

**E&U 2021 – 2 - Final Draft Determination  
Proposed Renewable Energy Capacity Reallocation and Tariff Setting**

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**UTILITY REGULATION AND COMPETITION OFFICE  
THE CAYMAN ISLANDS**

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## A. Introduction

1. The Utility Regulation and Competition Office (the 'Office' or 'OfReg') is the independent regulator established by section 4(1) of the Utility Regulation and Competition Law (as revised) (the 'URC Law') for the electricity, information and communications technology, water, wastewater and fuels sectors in the Cayman Islands. The Office also regulates the use of electromagnetic spectrum and manages the .ky Internet domain.
2. The Office has several principal functions under the URC Law, including the promotion of innovation and facilitating economic and national development. The protection of the short and long-term interests of consumers is also another principal function of the Office, in relation to the markets and sectors for which it has responsibility. Under the various sectoral laws, the Office also has additional specific functions. The Office, in relation to sectoral providers, is responsible for ensuring that utility services are satisfactory and efficient. The Office achieves this function by supervising, monitoring and regulating any sectoral provider in accordance with the URC Law and sectoral legislation. As the Office is responsible for the electricity sector including the production, distribution, and supply of electricity, it was determined that it was necessary to prepare and consult on a proposed Renewable Energy Capacity Reallocation and Tariff Setting in relation to the electricity sector.
3. Accordingly, on 20 April 2020, the Office published the E&U 2020 – 2 – Consultation<sup>1</sup> on the proposed Renewable Energy Capacity Reallocation and Tariff Setting ('RECRTS'). The consultation paper outlined the legal basis for the capacity reallocation and tariff setting, identifies the approach and principles applicable and the relevant history of Renewable Energy ('RE') production costs. The Office received responses to the Consultation.
4. On 22 May 2020, the Office announced that there would be a cross submissions phase until 5 June 2020 to allow for an opportunity for respondents to comment on each other's submissions.
5. The Office received one cross submission, from Caribbean Utilities Company Ltd. ('CUC').
6. The Office prepared its draft administrative determination, and launched a 2<sup>nd</sup> round consultation on 15 October 2020, which ended on 30 October 2020. Concurrently a Technical Committee (a.k.a. Special Purpose *Adhoc* Committee) ('the Committee' or 'SPAC') reviewed the draft administrative determination as a part of the 2<sup>nd</sup> round consultation process. One submission, in response to the 2<sup>nd</sup> round consultation, was received. In addition, the Committee prepared a report which was submitted and

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<https://www.ofreg.ky/upimages/commonfiles/158745022820200420DraftConsultationonREProgrammeCapacityReallocationsTariffSettingClean.pdf>

reviewed by the Board. Due regard to the position of the Executive Director of Energy was given, as required by the URC Law.

## B. Legal Framework

7. The Office is guided by its statutory remit in determining the RECRTS notably the provisions which follow.
8. Pursuant to section 6(1) of the URC Law, the Office regulates prescribed utility services in the Cayman Islands. Section 6(1) provides, inter alia, that the principal functions of the Office in the markets and sectors for which it has responsibility, are:
  - a) "...;
  - b) to promote appropriate effective and fair competition;
  - c) to protect the short- and long-term interests of consumers in relation to utility services and in so doing
    - i. "...;
    - ii. ensure that utility services are satisfactory and efficient and that charges imposed in respect of utility services are reasonable and reflect efficient costs of providing the services;"
9. In addition, specific to the electricity sector, section 9(2) of the Electricity Sector Regulation Law (2019 Revision) ('ESR Law') states inter alia, "that without prejudice to subsection (1), the principal functions of the Office shall include:
  - a) "...- p)"..." and;
    - q) to authorise a T&D licensee to purchase renewable or alternative forms of energy from consumers who generate electricity for self-supply subject to the requirements of the Electricity Law (2008 Revision) and regulations made thereunder."
10. Section 9(5)(i) of the ESR Law reads inter alia:

"the need to permit and promote the use of renewable or alternative forms of energy by consumers so as to reduce the load on any T&D system."
11. Section 6(2)(d) of the URC Law states that the Office, in performing its functions and exercising its powers under the URC Law or any other Law, may "make administrative determinations, decisions, orders and regulations", and may "take any other action,

not expressly prohibited by Law, that is necessary and proper to perform its duties under this Law and sectoral legislation.”

12. Section 7(1) of the URC Law requires the Office, before issuing an administrative determination which in the reasonable opinion of the Office is of public significance, “... to allow persons with sufficient interest or who are likely to be affected a reasonable opportunity to comment on the draft administrative determination.”

## C. Synopsis of the Key Points of the Reallocation and Tariff

13. Readers are encouraged to read the entire draft administrative determination document before making their response. It is recognised, however, that a high level of interest exists in two issues, being of the reallocation of capacity and tariff setting. A brief synopsis of the key points relating to those issues is presented in this section.
14. The system for electricity in Grand Cayman has the capacity to receive approximately 17 MW of RE. This RE generating capacity is assigned to the Distributed Energy Resources (‘DER’) and Consumer Owned Renewable Energy (‘CORE’) programmes, and Bodden Town 1 Solar farm. In 2017-19 the capacity allocation of the CORE programme was increased from 7 MW to 8 MW. The proposal under consideration now is to further increase the capacity allocation of the CORE programme by reassigning some unsubscribed capacity from the DER programme.
15. CUC explains that “[i]t 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”.
16. The Office received responses to the Consultations submitted by Affordable Solar, CUC, Cayman Renewable Energy Association (‘CREA’), Charles Farrington, GreenTech Solar (‘Greentech’), Prosolar Systems (‘Prosolar’), Senergy Solar Cayman Ltd. (‘Senergy’), and 360 Solar. In addition, a letter was received from the Chief Officer of Commerce Planning and Infrastructure (‘CPI’), and a report was received from the SPAC.

17. In regard to the views put forward on the transfer of approximately 1 MW capacity from the DER programme to the CORE programme, the majority of submissions by the individual stakeholder and by solar companies supported the transfer. In the intervening period, subscribers have used 900kW in the DER programme, leaving less RE capacity, i.e. 532 kW, to be considered for transfer to the CORE programme.
18. The majority of the submissions called for the retention of the subsidised CORE rates. The rate set to be paid to participants in CORE for the 2018 allocation in early 2019 was \$0.28/kWh for solar generation systems of up to a capacity of 5kW and \$0.24/kWh for systems from 5 kW to 10 kW. Initially no submissions were received for a revised regulated rate.
19. The views for retention of the 2018-19 subsidised rate was countered by CUC which stated that the CORE rate should be reduced to minimise or avoid altogether cross subsidisation by non-CORE customers. Discussion focused on a rate of \$0.134/kWh which was been set out in the 2<sup>nd</sup> Consultation. It contains a small subsidy of approximately 2 cents/kWh.
20. The challenge for the Office is to balance many competing factors. Grand Cayman consumers have subsidised the CORE programme to the amount of \$5.38 million since 2011. In other words, CORE has costed electricity consumers \$5.38M more than what it would have cost to produce this energy from other currently available resources. Over the past ten years solar installations have increased from 9 households to 633 with a total load of 7,234.13 kW. The feed-in tariffs ('FIT') rate set now, with any element of subsidy, will mean a continuation of that subsidy for the length of the subscription which in many cases is 15-25 years.
21. The Office is encouraged to set a FIT for the subscribers to the CORE programme that will not lead to increased electricity prices or require any subsidy from non-CORE consumers. Therefore, the Office considered setting the solar FIT at the level where the T&D licensee would incur no additional cost from paying solar customers for their exports, compared to producing this electricity from its own licensed generation resources. Calculations were made first using strict mathematical regulatory formula based on levelised cost of generating energy over a period of years and an informed customer's point of view. Later calculations based on CUC's Return on Base Rate of 7.2% for 2019 were considered as a suitable target and a FIT rate of \$0.163 /kWh for solar PV systems 5kW and below, and a FIT rate of \$0.14/kWh for systems between 5kW and 10kW was closely examined. Also CUC's internal rate of return was considered as an appropriate bench mark, and an internal rate of return of 8% was thought appropriate. This could support a FIT rate of \$0.175/kWh for systems 5kW and below, and a FIT rate of \$0.15/kWh for systems between 5kW and 10kW.

