



Caribbean Utilities Company, Ltd.
457 North Sound Road, P.O. Box 38
Grand Cayman KY1-1101
CAYMAN ISLANDS
www.cuc-cayman.com

Tel: (345) 949-5200
E-mail: llawrence@cuc.ky

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By email only to: consultations@ofreg.ky
Utility Regulation and Competition Office
PO Box 2502
3rd Floor, Alista Towers
85 North Sound Road
Grand Cayman KY1-1104
CAYMAN ISLANDS

Re: E&U 2020– 2 Consultation Proposed Renewable Energy Capacity Reallocation and Tariff Setting (RECRTS)

We refer to the Notice of Cross Submissions published with respect to submissions received to the above captioned consultation. As the sole provider of safe and reliable electricity on Grand Cayman and having been a central part of the community since 1966, Caribbean Utilities Company, Ltd. (CUC) appreciates the opportunity to provide a cross submission on the responses received to the Consultation on Proposed Renewable Energy Capacity Reallocation and Tariff Setting (RECRTS). Further to CUC's first submission this response will address selected questions and issues raised by the listed respondents published on the Notice of Cross Submission OfReg website. The known respondents are shown below:

1. *Affordable Solar*
2. *GreenTech Solar*
3. *Cayman Renewable Energy Association*
4. *Prosolar Systems*
5. *Charles Farrington*
6. *Senergy Solar Cayman Ltd*
7. *360 Solar*



Where CUC does not provide a cross submission for a particular respondent's submission, CUC does not implicitly approve or reject a respondent's submission. Further, CUC's cross submissions are to be read in conjunction with the initial submission on the 20 May 2020. This response uses the same headings, acronyms and defined terms as the consultation document (Consultation) and the Notice of Cross Submissions. Where this response refers to the numbered paragraphs of the Consultation using the symbol §, it implies §1 refers to paragraph 1.

This cross submission is submitted in two sections. The first section addresses specific questions which align with those in §50 of the E&U 2020 – 2 – Consultation issuance. The second section addresses comments where submissions from respondents were not specifically addressing questions in the RECRTS format.

CROSS SUBMISSION: PART A (RECRTS QUESTIONS)

Question 1: What are your views on the appropriateness of the aforementioned reallocation? Are there any other criteria that you consider a priority? Please explain why.

- 1. Affordable Solar - Did not specifically address in RECRTS question format.*
- 2. GreenTech Solar – Supports appropriateness of reallocation*
- 3. Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*
- 4. Prosolar Systems - Did not specifically address in RECRTS question format.*
- 5. Charles Farrington - Supports appropriateness of reallocation*
- 6. Senergy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*
- 7. 360 Solar – Supports appropriateness of reallocation*

CUC Cross Submission 1:

CUC notes its support for the reallocation of capacity from the Distributed Energy Resources (DER) Programme to the Consumer-Owned Renewable Energy (CORE) Programme, or feed-in-tariffs (FITS) equivalent; however, we reiterate our position that rates should be reduced to minimize or avoid altogether the cross-subsidization of the CORE Programme as borne by non-CORE customers and therefore CUC therefore does not fully agree with respondents above. CUC believes the starting point of assessing a suitable tariff is the prioritization of this principle of minimizing or avoiding cross-subsidization.



Question 2: State, giving reasons, whether you agree that 1 megawatt (MW) of the DER programme capacity should be transferred to the CORE programme?

1. *Affordable Solar - Did not specifically address in RECRTS question format.*
2. *GreenTech Solar - Supports 1MW transfer*
3. *Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*
4. *Prosolar Systems - Did not specifically address in RECRTS question format.*
5. *Charles Farrington - Supports 1MW transfer*
6. *Senegy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*
7. *360 Solar – Supports 1MW transfer*

CUC Cross Submission 2:

CUC notes its support for the transfer of 1MW capacity from the DER Programme to the CORE Programme as the electricity transmission and distribution (T&D) Licensee. We reiterate our position that rates should be reduced to minimize or avoid altogether the cross-subsidization of the CORE Programme as borne by non-CORE customers. If the new CORE rates do not create a cross subsidization, CUC will support transfer of capacity in line with the capacity amount of 1MW, or up to the total available approved capacity allocation of the current DER and CORE Programmes which has been agreed upon and falls within the overall system capacity constraints described in the Renewable Energy Infusion Study.¹

Question 3: What would the impact be of not allowing the RE 1 MW capacity reallocation? to the CORE programme? Please provide evidence.

