



FAIR TRADING COMMISSION

CONSULTATION PAPER

Review and Variation of the Decision on Energy Storage Framework and Tariffs

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This Consultation Paper is not a legal document and does not constitute legal, commercial or technical advice. The Commission is not bound by this document. The consultation is without prejudice to the legal position of the Commission or its rights and duties to regulate the electricity market generally.

LIST OF ABBREVIATIONS

ACRONYM	ABBREVIATIONS
BESS	Battery Energy Storage System
BCESEP	Barbados Clean Energy Storage and EV Policy
BLPC	Barbados Light & Power Company Limited
BNEF	Bloomberg New Energy Finance
BNEP	Barbados National Energy Policy
CAPEX	Capital expenditure
ELPA	Electric Light and Power Act, 2013-21
EST	Energy Storage Tariff
FIT	Feed-in-tariff
FTCA 2020	Fair Trading Commission Act, CAP. 326B, as amended
GoB	Government of Barbados
IPPs	Independent Power Producers
IRR	Internal Rate of Return
IRRP	Integrated Resource and Resiliency Plan
LCOS	Levelised Cost of Storage
MEB	Ministry of Energy and Business
PPA	Power Purchase Agreement
PV	Photovoltaic
RE	Renewable Energy
Staff	The Commission's Staff
The Commission	The Fair Trading Commission
URA 2020	Utilities Regulation Act CAP. 282, as amended
VRE	Variable renewable energy

PURPOSE OF DOCUMENT

This paper outlines the Commission's proposed review and variation of its Decision on the Energy Storage Framework and Tariffs, Document No.: FTCUR/DECEST/2023-03 ("Decision"). There has been a change in circumstances owing to the GoB's development and implementation of a competitive procurement process for BESS capacity. Both the Commission and the MEB wish for the applicable capacity ranges for the two (2) frameworks not to overlap. Moreover, due to the time that has elapsed since the issuance of the Decision, the Commission deems it prudent to ensure that the rates determined in the Decision are underpinned by up-to-date cost assumptions that reflect the most current state of the market.

The intent of this consultation is to solicit and assess comments, views and proposals from stakeholders and other interested parties on the proposed variation of the Decision. Public participation remains a crucial feature of the decision-making process and the Commission therefore invites written submissions from the general public, the Barbados Light and Power Company (BLPC) Limited, RE producers, Government agencies, the business community, public consumer bodies or advocates, Non-governmental Organisations (NGOs), educational institutions, and any other interested party.

STRUCTURE OF PAPER

This paper is divided into four (4) sections:

- Section one (1) gives introductory comments on the need for the proposed variation., provides background information on the EST, and related developments in the electricity sector.
- Section two (2) sets out the legislative framework.
- Section three (3) discusses the proposed variation in more detail and provides consultation questions for public consideration.
- Section four (4) outlines the consultation process.

SECTION 1 – INTRODUCTION

1.1 Background: Electricity Sector

1. The Barbados energy sector has predominantly seen the installation of VRE resources, mainly solar PV. This and other intermittent resources are known to introduce stability and sustainability issues into the grid, leading to the need for mitigation measures. Indeed, the GoB identified energy storage, particularly BESS, as a means of combatting the deleterious effects of these intermittent resources.
2. In response to this, on June 28, 2023, the Commission issued its Decision on the Energy Storage Framework and Tariffs, Document No.: FTCUR/DECEST/2023-03 (“Decision”). The Decision determined an EST underpinned by the policy of the GoB, which emphasized the need to maximise a number of benefits inherent in the available technologies, such as enhanced grid resilience, reliability, and reduced greenhouse gas emissions. This framework is meant to be a pilot program which will allow for the collection and analysis of data on the practical operation of the storage assets. This will facilitate informed decision making on the implementation of these storage assets going forward.
3. Since the issuance of the Decision, there have been developments in the sector which now point to a need for the Commission to review said Decision as these developments arguably amount to a change in circumstances, material enough in nature to warrant review and variation. On one hand, the GoB has commenced the implementation of a competitive procurement framework for energy storage and the size categories applicable are in the range 1MW to 10MW¹. This would result in an overlap with the EST framework. Secondly, significant time has passed since the issuance of the Decision and as such the cost assumptions, based on the 2023 BNEF along with Tesla Powerwall costs, are in need of update to be aligned with the most current version of the BNEF. It

¹ RELP, MEB, 2024. “Barbados BESS Competitive Procurement Request for Information - Request for Proposal Term Sheet”

is also important to note that the methodology which was originally consulted on and utilized in the Decision, based on the LCOS, remains the same.

4. In its 2023 Decision, the Commission determined the following tariffs and associated size categories:

Table 1: Size Categories and EST Rates for a two (2) hour battery

Size Category	LCOS(BBD\$/kWh)	LCOS(BBD\$/kW-month)
Up to 25 kW	0.675	56.78

Table 2: Size Categories and EST Rates for a three (3) hour battery

Size Category	LCOS(BBD\$/kWh)	LCOS(BBD\$/kW-month)
> 25 kW - 1 MW	0.404	33.95
> 1 MW - 10 MW	0.292	24.61

Table 3: Size Categories and EST Rates for a four (4) hour battery

Size Category	LCOS(BBD\$/kWh)	LCOS(BBD\$/kW-month)
> 25 kW - 1 MW	0.374	41.95
> 1 MW - 10 MW	0.270	30.34

Please note that the applicable capacity payment which would be relevant for potential service providers is found in the column labelled LCOS(BBD\$/kW-month).