22. The following basic analysis is instructive. The FIT rate set for the allocation in early 2019 was \$0.28/kWh for solar generation systems of up to a capacity of 5kW and \$0.24/kWh for systems from 5 kW to 10 kW. If the Office was to continue that CORE rate (28 cent/kWh), it represents a 180% premium over current avoided cost of RE (for example, generally fuel). This means that all electricity consumers would have to pay \$346,896/year more for the energy that 1MW of solar generated power infused into the grid.
23. A \$0.175/kWh CORE rate represents a 75% premium compared to current avoided cost and consumers will pay \$144,540/year more for the energy from 1MW of CORE compared to today's diesel generated electricity. When spread over all CUC annual kWh sales, the average household will pay approximately \$ 0.0002241/kWh more which is approximately 25 cents more per month for an additional 1MW of capacity.
24. In consequence, the subsidy is almost 2.5 times more for the \$0.28/kWh versus the \$0.175/kWh CORE rate.
25. The CORE rate earlier proposed by the Office, \$0.134/kWh, on the other hand, represents a \$0.034/kWh subsidy which is still 34% higher than the current avoided cost. At that CORE rate consumers still have to pay \$65,525/year more for the energy the 1MW infuses into the grid when compared to diesel generated electricity.
26. The Office considered also regulatory principles, a large number of policy issues and the current economic and socio-economic conditions in the 2020-21 Covid-19 period.
27. The National Energy Policy (NEP) of the Cayman Islands is important.

Adopted in 2017, NEP states inter alia in Goals 3 and 4:

3.3.1.1 *“Ensure that promotion of the social, environmental and economic benefits of renewable energy takes into account the cost of energy to the jurisdiction, while achieving established standards in safety, reliability, power quality and a prudent diversification of the generation portfolio.”....*

3.3.1.11 *“Promote grid-connected consumer owned renewable energy programmes in Grand Cayman, Cayman Brac and Little Cayman in a framework which provides:”*

- a) Rates reflective of the full costs and benefits of distributed renewable energy including economic, social and environmental costs and benefits.
- b) ....
- c) .....
- d) Reasonable limits to the individual and overall eligible systems having regard to economic and technical considerations that may evolve over time....

3.4.1 Electricity Sector Strategy: *“Maintain planning and permitting processes for renewable energy development which are transparent, objective and facilitate transforming electricity generation primarily to renewable energy sources.”*

3.4.1.1 *Develop a renewable energy transition focused on the protection and choice of Cayman’s consumers.*

4.0 *“the Cayman Islands will foster and promote the development and application of existing and new technologies, practices in sustainable energy solutions and the development of a sustainable energy industry reflecting its commitment to the socio economic wellbeing of its people and to its international and national obligations relating to climate change and environmental sustainability”.* [emphasis added]

28. Stakeholders noted also the value of rooftop solar, the role solar plays in reducing carbon emissions, and sustaining employment (and the retention of expertise and training). Additionally the benefit of competition and sustainability in the market were raised. Other’s discussed the danger to the industry of a sudden change in the FIT rate. For example, GreenTech Solar “fully supports the notion and aim that renewable energy should be unsubsidized. There needs to be a plan to get there – not just letting rates fall off a cliff overnight”.
29. The Office proposes to determine that the FIT rate for the 2020-21 capacity reallocation from the DER programme to the CORE Programme be set at \$0.175/kWh for solar PV systems 5kW and below, and a tariff rate of \$0.15/kWh for systems between 5kW and 10kW. The Office proposes to authorise the transfer of 500 kW. The additional unsubscribed capacity that was previously available in the DER programme has substantially been reduced and some capacity must remain in the DER programme which remains active.
30. It is to be recalled that OfReg has approved a CUC 20MW Utility Scale Storage Project. This project will allow for further increases in RE capacity allocations. CUC predicts that the implementation of the same will directly impact the timeline of renewable energy implementation and the likelihood of meeting the NEP objectives.
31. The full submissions are published on the Office’s website, and can be accessed at the below link –

<https://www.ofreg.ky/submission-on-proposed-renewable-energy-reallocation-and-tariff-setting>

The cross submission from CUC can be viewed at:

<https://www.ofreg.ky/eu-2020-2-cross-submissions-on-the-proposed-renewable-energy-reallocation-and-tariff-setting>

The SPAC Report (with attachments) and the Memorandum from the Ministry of CPI can be viewed at:

<https://www.ofreg.ky/eu-2020-2-consultation-on-the-proposed-renewable-energy-capacity-reallocation-and-tariff-scheme>

## D. Comments Received and Office's Responses

32. While some submissions directly addressed the questions listed in the consultation document, others provided general comments only. The feedback provided in respect to each issue is given below along with the Office's response.

### Question 1

**What are your views on the appropriateness of the aforementioned reallocation [capacity reallocation from the DER programme to the CORE Programme]? Are there any other criteria that you consider a priority? Please explain why.**

33. Affordable Solar states that it is in favour of the reallocation.

34. Senergy writes that it is in favour of the reallocation.

35. Prosolar comments that it is in favour of the reallocation.

36. CREA is in favour of the reallocation. " On behalf of CREA, we are hereby in support of including an additional 700kW of CORE from the DER program as it is vital to the local industry, to consumer choice and remains the only economically viable renewable energy program for the vast majority of Cayman's consumers. As a result of the CORE program being shut down for approximately 5 months this has resulted in backlog of customers; which means the initial tranche will go quicker than normal. In order to stabilise this adoption back to the norm there needs to be significantly more allocation provided. This will also save and create jobs as well as continue achieving the goals of the National Energy Policy while keeping the adoption of consumer renewable energy in the Cayman Islands advancing forward".

37. Charles Farrington states: "I think the reallocation is appropriate as it seems that the cost of RE [renewable energy] has not dropped sufficiently to make DER installations a "bankable" proposition at this point in time. Supporting local industry and expertise retention/growth are required by the NEP. It would have been helpful if the paper had included some indication of the current typical savings to small, medium and large DER investors and the current relevant cost of solar resources to take up the DER

option. It is not clear to me what criteria are being referred to but if it is as per section [sic. paragraph] 41 of the consultation document, I would suggest that: a) [the minimisation of investor and financing risks] is a priority; b) [establishing a tariff] only an avoided cost tariff would avoid any future subsidy but this could result in overpayment for RE resources (e.g. if a global carbon tax is implemented) and the indeterminateness of such a tariff is contra to priority a); c) [a degression schedule to reflect the declining cost of production] calls for forecasts and adds further indeterminateness of returns for investors and is contra priority a) and d) [capacity cap regulations for grid sub-sections] will add further “friction” to the expansion of RE resources and could result in the inaccessibility of unique and needed sites (and consequent destruction of vegetation – a carbon sink) given the islands limited developed land mass.”

38. CUC states: "CUC supports increased renewable energy penetration on Grand Cayman in line with the National Energy Policy (NEP) objectives. Both the CORE and DER programs were introduced as part of a variety of initiatives to achieve the objectives set out in the NEP in a cost effective and efficient manner. If customer preference indicate the previously supported CORE is a preferred method of achieving this, CUC supports the RECRTS reallocation, provided the rates of the reallocation do not result in an increased cross-subsidization by non-CORE customers. As highlighted in the response to more specific questions below, there are considerations in costs, timing and technical implementation, which should be taken into account when considering the appropriateness. CUC supports deploying customer-owned RE in a manner that promotes effective and fair competition. This aligns with subsection (b) in Section 6(1) of the URC Law. For customer-owned RE, CUC would be encouraged to see a reallocation that promotes greater participation from its customers that are currently underrepresented in both the CORE and DER programs. Specifically, single family homes, small businesses and lower consumption customers."
39. CUC also stated in its cross submission: "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 [other] respondents. CUC believes the starting point of assessing a suitable tariff is the prioritization of this principle of minimizing or avoiding cross-subsidization."
40. CUC adeptly repeated its position in its response to the 2<sup>nd</sup> round consultation an emphasised that “rates should be fair and minimize or avoid altogether the cross-subsidization of the CORE [p]rogramme as borne by non-Core customers”.
41. Greentech responded: “GreenTech supports the additional capacity being added to CORE as this supports the preservation of local jobs and the local solar industry as

well as provides consumers with financially viable renewable energy systems. The need is immediate as the DER program intended to replace CORE is simply not an option for consumers and thus industry alike.”

42. In its response, 360 Solar states: "We believe that it is quite appropriate to proceed with the aforementioned reallocation. Generally, we think it's better for the industry to retain its momentum by offering and delivering on [p]rogrammes that work well. Programmes with no or low subscription levels create a chilling effect on the industry and I think beyond the industry frustration, it stalls the broader overall customer interest in a green future as well."