1. *Affordable Solar - Did not specifically address in RECRTS question format.*
2. *GreenTech Solar – Expressed that without allocation, residential sales and installations will be significantly impacted, which may lead to job losses*
3. *Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*

¹ An electronic copy is available for review at CUC's website at <https://www.cuc-cayman.com/renewable-energy/>.

4. *Prosolar Systems - Did not specifically address in RECRTS question format.*
5. *Charles Farrington – Reduction of available programmes could lead to degradation of quality and quantity of industry participants to support roll-out of distributed renewable energy resources.*
6. *Senergy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*
7. *360 Solar – Expressed that without allocation, sales and installations will be significantly impacted, which may lead to job losses.*

CUC Cross Submission 3:

CUC notes the DER Programme has had limited uptake since its initiation, and has largely been limited to commercial applications of scale. Equally, the CORE Programme has seen consistent subscription, particularly by residential customers and is well understood. In respect to GreenTech Solar's comment on the DER Programme, there is every possibility of small sampling error leading to erroneous conclusions drawn for the entirety of customers. Additionally, the application of a hypothetical DER outcome to historical customer data is bound to provide a skewed outcome as the historical data is not sensitive to a demand rate structure. It is important to note that the CORE Programme is very different from the DER Programme. CORE systems are passive and standardized with no energy storage; whereas, DER systems are tailored to site, more complex and are professionally managed to realize energy savings. Typically, a DER system would combine renewable energy with additional investments in energy efficiency, on-site energy storage and energy conservation measures. It is fair to say that DER systems have a higher project risk profile than CORE systems. Successful DER systems require larger amounts of capital and higher-levels of expertise in design, construction, operation and maintenance in order to reduce risk and recoup the customer's target rate of return.

Question 4: Do you agree that the new tariff should be the levelized cost of energy (LCOE) rates for this 1 MW of capacity?

1. *Affordable Solar - Did not specifically address in RECRTS question format.*
2. *GreenTech Solar – Supportive of unsubsidized rate, but not immediately. Requests plan to achieve unsubsidized rate.*
3. *Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*
4. *Prosolar Systems - Did not specifically address in RECRTS question format.*
5. *Charles Farrington – Requests clarification*
6. *Senergy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*



7. *360 Solar – Requests current CORE rates*

CUC Cross Submission 4:

CUC does not believe the implied rate recommended from GreenTech Solar, or use of the current CORE rates specified by 360 Solar, is appropriate in any instance as the Government's CORE rate was calculated more than two years ago on the basis of higher equipment prices, higher construction rates and lower equipment output efficiencies. CUC agrees with use of the LCOE as established during the integrated resource plan (IRP) as a practical and expedient solution for any reallocation of capacity to continue a FITS structure in a manner that minimizes potential cross-subsidization.

CUC would like to further request an example of the suggested calculation, if different from that established during the IRP, as there are multiple methodologies and assumptions for LCOE calculation that can lead to significantly differing outcomes. CUC agrees with Mr Farrington this calculation should be evaluated from time to time as appropriate to consider changes in technology costs (i.e. decreased costs per solar panel, balance of system and installation pricing), reductions in fuel use efficiency, supporting infrastructure costs and other alternative sources of energy.

Question 5: Do you agree that capacity limits for RE systems, that are differentiated based on location and feeder capacity, should be implemented for the grid as a stability safeguard?

1. *Affordable Solar - Did not specifically address in RECRTS question format.*
2. *GreenTech Solar – Believes this is a moot point due to equipment capabilities*
3. *Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*
4. *Prosolar Systems - Did not specifically address in RECRTS question format.*
5. *Charles Farrington – Disagrees with capacity limits on location and feeder capacity as it may preclude suitable sites for distributed RE installations. T&D Licensee should undertake infrastructural upgrades necessary to facilitate additional capacity at location or feeder level, but may consider differentiated tariffs as an option for funding.*
6. *Senegy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*
7. *360 Solar – Agrees with capacity limits*

CUC Cross Submission 5:

The imposition of limitations of capacity limits for a RE system, in respect to differentiated location or feeder capacity limits, has been on the basis of grid stability and the potential for energy throughput to the grid. For example, the capacity for a site has been recorded as the inverter



throughput capacity (max kW AC), not the installed PV capacity behind the inverter. As the entity bearing responsibility for grid stability and performance, CUC is concerned with the maximum potential impact of any RE system to destabilize the grid or impact power quality.