SECTION 2 LEGISLATIVE FRAMEWORK

5. Under Section 4(3)(a) of the FTCA, the Commission is responsible for establishing principles for arriving at the rates to be charged by service providers. The Commission also has this duty pursuant to Section 3(1) (a) of the Utilities Regulation Act CAP 282 of the Laws of Barbados (“URA”), which states:

“The functions of the Commission under this Act are, in relation to service providers, to

 - (a) *Establish principles for arriving at the rates to be charged”.*
6. For the purposes of Section 2 of the FTCA and Section 3 of the URA, “principles” means the formula, methodology or framework for determining a rate for a utility service.
7. Additionally, Section 2 of the URA states that “rates” include:
 - (a) *“Every rate, fare, toll, charge, rental or other compensation of a service provider;*
 - (b) *A rule, practice, measurement, classification or contract of a service provider relating to a rate; and*
 - (c) *A schedule or tariff respecting a rate;”*
8. In accordance with Section 36 of the FTCA “the Commission may on application or on its own motion review and vary or rescind any decision or order made by it and, where under this Act a hearing is required before any decision or order is made, such decision or order shall not be altered, suspended or revoked without a hearing”.

SECTION 3 DISCUSSION AND CONSULTATION QUESTIONS

9. Subsequent to the Commission’s determination on this pilot program, there have been significant developments which impacted the energy sector. The GoB has initiated the process of implementing a competitive procurement (or auction) framework for energy storage. With assistance from the Inter-American Development Bank (IDB), the GoB undertook a consultancy to develop a competitive procurement process that facilitates the procurement of utility scale energy storage and is now close to launching its first round of procurement of 60MW of BESS. The GoB has enlisted RELP², a non-profit agency dedicated to the promotion and development of RE, to be the transaction advisor for the auction process³. RELP’s responsibility is to design, deploy and implement the BESS auction process. This auction process is one of the main reasons for the Commission’s review of the Decision at this stage, owing to the need to have the EST pilot and the auction clearly delineated such that investors can easily understand the regulatory environment and make decisions as warranted.
10. The GoB’s auction framework is expected to apply to BESS in the capacity range of 1MW – 10MW. Tables 1, 2 and 3 in this paper illustrate that the EST also covers that same range. That essentially presents two (2) options to developers who wish to provide BESS services in the Barbados energy market. This is a situation that both the Commission and the MEB wish to avoid. The overlap in terms of size category in this instance could create confusion among potential investors and this does not align with regulatory principles of clarity and predictability. Owing to the importance of driving investment in the energy sector, it is important to send clear signals to the market.

² The legal name of RELP is Global Renewable Energy Mass Adoption Program ASBL, duly registered in Brussels, Belgium. RELP is simply a brand/commercial name.

³ GoB, MEB, 2024. “Request for Information (RFI). Supply of up to 60MW of Battery Energy Storage System Facilities on a Build, Own and Operate Basis”.

11. Moreover, the Commission opines that it is prudent and economically advantageous that potential investors in utility scale storage participate in a competitive process rather than utilize a FIT type of system with a price that is administratively determined. While a FIT system is seen as low risk to potential investors, it is very unresponsive to changes in market prices. On the other hand, a competitive process has been shown to be “...successful at incentivizing competitive prices and attracting international investment from IPPs...⁴”. Moreover, the competitive process is more suitable for utility scale projects as it can be costly for both bidders and administrators. Consequently, the greater economies of scale achievable with larger projects make them more appropriate for competitive procurement.
12. Put simply, the competitive process is structured such that it can allow for the achievement of storage capacity procurement in the most cost-effective and efficient manner, given that the resultant price will be driven by market forces as opposed to being administratively determined. Consequently, the Commission considers that a clear separation between the EST and the competition procurement process from a capacity perspective, may be a prudent step to take.

Consultation Issue No. 1:

What are your views on the proposed amendment to remove the size category of 1MW to 10MW from the EST framework, thereby limiting the EST to systems of under 1MW in size?

13. Since the issuance of the Decision in 2023, the Commission is aware of some interest by potential investors. However, due to the lack of an established BESS licensing

⁴ Ahlfeldt, Chris. 2015. “Renewable Energy Auctions vs. Feed-In-Tariffs in Sub-Saharan Africa - Blue Horizon.” Blue Horizon. October 23, 2015. <https://www.bluehorizon.energy/renewable-energy-feed-in-tariffs-vs-auctions-in-sub-saharan-africa/>.

component within the MEB's RE licensing framework, no applications could be processed.