## Office Responses - Submissions to Question 1

43. The Office noted Mr. Farrington's response and that he is of the opinion that the renewable energy ('RE') reallocation is appropriate. The Office considers the concept of 'bankable' to be relative depending on the type of consumer. The 'premium' [2018-19] CORE rates that were implemented were meant to incentivise the uptake of residential and commercial solar development to help reduce the country's reliance on fossil fuels. Those rates helped to transition Cayman's energy production towards renewable forms of energy and significantly boosted/developed the solar industry.
44. The Office is tasked with and is actively pursuing the achievement of a significant amount of the NEP goals whilst taking into account and balancing all stakeholder interests. The criteria that was being sought by the Office, were those that justified the RE reallocation. In the first instance, the Office disagreed that a tariff that is subsidised by non-CORE customers is necessary to attract and maintain investors' interest in deploying solar systems and also with the assertion that further 'friction' will be added to the expansion of RE resources. Essentially, the funding required to subsidise FIT participants comes from increasing the utility bills of residents who are non-CORE consumers. This may be labelled as inequitable. Grand Cayman consumers have subsidised the CORE programme to the amount of \$5.38 million since 2011. In other words, CORE has costed electricity consumers \$5.38M more than what it would have cost to produce this energy from other currently available resources. This maybe seen as being contrary to some of the objectives of the NEP. However, if the local RE industry should fail as a result of the unique circumstance of 2020-21 or if competition is significantly reduced, then it will be more difficult to attract and maintain investors' interested in deploying solar systems. The retention and growth of expertise locally is important. The Office considers that any tariff that is set will contain forward-looking projections and therefore rely on assumptions about what the future costs of energy will be. Such a tariff must create price and cash-flow certainty, but must not be an extreme change in the context of this allocation. Potential owners and capital providers must clearly understand how the tariff is set and how it is likely to change over time. Potential RE development sites are available that minimise vegetation destruction, hence will allow for increased RE deployment. The Office better understands the wider policy factors, as suggested by Mr. Farrington and others respondents, that must be taken into account in this decision.

45. The Office notes that CUC is agreeable to the proposed RE reallocation and also acknowledges that CUC suggests that no further cross-subsidisation should be borne by non-CORE customers. OfReg notes that any FITS rate that pays consumers in excess of the market value of the energy their system produces rewards CORE customers at the expense of other customers. The increased uptake of rooftop solar systems indicates how a subsidised FIT rate can drive increased investment in solar. However, the solar industry has somewhat matured in recent years and the cost of solar systems has significantly decreased. In the first instance and using a stricter accounting based methodology consistent with traditional market regulation the Office considered that the rate of the maturation has to a large extent negated the need for subsidised FIT rates.
46. The Office acknowledges that CREA and many vendors of RE support the RE reallocation. OfReg notes the continuing growth in solar installations by Caymanian households over the past ten years from 9 to 633 an increase of nearly 100 times, hence the proposal for reallocating approximately 1 MW of the DER programme to the CORE Programme. The Office also notes the significant and continuing reduction in the capital costs of solar systems in recent years has not slowed the growth in installations despite a series of reductions in the FITS. These falling costs suggest that market forces will continue to improve the financial case for Caymanian consumers to invest in rooftop solar without the need for a subsidised FIT rate. This bodes well for the years ahead and the prospect to reducing or eliminating any subsidized FIT rate in the short term future. In the interim, the reallocation should take place.

## Question 2

**State, giving reasons, whether you agree that 1 MW of the DER programme capacity should be transferred to the CORE programme?**

47. Affordable Solar writes: "The current DER is not a viable program for residential solar or small commercial [generation]".
48. Prosolar states: "We therefore absolutely support the extra 700kw of CORE being made available to the private sector by way of the DER allocation. The CORE program provides consumers with a simple/ straightforward and certain return on investment and is the only viable program in Cayman for most consumers and should be preserved and improved.
49. Senergy submits that; "We have found the DER program does not present any real investment benefit, at least for smaller residential customers".
50. CREA states that "[t]oday, more than ever, it is critical for Cayman to grow local jobs and stimulate the local economy".

51. Charles Farrington states: I agree with the transfer of the 1MW from the DER program as it will keep the local distributed RE industry moving forward in agreement with the NEP. The lack of uptake of DER over an extended period would appear to be proof positive that the price of RE resources has not made it an economic proposition for more than the 3 customers to date [May 2020] and perhaps given the small number of customers, economics was not their concern.
52. CUC states: "CUC as the T&D Licensee has an obligation to supply customers and ensure continuity by dispatching sufficient generating capacity to meet system requirements. It is also under an obligation to procure "adequate generation supply, in terms of required energy, capacity and ancillary services to fully meet the needs of its Consumers." This means that it must be able to specify capacity and operating characteristics of all resources on its grid. Additionally, the T&D Licensee has responsibility for the efficient, safe and reliable operation of the grid and therefore must be able to control high-level specifications and operating criteria of all resources connected to its grid. Accordingly, the responsibility and management of triggering and specifying incremental renewable energy capacity on the grid should be that of the T&D Licensee much in the same way that it does for firm generating capacity. Of course, that is not to say that the T&D Licensee would be performing this task without regard to the Office or to the NEP targets for securing an increasing proportion of electricity from renewables. The Office itself has a near identical interest because one of its principal functions under section 6 of the URC Law is to: "ensure that utility services are satisfactory and efficient." If rates for the CORE program are reduced to a rate that does not entail cross-subsidiation and an increase in the cost of electricity, CUC will support transfer of capacity in line with the capacity amount of 1MW, which falls within the overall system capacity constraints described in the Renewable Energy Infusion Study."
53. CUC also stated in its cross submission: "CUC notes its support for the transfer of [then] 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." It maintained this position in its response to the 2<sup>nd</sup> Consultation.
54. Greentech states: "The additional 700kW of capacity from DER noted in the consultation [process] should be approved and at the current rates and terms as governments additional capacity that was already added. The CORE program provides consumers with a simple, straightforward and certain return on investment and is the only viable program in Cayman for most consumers and should be preserved and improved. Cayman needs more solar options not fewer. The relative simplicity of a FIT program provides an environment where costs are more likely to

be driven down and also opens up to a wider section of society as the program is more bankable.”

55. The response of 360 Solar states: "We agree with the 1MW reallocation to the CORE Programme. It could be argued that even more could be transferred to the CORE Programme. We have found that the DER Programme presents a number of challenges as follows: -

- It is not as easy to understand and communicate the structure and the benefits
- The lack of an incentive results in a rather underwhelming response from customers who are anticipating a 'CORE-like' programme
- It has a longer payback period and is thus less appealing to customers.

56. If this capacity is transferred to the CORE Programme, it will undoubtedly reach full subscription in a short period."

## Office Responses - Submissions to Question 2

57. The Office notes the agreement of Mr. Farrington and others with the transfer of approximately 1 MW capacity from the DER programme. However, it is an open question as to whether the price of RE resources make the DER programme uneconomic, as there are other customers who have signed up to join the programme since he made his submission.

58. CUC's support for the [then] 1 MW capacity transfer from the DER Programme to the CORE Programme at unsubsidised rate or a rate that "minimises" cross-subsidisation is stated in all of the submissions of CUC. The Office notes CUC's opinion about triggering and specifying incremental RE capacity on the grid and states that OfReg has responsibility for and is developing schemes to enable both rooftop and utility-scale solar systems to meet the NEP objectives.

59. OfReg acknowledges that the CORE programme has a part to play in the development of RE resources in addition to other utility-scale RE programmes. And as previously mentioned, the falling costs of solar systems will continue to improve the financial case for customers' investment in rooftop solar systems. The Office therefore does not consider that any subsidised FIT rate is required to incentivise further uptake of rooftop solar by Caymanian households in the medium to long-term.

60. The Office holds the position that the DER Programme also plays an important role in the development of RE resources for the grid. With regard to 360 Solar's suggestion to transfer more capacity, OfReg has to balance the interests of all stakeholders therefore it would be unfair to favour certain potential subscribers to the detriment of others. Further refinement of the DER Programme may be

necessary, but new subscribers have emerged. OfReg is considering a review of its effectiveness with CUC, but will not transfer all the remaining unsubscribed capacity.

61. In consequence the Office proposes to determine that 500 kW generating capacity is transferred from the DER programme to the CORE programme.