CUC as the T&D Licensee is obligated to supply electricity to customers within regulated reliability performance and power quality standards. No additional RE should be installed on any particular feeder where it might cause damage to other customers' equipment, reduce power quality outside of regulated standards, or reduce the reliability of electrical services for other customers. CUC is therefore obligated to limit RE installations on a case-by-case basis depending on the technical limitations of each feeder. Any infrastructural upgrades that would facilitate additional RE feeder capacity should be borne by the installer, to avoid cross-subsidization within the rate base. To install additional infrastructure within the rate base for the sole purpose of individual RE installation would further exacerbate the cross-subsidization of distributed generation by non-RE customers. Given the currently vast cost differentials present in comparing utility or large-scale RE plant and distributed generation (DG) plant, it is not clear there is a compelling need to increase the marginal cost for DG plant while far more attractive alternatives exist.

Furthermore, CUC does not agree with GreenTech Solar's view that this is a moot point for the reasons described above and not all installed systems will have coupled storage systems. There will therefore need to be technical limits to govern these installations on a case by case basis.

Question 6: Are there alternative mechanisms (other than changes to FITS) that could be used to incentivize and reward the installation of rooftop solar generation?

1. *Affordable Solar - Did not specifically address in RECRTS question format.*
2. *GreenTech Solar - Proposed Net Metering*
3. *Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*
4. *Prosolar Systems - Did not specifically address in RECRTS question format.*
5. *Charles Farrington – Solar rooftop and coupled storage schemes*
6. *Senegy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*
7. *360 Solar – Proposes garbage fees with a percentage going towards solar cash rebate incentives which could be billed through CUC.*



CUC Cross Submission 6:

CUC notes that a simple net-metering programme, or net energy metering (NEM) has, in other jurisdictions, led to increased cross-subsidization by non-NEM customers as NEM customers do not pay fully for their grid services, despite accessing them 24/7. During development of the CORE program in 2011, NEM had been reviewed by the Electricity Regulatory Authority (ERA) and CUC at the request of the Cayman Islands Government. NEM is where the solar customer pays the retail rate for net electricity consumed (i.e., the difference between what the customer imports from and exports to the grid). Ultimately, NEM was rejected by the ERA in favour of net billing. Unlike NEM, which uses a single meter, net billing uses two separate meters to track what the solar customer will purchase at the retail rate as well as what they will sell from their solar system to CUC at a feed-in-tariff. The ERA favoured net billing on the premise that solar customers are connected to CUC's distribution grid and utilize grid services on a continuous around-the-clock basis and there is a cost to be collected for these 24/7 grid services which is under-collected with NEM. When a NEM customer doesn't pay for their allocation of grid services, the cost is shifted onto non-NEM customers and this can be perceived as a cross-subsidy. As such, net billing was determined by the ERA to be more appropriate in allocating costs across the customer base.

CUC is committed to providing customers with safe, reliable electricity supply at competitive costs. CUC is not of the opinion that electricity bills are an appropriate vehicle for the collection of public fees on behalf of Government nor does it fall within the confines of its T&D Licence.

Question 7: Are the opportunities to benefit from rooftop solar available equitably across the community?

- 1. Affordable Solar - Did not specifically address in RECRTS question format.*
- 2. GreenTech Solar - Rooftop solar is not equitably available*
- 3. Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*
- 4. Prosolar Systems - Did not specifically address in RECRTS question format.*
- 5. Charles Farrington – Qualified response*
- 6. Senergy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*
- 7. 360 Solar – Rooftop solar is not equitably available*



CUC Cross Submission 7:

CUC agrees with respondents who pointed to a lack of evidence of equitable enrollment in prior iterations of CORE. As provided in our original submission, CUC would be encouraged to see more diverse customer representation in DG. Therefore, CUC would like to propose it would perform a high-level assessment of the distribution of DG access in Grand Cayman. Thereafter it will arrange an external stakeholder's call with all interested and affected parties (CREA, CIG, suppliers etc.) to discuss ideas and what support measures that can be implemented to ensure DG access that is more equitable.

Question 8: Do the costs of incentivizing further solar installations outweigh the benefits to non-CORE consumers?

1. *Affordable Solar - Did not specifically address in RECRTS question format.*
2. *GreenTech Solar - Qualified response*
3. *Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*
4. *Prosolar Systems - Did not specifically address in RECRTS question format.*
5. *Charles Farrington - Unknown due to potential future costs of fossil fuels and other factors.*
6. *Senergy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*
7. *360 Solar - Qualified response*

CUC Cross Submission 8:

No cross submission.

Question 9: Any other relevant matters that the person or group submitting would like to raise for consideration.

1. *Affordable Solar - Did not specifically address in RECRTS question format.*
2. *GreenTech Solar – Raised multiple items*
3. *Cayman Renewable Energy Association - Did not specifically address in RECRTS question format.*



4. *Prosolar Systems - Did not specifically address in RECRTS question format.*
 5. *Charles Farrington – No response*
 6. *Senergy Solar Cayman Ltd - Did not specifically address in RECRTS question format.*
 7. *360 Solar – No response*
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CUC Cross Submission 9:

No cross submission.

