGs by other electricity customers through higher retail rates.
18. As stated in the Methodology GD in relation to environmental standards, "The inclusion of such benefits in the determination of the level of the FIT should be guided by government policy". Currently, there has not been enough guidance through legislation to justify the RA imposing a carbon price.
19. As a result of the lack of guidance through legislation, the RA has set the environmental benefit component of the FIT at zero.

III. CONCLUSION

20. The RA has determined the FIT to be **0.2265 \$/kWh**.
21. This FIT provides a fair and balanced price for DGs and electricity customers. This sets the avoided cost of generation at the maximum allowed by the EA and Methodology.
22. The FIT is in line with the purposes of the EA as it protects the interests of end-users with respect to prices, affordability and promotes economic efficiency in the generation, transmission, distribution and sale of electricity.