### Question 3

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

62. Prosolar made a general submission stating: “We currently have 3 branches in the Caribbean and we have seen where the loss of CORE type programs have left people without jobs and not created opportunities elsewhere as a result. Many Caymanians now benefit from the jobs created directly as well as the peripheral services that provide assistance to the industry. This local program has also exposed the Caymanian people to the AE industry worldwide and we must continue this exposure for future generations. We therefore absolutely support the extra 700kW of CORE being made available to the private sector by way of the DER allocation. The CORE program provides consumers with a simple, straightforward and certain return on investment and is the only viable program in Cayman for most consumers and should be preserved and improved”.
63. CREA suggested that failure to reallocate the RE (approximately) 1 MW may destabilise the RE marketplace, eliminate jobs, undermine the positive momentum in the adoption of consumer renewable energy programmes and delay the achievement of the goals of the NEP.
64. Affordable Solar writes: “If there is no more allocation to the CORE program at this time the industry will cease to exist and jobs will be lost. The additional 700 kW that has been requested to be moved from the DER program should be added to the existing phase of the CORE program at the same rates to enable the program to run until the Storage system that has been delayed CUC is installing [*sic.* installed]”.
65. Charles Farrington “[e]xpects that this could result in the degradation of both the quality and quantity of industry participants and resources to support the roll-out of distributed RE resources as envisioned by CUC’s IRP. Greater competition in the space is good for consumers so loss of competition would not be in Consumers’ best interests.”

66. CUC notes “the DER program has had limited uptake since its initiation, there are currently only 4 DER commercial customers with a connected load of 494kW since its inception. Conversely, the CORE program has seen consistent subscription, particularly by residential customers, and is well understood. As of 1 January, 2020 there are 633 approved customer applications with a total load of 7,234.13 kW. It is likely that if the reallocation were not allowed, there would continue to be a delay in uptake of the DER program allocation relative to the previous CORE program and this would lead to a longer timeline in Grand Cayman’s transition from fossil fuel-fired generation to renewable energy.”
67. CUC also stated in its cross submission: "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."
68. In CUC’s response to the 2<sup>nd</sup> consultation it reported that at the time the NEP was issued, all renewable energy comprised 0.9% of overall electricity generation. Currently, distributed generation renewable energy has accounted for 1.68% of total electricity produced in 2020 through September 30. (CUC notes that this figure is inclusive of self-consumed renewable energy that was not exported to the grid via DER Programme customers.) Renewable energy production as a whole has accounted for 3.00% of total energy produced in the same period.
69. Greentech states: “The impact in simple terms will cripple the renewable industry, particularly smaller operators and ensure that there is no feasible option for residential solar in the Cayman Islands for consumers. Local jobs will be lost as there will [be] no further residential solar program to put to market. The DER program which is intended to replace the CORE program in actual test cases actually INCREASES utility bills. In ALL test cases of this DER programme 100% of the results came back with increased electricity bills – and this is even before the investment is taken into account. There will be No market for residential solar and for families to participate in the benefits of renewable apart from doing their part in both Cayman working towards the NEP objectives and the wider context in relation to reducing carbon emissions. This very unlikely scenario that a consumer would choose given that it will actually cost them to implement will be available only to the super wealthy.”

70. 360 Solar states: "Despite the recent reallocation of some CIG CORE capacity, our view is that if this DER capacity is not reallocated, sales and installations will be significantly impacted this year. This transfer will allow the industry to continue with sales, design and installations. At this unprecedented juncture, it will help to minimize the impact of potential job losses at a time when we need to focus on buoying the local economy. While some companies have diversified interests and can adjust their resources accordingly, there are undoubtedly a number of employees who rely almost exclusively on a viable solar business."
71. Senenergy did not respond to this question.

### Office Responses - Submissions to Question 3

72. The Office notes that all of the respondents stress the importance of transferring the (approximately) RE 1 MW capacity reallocation to the CORE programme. The Office also considers that Greentech's analysis of the DER Programme's purported increased electricity costs needs to be verified for accuracy, and cannot be accepted without independent verification. Furthermore, the Office acknowledges Greentech's comments that there will be no market for residential solar systems in the Cayman Islands and points out that this renewable resource is a small but an integral component of the NEP. Accordingly, the Office intends to promote the continued use of rooftop solar systems to assist in meeting a part of the NEP's goals and to make the reallocation.
73. The Office has balanced all the considerations contained in the discussion arising from the issues raised in questions 1-3. It is the proposed determination of the Office that a reallocation is appropriate and that 500 kW capacity is reallocated to the CORE programme. The decision to reallocate 500 kW of the remaining 532 kW capacity not yet subscribed in the DER programme reflects a careful balancing process and recognition that the DER programme remains active and continues to have merit.

### Question 4

#### **Do you agree that the new tariff should be the levelised cost of energy rates for this 1 MW of capacity?**

74. Affordable Solar did not specifically address the methodology of setting the FIT rate but holds the view that for this small amount of generation capacity the rate should remain the same i.e. \$0.28/kWh for solar generation systems of up to a capacity of 5kW and \$0.24/kWh for systems from 5 kW to 10 kW.
75. Charles Farrington states: "I am uncertain what is meant by "levelized cost of energy" in this context as it has not been scoped in the consultation document (e.g. time

horizon, discount rate). My understanding of levelisation is the discounting of future periodic costs (e.g. annual or monthly) which if it involves fossil fuels will be estimates, over a specified investment horizon (say 25-35 years) at a selected discount rate. My view is that this is necessarily an estimate and will suffer the same deficiency from a “bankability” perspective as the DER option. Moreover, the fact that no parameters for levelisation have been given in the consultation document makes answering this question impossible in my view. I would add that avoided cost of energy will similarly be indeterminate as the future is not known with certainty and such a tariff, if it is contemplated, could result in overpaying for renewable resources (e.g. if significant carbon taxation to address climate change becomes a reality) in the future. My view is that neither is an appropriate tariff at this point in time and determinate tariffs that are adjusted as technology evolves is a better approach using judicious deployment of capacity over time. Perhaps we will get to a point in time where an indeterminate return will be sufficient to incentivize investors but it does not appear to me that we have yet reached that point. OfReg should also be careful not to adopt a system of setting a tariff that could result in the payment of unnecessarily high compensation for RE resources (e.g. avoided costs) that greatly outstrip the fair cost of production.”

76. CUC states: “Pursuant to OfReg’s obligations under subsection (c) in Section 6(1) of the URC Law and pursuant to [paragraph] § 41, it should establish a new tariff that generates consumer interest at the lowest possible pass-through cost for CUC’s customers. There are numerous methodologies in calculating tariff structures. CUC is of the view it is critical that a tariff be utilized which will not negatively affect consumers by increasing cross-subsidization. Solar generation has additional power system supporting infrastructure and fuel efficiency costs that are not represented when using the current methodology of avoided fuel costs as the main basis for the tariff construction. CUC agrees however with use of the LCOE [levelised cost of energy] as established during the IRP [integrated resource plan] as practical and expedient solution for any reallocation of capacity to continue a FITS structure in manner that minimizes potential cross-subsidization. CUC would like to request an example of the suggested calculation, as there are multiple methodologies and assumptions for LCOE calculation that can lead to significantly differing outcomes. This calculation should be evaluated from time to time as appropriate to consider changes in technology costs (i.e. decreased solar panel, balance of system and installation pricing), reductions in fuel use efficiency, supporting infrastructure costs and other alternative sources of energy.”
77. CUC also stated in its cross submission: “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.

78. 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."
79. In its response to the 2<sup>nd</sup> consultation CUC stated "The CORE program is a long term contract with a defined purchase rate associated with a passive renewable energy system and as such is comparable to low-risk investment vehicles. CUC is of the view the proposed feed in tariff rate of KYD\$0.134/kWh utilizing the Offices LCOE methodology provides a reasonable rate of return for a distributed generation resource coupled to a low-risk contractual agreement. In the event there is a significant dispute in regards to the magnitude of the proposed LCOE and subsequent proposed rate, CUC would recommend the Office consider the use of an independent third party to undertake an appropriate study...".
80. Further, in its response to the 2<sup>nd</sup> consultation, CUC acknowledged the important role of broad policy considerations in the questions at hand. "CUC would posit that for non-CORE customers to increase the ongoing subsidization of the CORE program rates, there should be a clear directive from government policy that this is desirable".
81. CUC then takes a narrow view of the scope of the open policy questions: "A review of the NEP Strategic Framework and rationale in context with the current deployment and deployment rate of distributed generational renewable energy, the costs of non-distributed generation renewable alternatives, and the impacts on end-user electricity costs would suggest this may not be the case."
82. Greentech states: "GreenTech Solar fully supports the notion and aim that renewable energy should be unsubsidized. There needs to be a plan to get there – not just letting rates fall off a cliff overnight. This plan will provide all stakeholders alike with a clear, defined and actionable plan to follow and monitor. Currently and as a very recent economic discussion surrounding island states post COVID one very big threat (and thus opportunity for change) to the region that Cayman and particularly the renewable industry is unfortunately exposed to on a daily basis is Red Tape. This area needs to drastically reduce in order for a plan to get to unsubsidized rates. We have to 'touch' a project, very simple in nature an inordinate and unnecessary number of times to get completed. It is an area that the industry really needs OfReg's backing and support to work towards the mutual goal of reducing cost."