CROSS SUBMISSION: PART B (GENERAL COMMENTS)

CUC Cross Submission 10: Affordable Solar

CUC notes Affordable Solar chose not to specifically answer Questions 1-9 in §50 of the Consultation. CUC will therefore provide cross submissions on what is generally outlined in each of the paragraphs.

CUC General Response: CUC notes its support for the reallocation of capacity from the DER Programme to the CORE Programme, or FITS equivalent; however, we reiterate our position that rates should be reduced to minimize or avoid altogether the cross-subsidization of the CORE Programme as borne by non-CORE customers.

CUC further notes that a simple net-metering programme, or net energy metering (NEM) has, in other jurisdictions, led to increased cross-subsidization by non-NEM customers as NEM customers do not pay fully for their grid services, despite accessing them 24/7. During development of the CORE program in 2011, NEM had been reviewed by the Electricity Regulatory Authority (ERA) and CUC at the request of the Cayman Islands Government. NEM describes the principle where the customer with a solar installation pays the retail rate for net electricity consumed (i.e., the difference between what the customer imports from and exports to the grid). Ultimately, NEM was rejected by ERA in favour of net billing. Unlike NEM, which uses a single meter, net billing uses two separate meters to track what the solar customer will purchase at the retail rate as well as what they will sell from their solar system to CUC at a feed-in-tariff. The ERA favoured net billing on the premise that solar customers are connected to CUC's distribution grid and utilize grid services on a continuous around-the-clock basis and there is a cost to be collected for these 24/7 grid services which is under-collected with NEM. When a NEM customer doesn't pay for their allocation of grid services, the cost is shifted onto non-NEM customers and this can be perceived



as a cross-subsidy. As such, net billing was determined by the ERA to be more appropriate in allocating costs across the customer base.

This outcome is well documented and was a key consideration as well in the mechanics of the DER Programme, which couples net energy metering with a demand charge structure in order to decouple relatively fixed grid service and capacity costs from volumetric energy charges.

CUC Cross Submission 11: Cayman Renewable Energy Association (CREA)

CUC notes CREA chose not to specifically answer Questions 1-9 in §50 of the Consultation. CUC will therefore provide cross submissions on what is generally outlined in each of the paragraphs.

CUC General Response:

CUC notes its support for the reallocation of capacity from the DER Programme to the CORE Programme, or FITS equivalent; however, we reiterate our position that rates should be reduced to minimize or avoid altogether the cross-subsidization of the CORE Programme as borne by non-CORE customers.

CUC further notes CREA's comment on the utility scale storage project apparent delay. CUC would like to note that it has submitted the draft 20MW Utility Scale Storage Project RFP to OfReg for approval. In the interests of all parties involved, CUC would encourage the timely review and approval of the RFP document in order to move forward towards the procurement of this system, which would ultimately allow for further increases in capacity allocations. CUC is aware of potential global battery supply constraints and shortages and would thus like to stress the urgency of obtaining this approval to prevent further delays.

CUC Cross Submission 12: Charles Farrington

CUC General Response:

CUC notes Mr. Farrington's four (4) general comments in respect to proposed features for any new FITS tariff. On the point (b), however, CUC disagrees that establishing a tariff which avoids cross subsidization would run counter to the objective of establishing balance in investor certainty and returns with consumers' best interests. A well-structured and balanced tariff, which minimizes/avoids cross subsidization and is in the best interests of consumers does not have to



come at the complete expense of the investors/lenders. CUC shares the view OfReg will balance the competing interests of consumers and the investors in their deliberation on a new tariff and would hope the underlying proviso “whilst also taking into account the best interests of consumers” is prioritized.

CUC Cross Submission 13: GreenTech Solar




CUC General Response:

CUC notes GreenTech Solar’s comment on the utility scale storage project apparent delay. CUC would like to note that it has submitted the draft 20MW Utility Scale Storage Project RFP to OfReg for approval. In the interests of all parties involved, CUC would encourage the timely review and approval of the RFP document in order to move forward towards the procurement of this system which would ultimately allow for further increases in capacity allocations. CUC is aware of potential global battery supply constraints and shortages and would thus like to stress the urgency of obtaining this approval to prevent further delays.

We remain open to further consultation and would welcome the opportunity to discuss any of the cross submission points in further detail.

Yours faithfully,

Jun 5 2020 3:09 PM



Tibbetts, Sacha 

Sacha N. Tibbetts
VP Customer Service & Technology