14. Additionally, some stakeholders sought clarity about the practical implementation of the EST and its ability to cover their costs in full. In response the Commission advised stakeholders that it would prepare and publish a guidance note which would clarify the practical implementation of the pilot program. It would also indicate that cost recovery under the EST framework is meant to be handled in two (2) distinct ways. Firstly, the actual tariff covers initial CAPEX costs associated with the acquisition of the BESS assets, and this was based on the BNEF benchmark and Tesla Powerwall costs. Secondly, there are mechanisms built into the PPA that allow for the recovery of CAPEX costs that may exceed the BNEF benchmark and other project specific costs such as land lease costs, data storage expenses and costs for communications systems, that could be directly reimbursable by the offtaker. This and other operational details with respect to the EST pilot program will be outlined in the guidance note. Both the guidance note and the PPA will be issued in conjunction with the updated framework that is the expected output of this consultation.

15. As a result of the initial lack of uptake of the capacity available under the EST, there is now a situation where a significant amount of time has passed such that the basis for the original CAPEX cost assumptions, the 2023 BNEF Energy Storage outlook as well as Tesla Powerwall costs, are possibly now outdated. Moreover, it is likely that stakeholders in the local sector would have valuable cost information that could guide the Commission's decision making. The Commission's consultant has advised that a potentially superior option to use as the CAPEX benchmark in this instance is the cost data available via the Pacific Northwest National Laboratory⁵ ("PNNL"). The data available here is said to be more detailed and comprehensive than what is provided by the BNEF, as well as being freely available. The BNEF data is now

⁵ PNNL. 2018. "A National Lab Is a Different Kind of Research Organization | PNNL." Pnnl.gov. 2018. <https://www.pnnl.gov/about>.

sequestered behind a significant paywall. Moreover, this PNNL data has been used by the MEB as part of the basis for the model being used in the competitive procurement process. As such, another benefit to its use by the Commission would be a measure of consistency with the GoB's framework, which adds to an overall tenor of regulatory stability. As a result, the Commission opines that it may now be prudent to update those cost assumptions using the most appropriate and up-to-date benchmarks and sources available, as well as through any data that may be obtained from stakeholders. It is acknowledged that the costs for these types of technologies are constantly evolving, and the Commission contends that the EST rates ought to accurately reflect up-to-date CAPEX costs.

Consultation Issue No. 2:

What are your views on the proposal to update the cost assumptions underpinning the rates applicable to the EST pilot program? Which cost benchmarks do you believe to be most appropriate?

SECTION 4 CONSULTATION PROCESS

16. The Commission is specifically charged under the Fair Trading Commission Act, CAP. 326B to consult with interested persons when it is discharging certain functions.
17. This requirement generally involves the Commission issuing a consultative document, in which the Commission:
 - a. brings to public attention important issues relating to utility regulation in order to promote public understanding and debate;
 - b. puts forward options and/or proposals as to the approach to adopt in dealing with these issues, to seek to resolve them in the best interests of the consumer, the service provider, and the society at large; and
 - c. invites comments from interested parties, such as consumers, service providers, businesses, professionals and academics.
18. The views and analyses set out by the Commission in a consultative document are intended to invite comments which the Commission will consider in arriving at its decision.
19. If considered appropriate, respondents may wish to address other aspects of the document for which the Commission has not prepared specific questions. Failure to respond to all identified issues will in no way reduce the consideration given to the entire response.

Confidentiality

20. The Commission is of the view that this consultation is largely of a general nature. The Commission hopes to receive views from a wide cross section of stakeholders.
21. Respondents should therefore ensure that they indicate clearly to the Commission any response or part thereof that they consider confidential, commercially

sensitive, or proprietary information.

Responding To This Consultation Paper

22. The Commission invites and encourages written responses in the form of views or comments on the matters discussed in the Paper from all interested parties, regulated utilities, other licensed operators, government ministries, non-governmental organisations (NGOs), consumer representatives, residential consumers, businesses of all sizes and their representatives, the academic community and all other stakeholders.
23. The Consultation period will begin on January 13, 2025, and end on February 7, 2025. All written submissions should be sent to the Commission by this deadline. The Commission is under no obligation to consider submissions received after 4:00 p.m. on February 7, 2025.
24. Copies of this Consultation Paper can be collected between the hours of 9:00 a.m. to 4:00 p.m., Monday to Friday during the consultation period from the Commission's offices at the following address:

Fair Trading Commission

Good Hope

Green Hill

St. Michael

BB12003

Barbados

25. The Consultation Paper can also be downloaded from the Commission's website at www.ftc.gov.bb and copied to Mr. Kevin Webster, General Legal Counsel and Commission Secretary at kwebster@ftc.gov.bb.
26. Persons may submit their response either in physical or electronic format.
27. Mailed or hand delivered responses should be addressed to the Commission's Secretary at the above mailing address.
28. Responses in electronic format may be prepared in either Word or PDF format, attached to an e-mail cover letter and forwarded to info@ftc.gov.bb.

Analysis Of Responses

29. The Commission will seek to explain the basis for its judgments and where it deems appropriate give the reasons it agrees with certain opinions and disagrees with others. In the interest of transparency and accountability, the reasons for any modifications as a result of the consultation will be set out and, where the Commission disagrees with responses or points that were commonly made, it will in most circumstances, explain why.