83. 360 Solar states: "We believe that given Cayman's still relatively small growth thus far in renewables, that this capacity should be transferred utilizing the current CORE FITS/rates [The FIT rate set for the allocation in early 2019 was \$0.28/kWh for solar generation systems of up to a capacity of 5kW and \$0.24/kWh for systems from 5 kW to 10 kW.]. Going forward, as new RE capacity is released, the rates could be re-visited with a view towards further reducing the CORE FIT rate."
84. CREA, Prosolar and Senergy did not address this question.

#### Office Responses - Submissions to Question 4

85. The Office notes that the majority of the respondents called for the retention of the subsidised CORE rates except for CUC which agrees with using the levelised cost of energy ('LCOE') rate structure in the correct circumstances. Continuation of the existing rates means that CUC remains faced with paying more than the market price for the energy produced from CORE customers. In turn, CUC passes these higher costs to the non-CORE consumers. Because these non-CORE customers are predominantly less affluent than solar customers, this results in the transfer of wealth from low-income households to high-income ones. These barriers and the design of FITs and net-metering programmes creates an unfair system where low-income energy consumers and customers who use conventionally produced energy are forced to reward their richer co-consumers for installing solar energy. This policy consideration was not ignored.
86. The retail cost of electricity is comprised of a number of components, not just the cost of generation. The relevance of all these costs need to be considered in determining a suitable feed-in tariff rate. The Office believes that this has not been appropriately taken into account in a number of submissions.
87. In the event, a technical committee (aka special ad hoc committee - 'SPAC') was struck by the Board of Directors to (a) confirm the calculation for the grid capacity regarding non-firm renewables that was previously derived by the CUC Infusion Study, and (b) ensure that all relevant factors were considered and included in arriving at the proposed FIT rate of KYD \$0.134/ kWh found in the draft determination published by the Office.
88. The SPAC report forms part of the Office's deliberations.
89. The SPAC concluded that it did not have the capacity to confirm the calculations for grid capacity and suggested that, if this was an important issue at this point in time, that appropriate experts be commissioned to conduct the review.
90. The SPAC reviewed all relevant factors including, among others: the NEP; the severity of the proposed FIT rate reduction; the reduction was proposed to take place in such a short period of time being only 18 months' since the last rate was determined; and the likely consequences to the local industry. Any impact is

magnified by the sensitivity of the local economy given the impact of COVID-19 to date.

91. In their split decision concerning this small amount of RE generation capacity, the majority said that a small reduction in the FIT rate was appropriate and recommended \$0.22/ kWh as the FIT rate at this point in time.
92. As noted by CUC in their response to the 2<sup>nd</sup> Consultation, CUC is of the perspective that any premiums embedded in the rates for distributed renewable generation resource programmes over and above a reasonable return on investment (as compared to investments of similar risk characteristics) is ultimately a policy for the Cayman Islands Government to be weighed against raising the price of energy to all consumers and any socioeconomic and political implications therein, amongst other factors.
93. The Office has observed that internationally FITs rates for solar generation have decreased over time, moving from providing a competitive payback over the life of the system to ensuring fair compensation for the renewable electricity supplied to the grid. For example, in Germany in 2004, the FITs rate guaranteed to new solar PV for a period of 20 years ranged from 45.7 to 57.4 US cents/kWh. By 2014 the rates had dropped to 8.9 to 12.9 US cents/kWh (still guaranteed for 20 years). However, over the same period, the cost of installing solar PV has been decreasing by around 14% per year. Installing rooftop solar PV is now more than 75% cheaper in Germany than it was in 2006, with the cost of the solar panels themselves reducing the most.
94. The net effect is that the 'levelised cost of energy' for solar PV has stayed roughly the same in Germany from 2000 to now. With low solar PV prices, new buyers of solar are getting a similar payback time and percentage return on investment, even though the FITs rate paid per kWh has dropped significantly.
95. The Office also observes that currently, in most RE support schemes, the level of FIT is determined on the basis of a calculation of the LCOE. Also that the assumed rate for any additional power resold to the grid is based on the lower of avoided cost (generally fuel), and solar levelised cost of energy. Our expectation is that if the new FIT rate is set equal to the avoided cost from the CUC IRP winning portfolio, there would not be a material impact in terms of the uptake of residential solar installations. However, the period 2020-21 is not the correct time to stand firm on this expectation.
96. OfReg acknowledges that the LCOE has limitations and like most project investment tools uses forecasts. One advantage is that LCOE data is frequently available or easily computable, and it is the most commonly used metric to compare systems globally. The Office plans to use the rate as determined in the IRP as the compensation to be paid to CORE customers in the years ahead.

97. For current purposes the LCOE rate is an important, but not determinative factor in setting the FIT rate for the reallocation of capacity currently under consideration.

## 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?**

98. Affordable Solar, CREA, Prosolar and Senergy did not submit any responses to this question.
99. Charles Farrington states that he “[d]oes not agree that capacity limits should be introduced based on location and feeder capacity. It will frustrate the efficient deployment of resources and may result in scarce developed sites being eliminated. The necessary upgrading of the T&D should be undertaken. As an alternative, differentiated tariffs could be useful in addressing additional T&D costs. However, the differentiated tariff should not be misused to in effect enact a cap and eliminate what could be attractive RE siting options. If tariff truly reflects the cost of accessing the site, perhaps it could be useful. It would seem however, that possible cost cross subsidy being addressed already exists across the grid and introducing a differentiated tariff would probably be overly burdensome to the efficient roll out of RE in pursuit of the NEP goals. On balance I am inclined to think it is an unnecessary complexity. Public acceptance would also be challenging I suspect. So my view is no sub-grid caps and no differentiated tariffs at this time.”
100. CUC states: "CUC as the T&D Licensee is obligated to supply electricity to customers within regulated 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. CUC as the T&D Licensee has an obligation to supply customers and ensure continuity by dispatching sufficient generating and spinning reserve capacity to meet system requirements.
101. Diversely located solar capacity across multiple feeders will reduce the effects of cloud impacts and therefore reduce the risk of grid instability and the cost of additional RE supporting infrastructure, in particular spinning reserves. However, at this point in time we do not see solar being concentrated in particular locations reducing stability due to cloud impacts, and therefore stability is not seen to be an issue in the immediate future. In the longer-term, it may become prudent to encourage locational diversity in order to keep spinning reserve requirements (costs) down."

102. CUC also stated in its cross submission: "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.
103. 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.
104. 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."
105. Greentech submits: "As technology advances this largely becomes a moot point. There are solutions that allow self-consumption with battery storage coupled with a solar system designed that has either has limited or no export to the grid. This protects both the transformers and actually strengthens the stability and resiliency of the grid."
106. 360 Solar writes: "From a design and engineering standpoint, I agree that there should be capacity limits on RE to safeguard the grid."

## Office Responses - Submissions to Question 5

107. The Office does not support Mr. Farrington's position wherein he disagrees that capacity limits should be introduced based on location and feeder capacity. Increasing levels of variable RE resources, such as solar PV, can present challenges when integrated into the existing electricity grid. Distributed energy resources can potentially cause voltage and/or current violations on distribution feeders. Where power from distributed resources exceeds a certain load on a feeder, voltages are likely to rise. Additionally, where significant levels of distributed resources are grouped or aggregated, feeder currents can rise well above recommended levels. Such occurrences present challenges for grid stability and reliability. The Office considers that grid stability and reliability are key to maintaining acceptable service quality to consumers. Therefore, our view is that technical limits should be placed on RE installations on particular feeders in order to avoid grid instability.
108. Furthermore, upgrading of the T&D system for particular RE installations places another financial burden on other consumers if CORE customers are unwilling to pay for such upgrades. The Office considers that concept of "cost causality" applies in this instance i.e. whoever causes the costs to occur at each portion of the grid should bear those costs. Therefore, if the T&D system upgrade is required by CORE customers, they should pay for the attendant costs.
109. The Office disagrees with Greentech's comments about self-consumption with battery storage and solar system combinations becoming a moot point. Although the cost of batteries is decreasing, not all installations will have complementary storage systems. The capital cost of a solar battery storage system remains substantial with a total installed cost of approximately \$10,000 in most circumstances despite prices falling in recent years.
110. The Office notes that 360 Solar agrees with the need to have capacity limits on RE installations to protect the grid.
111. The Office does not propose to make a determination on this matter at this time.

## Question 6

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

112. CREA and Senergy did not submit any responses to this question.
113. Affordable Solar submitted that "net metering would solve the issue".
114. Prosolar noted that it was "excited to hear of CUC's impending battery installation that would solve a lot of the 'capacity' issues".

115. Charles Farrington states: "If it is not already being promoted, allowing roof-top solar to be accessed with local battery support as an alternative to standby fossil fuel generation could act as an incentive to greater deployment."
116. CUC states: "CUC is continuously evaluating alternative mechanisms to support increasing renewable penetration from rooftop solar generation and will approach OfReg as soon as it considers these feasible. It is imperative any further proposed mechanisms are carefully balanced to achieve policy objectives. Simultaneously, any proposed mechanisms should be carefully evaluated to ensure the policy objectives could not currently be served better by utility scale solar projects or other measures. CUC would also like to point out there are alternative incentive mechanisms to reward the installation of rooftop through further reduced rates of customs and excise duties on renewable energy technologies and its ancillary systems, utilizing public Funding (fiscus) to directly subsidize FITS or provide specific subsidized loans."
117. CUC in its cross submission states: "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.
118. 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."
119. Greentech states: "For residential solar other than going to net metering then not really. Cayman chose the FIT method. The proposed DER is neither one nor the other and not actionable for a few critical reasons."

120. 360 Solar states: "Don't think it's wrong for the entire country to help share the cost towards Cayman's renewable future. However, there should be tangible and preferably some more immediate benefit(s) even for non-solar customers. One mechanism that could be considered is as follows: -
- Government should re-introduce garbage fees for every household and business.
  - A percentage of the collected fees should be reserved for solar cash rebates which would apply to the cost of new installations.
  - Solar cash rebates should be allocated to customers ensuring that lower income households and small businesses receive the most significant rebates. Individuals or entities with income levels of a certain value could be prevented from accessing such a Programme.
  - Such a fund could also be used to help offset the added costs of the consumer subsidized CORE programme that are being passed on to all customers now as well.
  - Lastly, this could be billed through regular CUC bills for ease of administration on Government.

Overall, each consumer may pay more under this program, but less affluent households for example would now have easier access to renewables."

## Office Responses – Submissions to Question 6

121. The Office supports the addition of battery storage to rooftop solar installations and is aware that some installations exist, and more are being developed. However, the upfront financial costs to consumers can make battery storage installation financially challenging.
122. With respect to Greentech's statement, the former ERA rejected the net metering option primarily on the grounds that it would lead to increased cross-subsidisation and, contrary to URC and ESR Laws, could lead to a CUC death spiral; this opinion therefore still obtains.
123. OfReg continuously monitors both rooftop and utility scale sized solar PV systems to guide its decision-making about adding RE capacity to the grid in order to meet the NEP goals.
124. Administration of solar cash rebates and other such concessions have proven to be problematic and at the end of the day, consumers still pay.
125. While the Office credits 360 Solar with an interesting idea, CUC's licences do not allow it to bill for third party services so the collection of garbage fees on CIG's behalf is not a viable option.
126. The Office does not propose to make a determination on this matter at this time.

## Question 7

### **Are the opportunities to benefit from rooftop solar available equitably across the community?**

127. Affordable Solar, CREA, Prosolar and Senergy did not submit any responses to this question. Their general submissions are recorded in the responses to question 9.
128. Charles Farrington “[t]hinks it is equitable from the perspective that the opportunity exists across the grid but as pointed out by the consultation paper the required investment means that only a select number of consumers can participate. However, it is an investment made by such consumers and it would seem equitable that they be the ones compensated. Do not think that a consumer who does not make an investment has a right to financially benefit. Although, to the extent that the rooftop solar reduces T&D expenditure by CUC, all consumers benefit by lower future tariffs. All consumers will of course share in the non-financial benefits such as better air quality and climate change mitigation. On balance, the situation is equitable across the grid”.
129. CUC states: "Pursuant to OfReg’s obligations under subsection (b) in Section 6(1) of the URC Law, the program should be more accessible to more diverse socio-economic customer classes. The “first come, first served” basis of prior iterations was not an equitable manner of achieving benefits across the community. Currently even with the availability of financing for a FIT rooftop solar rooftop system, the predominant opportunity to benefit from rooftop solar is for those with the financial means to afford the investment upfront or to qualify for the financing terms. This directly excludes lower-income or indebted residential homeowners who might most benefit from the decrease in net energy costs. The cost of the current scheme is carried in part by those without the financial means or the inclination to install rooftop solar."
130. CUC also stated in its cross submission: "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."
131. Greentech states: “There is nothing more that GreenTech Solar would love to see than ensuring equal renewable options for everyone. A FIT program enables this as the program is both economically appealing and critically - bankable. The complexity and relative uncertainty of the DER program is not bankable because a) No-one will adopt for economic reasons and b) even if it did make economic sense the program

itself is not bankable. Although we have been working with banks at an individual level and we have seen a wider society adoption of renewables it still has a very far way to go. A move away from a FIT program will only make this aim an even more remote reality.”

132. 360 Solar states: “The general view is that this is not the case as it is still a somewhat significant long-term investment. However, with the proper sales approach, the deferred cost of utility payments helping to offset the financing of a solar system will still make sense for most customers; provided they are able to meet the financing criteria and have a home with a ‘solar-ready’ roof.”

## Office Responses - Submissions to Question 7

133. The Office’s acknowledges that the cost of installing solar systems may be prohibitive for those most in need in the community, noting that the majority of solar users are middle and high income homeowners. The Office agrees that the latter consumers should be compensated for their investments but not at the expense of those consumers who cannot afford solar systems. Therefore, OfReg concludes that there is a need for an incentive to enable those in the community that are most disadvantaged to reduce their electricity costs e.g. through energy efficiency and renewable energy initiatives such as demand management and solar PV.
134. The Office accepts that social benefits such as cleaner air, better health and climate change mitigation accrue from solar systems. However, non-CORE consumers’ participation in the economic benefits of solar remains constrained by their financial situation. Consideration should therefore be given to address the equity of access to solar systems within the country.
135. Furthermore, support for energy efficiency measures and the installation of solar PV is a way of providing longer term and more sustainable assistance for low income customers
136. The Office does not propose to make a determination on this matter at this time.

## Question 8

### **Do the costs of incentivising further solar installations outweigh the benefits to non-CORE consumers?**

137. Affordable Solar, CREA, Prosolar and Senergy did not submit any responses to this question. Their general submissions are recorded in the responses to question 9.

138. Charles Farrington states: "Currently costs might appear to outweigh the benefits but future costs of fossil fuels (spectre of a carbon tax) could just as easily result in reduced costs for non-CORE consumers. Solar energy investments endure for 25 - 30 years and there is an excellent likelihood that the cost of energy from these resources over their lifetimes is a benefit to non-CORE consumers although it is not possible to make such a conclusion with certainty. This lack of certainty should not be used as an argument for halting the deployment of rooftop solar although believes that the rollout of capacity at a specific tariff should be somewhat parsimonious in order that the grid/consumers benefit from reduced future costs under a review of tariff regime. It would be helpful if now that CUC has an IRP, a plan for the rollout of these "capacity buckets" could be formulated. Any such plan would necessarily be subject to review in concert with the IRP reviews."
139. CUC states: "If FIT incentives continue to be solely-borne by CUC's non-CORE customers, it is likely the costs to the non-CORE customers could outweigh the benefits to the non-CORE customers. Given that the marginal cost to install utility scale solar is materially less than for rooftop RE, until the relative costs increase for large scale plant increases (i.e. potentially due to limited space), continued subsidization of rooftop RE will raise the total cost of energy to all consumers if there are more economically competitive utility scale solar project alternatives available".
140. Greentech states: "This really depends on which goals are the higher priority and also time frame involved. If it is to look at the wider country aim and the NEP goals, then absolutely. This question will become irrelevant once there is a plan and timeframe to get towards unsubsidized solar. Then there are no losers. But in the absence of any plan then this question will likely have to be asked for longer than it should. We urge that a plan is put together showing the country how we are moving to unsubsidized solar."
141. 360 Solar states: "In the longer term, this has to evolve. However, as it is unlikely that any utility will readily absorb the direct cost of such initiatives, I think the ultimate solution(s) must move towards incentives structured and managed by government. In my view the adoption level and general size of the industry is still too small to argue convincingly that further incentivizing solar installations outweighs the benefits to non-CORE customers but if the industry shrinks, I suspect there will be some indirect costs through Government that we will probably all share (e.g. unemployment and under-employment)."

## Office Responses - Submissions to Question 8

142. The Office does not intend to use the uncertainty of future fossil fuel cost as a means for the cessation of rooftop solar installations. Our view as previously mentioned, is that these energy sources will continue to play an important part of the energy mix that assists in meeting the NEP goals. Typically, a FIT programme is usually structured for a period coincident with the design life of the specific RE system, i.e. 20 to 25 years. However, as it is not possible to predict all potential outcomes, having conditions set for this duration may create difficulties in the face of varying market conditions. In the event that unforeseen problems or new information/data arise, there may be a need to renegotiate or readjust the FIT. OfReg recognises that this may lead to a revised price, which may not be conducive to maintaining investor confidence. To mitigate against this, beginning in the near future, OfReg will structure the FIT to follow the 2017 IRP rate projections and its subsequent revisions so that investors are made aware from the initial stages.
143. The Office refutes Greentech's inference that there's no plan and timeframe to get to unsubsidised solar. Currently CORE customers are the beneficiaries of subsidised solar rates, so implementing the 2017 IRP rate projections for CORE consumers removes this subsidy from non-CORE consumers.
144. Furthermore, the IRP provides a roadmap of how to achieve the NEP goals and from an economic perspective, the office is planning to introduce a renewable energy auction scheme in 2021 to deploy more utility-scale renewables to the grid. As has been repeatedly proven elsewhere, utility-scale RE systems produce a lower cost of electricity for all consumers as opposed to not only a select few.
145. The current IRP projections show that although rooftop solar generation will increase five-fold by 2030, this increase is offset by consumption growth, meaning that the relative contribution to Cayman's energy security will remain relatively status quo. OfReg also notes the continuing growth in solar installations by Caymanian households over the past ten years even as the FIT rate was reduced.
146. As far as subsidies is concerned, the C.I. Government already provides support for rooftop solar customers via duty-free exemptions on solar systems including ancillary equipment.
147. Consequently, OfReg believes that the costs of incentivising further solar installations outweigh the benefits to non-CORE consumers.
148. The Office does not propose to make a determination on this matter at this time.

## Question 9

### **Are there any other relevant matters that the person or group submitting would like to raise for consideration?**

149. Charles Farrington did not respond to this question in the light of his full responses to the above questions. 360 Solar stated that it had nothing else to add at this time. The responses given by others to question 9 are more extensively quoted here than in the above sections.
150. Affordable Solar states: “If there is no more allocation to the CORE program at this time the industry will cease to exist and jobs will be lost. The additional 700 kW that has been requested to be moved from the DER program should be added to the existing phase of the CORE program at the same rates to enable the program to run until the Storage system that has been delayed CUC is installing [*sic.* installed]. We fully agree that in the future [CORE] should be unsubsidised and believe net metering would solve this issue. The current DER program is not a viable program for residential solar or small commercial. This program should be fully re-evaluated. We recommend 1 mW [*sic.* MW] of the remaining unused DER program be moved back into the residential CORE program. This will help Cayman residents reduce their monthly expenditures by reducing their monthly power bill.”.
151. CREA states: “we are hereby in support of including an additional 700kW of CORE from the DER program as it is vital to the local industry, to consumer choice and remains the only economically viable renewable energy program for the vast majority of Cayman’s consumers. As a result of the CORE program being shut down for approximately 5 months this has resulted in backlog of customers; which means the initial tranche will go quicker than normal. In order to stabilize this adoption back to the norm there needs to be significantly more allocation provided. This will also save and create jobs as well as continue achieving the goals of the National Energy Policy while keeping the adoption of consumer renewable energy in the Cayman Islands advancing forward. Since the recent consultations with CREA and OfReg and the issuance of the consultation paper CREA has come to learn from CUC that their deployment of the grid scale battery is significantly delayed due to Covid19. They no longer expect this battery to be online by 2021 and have now revised this to January 2022. This is a significant change because CREA’s request for a total of 1.4MWs at the current rates and terms was based on carrying the industry for the rest of the year until 2021, when additional capacity was available. This additional 1-year delay presents the same problem CREA are currently resolving. Unless this process can be sped up significantly which CREA strongly recommend OfReg attempts to do if it can. If the battery cannot come online until 2022 it is CREA’s recommendation that OfReg leave 1 MW within DER and transfer the remaining to CORE to bridge this gap. This will exceed the initial 1.4MW recommendation but will absolutely be required beyond this year. What is also required is for Cayman to fast track changes to the existing programs (DER/CORE) as well as implement new programs. CREA has several ideas on how

best this can be done while minimizing or eliminating any subsidy. For example, consumers today can adopt renewable energy systems to self-consume and have no export of energy back to the grid, which eliminates any negative impact on the CUC Grid Capacity limit AND is not subsidized by consumers. A flat grid fee for small residential consumers could be agreed with CUC, in what is a more simplified, certain and accessible program for average consumers over the DER program”.

152. CUC states: “CUC has submitted the draft 20MW Utility Scale Storage Project RFP to OfReg for approval. In the interests of all parties involved, CUC would note that the approval of the document will allow for further increases in capacity allocations and as such, the implementation of the same will directly impact the timeline of renewable energy implementation and the likelihood of meeting the NEP objectives.”
153. Greentech states: “GreenTech Solar would also like to raise the following:
- Implementation of programs. The commercial DER program was supposed to have a January 2018 start date. It was completely unactionable and wasn’t able to be brought to market until May 2019. We strongly feel that this shouldn’t happen again and that the involvement and consultation with industry in the formulation of programs will greatly help in minimizing this occurring. We need to work together in formulating programs rather than fixing them.
  - We feel the significant commercial DER delay is about to be repeated with the residential version – but for different reasons and a far wider impact. The program is completely unfeasible. Again, involve us earlier and more regularly and the results will be more impactful for the country.
  - We ask for an urgent sit down/WebEx to go through the detailed process and economics of the DER program for residential customers.
  - Outside of CORE only the large (but cash only) customers are being catered too [*sic. to*] through DER. There is presently nothing for customers between 10kW and 100kW in size.
    - We would like to ask for the ratchet period on large DER to reduce from two to one year that is more standard. As mentioned above the program is really only open to cash customers and that is essentially just a few in Cayman.
    - We also want to reiterate the need for an agreed and documented plan to work towards unsubsidized solar.
    - To help in this process (of cost reduction) a vast reduction in Red tape is needed that OfReg’s support is needed on.
    - Lastly and perhaps most critically when looking at 2020 alone I am very concerned that the CREA President has informed me that the revised timeline for the 20MW battery storage system has been moved from 2020 to 2021. We were expecting (and been communicated to) the RFP for this was coming to market at the end of March 2020. This extended timeframe is going to require OfReg to approve a further extension of capacity as a result. The DER currently has 2.5MW’s remaining. We recommend leaving 1MW of capacity in DER and moving the rest to CORE. OfReg should reduce the CORE rate after the current 1.4MW’s of additional CORE capacity is added and commensurate

with the average rate level of drop it has carried out since the inception of the CORE program.”

154. Prosolar states: “We currently have 3 branches in the Caribbean and we have seen where the loss of CORE type programs have left people without jobs and not created opportunities elsewhere as a result.

Many Caymanians now benefit from the jobs created directly as well as the peripheral services that provide assistance to the industry. This local program has also exposed the Caymanian people to the AE industry worldwide and we must continue this exposure for future generations. We therefore absolutely support the extra 700kW of CORE being made available to the private sector by way of the DER allocation. The CORE program provides consumers with a simple, straightforward and certain return on investment and is the only viable program in Cayman for most consumers and should be preserved and improved”. “It is merely a bridge loan of CORE that we are asking for that can perhaps cover some of that waiting period and in the mean time keep people employed and trained to be ready for the re-emergence of the industry and the [CUC] battery’s installation.”

155. Senergy states: “As a small and fairly new solar company in the Cayman Islands, we have found the CUC Core program has worked well for us and our customers. It provides for a reasonable rate of return for their investment. Under the CUC Core program, we find ourselves and our workers to maintain a good workload [*sic.* workload]. We have found the DER program does not present any real investment benefit, at least for smaller residential customers. We ourselves have not deployed any PV system under this program. We feel the current allocation allotted for the CORE program is not enough. The DRE [*sic.* DER] allocation should be shifted into the CORE program as additional allocation. This will be beneficial for the residents looking to install PV solar, and to the local solar companies to maintain its staff employed.”

156. CUC stated in its cross submission to Affordable Solar: “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.

157. 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."
158. CUC stated in its cross submission to Charles Farrington: "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."
159. CUC stated in its cross submission to CREA: "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."
160. 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."

161. CUC stated in its cross submission to Greentech: "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."

## Office Responses - Submissions to Question 9

162. The Office has not signaled, nor has it any intention of, ceasing or discouraging rooftop solar systems installations. In fact, Distributed Generation (DG) is an integral part of the NEP and the IRP roadmap shows increasing deployment of DG solar right up to 2045. Therefore, OfReg is developing plans to facilitate DG and other RE sources to provide energy to the grid as well as energy efficiency and demand response solutions.

163. The Office also notes that CREA's suggestion about self-supply by consumers does not produce any subsidy. If such consumers wish to 'island' themselves then the proposition maybe correct. However, if they require a standby connection from CUC they will be required to pay standby rates or else other consumers would be paying for those grid standby facilities thereby increasing electricity rates and creating cross-subsidisation for non-RE customers.

164. OfReg is legally obligated to act in the best interests of consumers, and balance many policy issues, whilst simultaneously ensuring that the T&D Licensee earns a fair and reasonable return for providing that electricity. Hence, the Office cannot continue to support a FIT rate that, beyond the near term, disadvantages certain consumers especially those who don't have the wherewithal to finance rooftop solar and/or battery systems that would enable them to reduce their electricity costs.

165. The Office considers it inappropriate to transfer the majority of the capacity allocated to the DER programme over to the CORE programme as Senegy suggested. The Office understands that there is currently over 900kW of DER projects in the pipeline and this needs to be considered.

166. The Office notes CUC's response about the 20MW Utility Scale Storage Project RFP. The statement is disingenuous and, the Office does not accept any responsibility for the delay in approval of the RFP document for this Project.

167. In consequence, it is now for the Office to receive final submissions on the proposed determination set out in this paper.

## D. 2<sup>nd</sup> Consultation and Key Principles

168. The Office prepared its draft administrative determination, and launched a 2<sup>nd</sup> round consultation on 15 October 2020 which ended on 30 October 2020. In that document some key principles were stated by the Office and feedback was invited. The Office received one response, from CUC, to the 2<sup>nd</sup> Consultation.

169. The Office noted that after consideration of the responses to the 1<sup>st</sup> Consultation it would propose the reallocation of capacity from the DER programme to the CORE programme using the following key principles:

(a) Fair allocation of costs where the levelised cost of energy (or avoided costs) tariff will reduce the cross-subsidisation borne by non-CORE customers as they are currently bearing the full costs of CORE customers by paying subsidised CORE rates;

(b) A recommended fair and reasonable value for a subsidy-free feed-in tariff of KYD\$0.134/kWh for both commercial and residential customers. This is the avoided cost of energy of the winning IRP portfolio which is based on both the wholesale market value of the electricity and the direct financial gain that retailers make from PV exports. Our projections indicate that the expected payback period for new solar PV installations at this new rate will increase to ten (10) to twelve (12) years as system costs decrease and the use of the latest technologies help drive down operational and maintenance costs;

(c) Promote the price signal to indicate to industry and investors what rates to expect should they decide to invest in CORE systems; and

(d) Wider Government NEP objectives in relation to reliability and affordability of electricity.

170. As recorded in the discussion of the questions and responses above the proposed determination of the FIT rate has changed. The Office proposes now to set the FIT rate for the 2020-21 capacity reallocation from the DER programme to the CORE programme at KYD \$0.175/kWh for solar PV systems 5kW and below, and a FIT rate of KYD \$0.15/kWh for systems between 5kW and 10kW. It also proposes to authorise the transfer of 500 kW.

171. However, for the sake of completeness the submission received from CUC is summarised below and a reply to it is stated thereafter. CUC submitted:

**Key Principle (a):** Fair allocation of costs where the levelised cost of energy (or avoided costs) tariff will reduce the cross-subsidization borne by non-CORE

customers as they are currently bearing the full costs of CORE customers by paying subsidized CORE rates;

**CUC Response:** CUC is broadly in agreement with this Key Principle as it aligns with the justifications which CUC provided in the first RECRTS submission and the subsequent cross-submission response that rates should be fair and minimize or avoid altogether the cross-subsidization of the CORE Programme as borne by non-CORE customers.

**Key Principle 2:** A recommended fair and reasonable value for a subsidy-free feed-in tariff of KYD\$0.134/kWh for both commercial and residential customers. This is the avoided cost of energy of the winning IRP portfolio which is based on both the wholesale market value of the electricity and the direct financial gain that retailers make from PV exports. Our projections indicate that the expected payback period for new solar PV installations at this new rate will increase to ten (10) to twelve (12) years as system costs decrease and the use of the latest technologies help drive down operational and maintenance costs;

**CUC Response:** The CORE program is a long term contract with a defined purchase rate associated with a passive renewable energy system and as such is comparable to low-risk investment vehicles. CUC is of the view the proposed feed in tariff rate of KYD\$0.134/kWh utilizing the Offices LCOE methodology provides a reasonable rate of return for a distributed generation resource coupled to a low-risk contractual agreement. In the event there is a significant dispute in regards to the magnitude of the proposed LCOE and subsequent proposed rate, CUC would recommend the Office consider the use of an independent third party to undertake an appropriate study on the basis of attempting to achieve Key Principle 1 and in respect to the NEP Strategy 3.3.1.

**Key Principle 3:** Promote the price signal to indicate to industry and investors what rates to expect should they decide to invest in CORE systems;

**CUC Response:** CUC is broadly in agreement with this Key Principle as it falls within the mandate of the Office and the legal framework of the consultation. By providing certainty to the mechanism establishing rates associated with the CORE Programme, investors and the industry will be able to make clear and long-term decisions in relation to distributed generation renewable generation capital investments.

**Key Principle 4:** And Wider Government NEP objectives in relation to reliability and affordability of electricity.

**CUC Response:** CUC is in agreement with this Key Principle. CUC would like to note there are alternative non-distributed renewable generation resource options that are readily available at significantly lower cost than the proposed CORE rates which would benefit the entire customer base and assist in achieving increased reliability and affordability of electricity.

[CUC states:]The rate established by the Office in the draft determination appears to consider the balance of these aspects of NEP Strategy 3.3.1 – namely the consideration that “promotion of the social, environmental and economic benefits of renewable energy takes into account the cost of energy to the jurisdiction” and grid-connected consumer owned renewable energy “rates [be] reflective of the full costs and benefits of distributed renewable energy.” As stated in response to Key Principle 2, CUC is of the position that if there is material disagreement as to whether the Office’s determination in consideration of Key Principle 4 is reflected in the proposed rate that an independent study be commissioned to establish the net costs and benefits of distributed renewable energy resources relative to both the status quo and alternative renewable energy resources options. CUC is of the perspective that any premiums embedded in the rates for distributed renewable generation resource programs over and above a reasonable return on investment (as compared to investments of similar risk characteristics) is ultimately a policy for the Cayman Islands Government to be weighed against raising the price of energy to all consumers and any socioeconomic and political implications therein, amongst other factors.

At the time the NEP was issued, all renewable energy comprised 0.9% of overall electricity generation. Currently, distributed generation renewable energy has accounted for 1.68% of total electricity produced in 2020 through September 30. (CUC notes that this figure is inclusive of self-consumed renewable energy that was not exported to the grid via DER Programme customers.) Renewable energy production as a whole has accounted for 3.00% of total energy produced in the same period.

It appears there is not a compelling need for significant consumer-subsidized assistance in relation to the continued deployment of distributed generation renewable resources to meet NEP forecasted targets given the rate of growth in that sector; in fact, over-acceleration of distributed generation renewable energy deployment at historical rates may lead to a sub-optimal energy mix overall in relation to end-user electricity prices. While the NEP notes that “[r]eal opportunity for achieving the target of 70% renewable in the energy mix will result from over performance of distributed PV as prices continue the downward trend,” it is clear from that statement that doing so would take place where the real costs for expanded distributed generation are competitive to alternative energy sources and ultimately to the benefit of all consumers while progressing toward, or exceeding, NEP targets.

CUC would posit that for non-CORE customers to increase the ongoing subsidization of the CORE program rates, there should be a clear directive from government policy that this is desirable. A review of the NEP Strategic Framework and rationale in context with the current deployment and deployment rate of distributed generational renewable energy, the costs of non-distributed generation renewable alternatives, and the impacts on end-user electricity costs would suggest this may not be the case.

## Office Response - Submission on Key Principles

172. The Office takes note of the thorough submission made by CUC.
173. The Office appreciates the candid statements made by CUC, including the important concessions that a subsidy, all be it a minimal one, may be in order in the current circumstances, and that many policy factors must be taken into account in setting this particular FIT rate.
174. Further it notes the following point: “CUC is of the perspective that any premiums embedded in the rates for distributed renewable generation resource programs over and above a reasonable return on investment (as compared to investments of similar risk characteristics) is ultimately a policy for the Cayman Islands Government to be weighed against raising the price of energy to all consumers and any socioeconomic and political implications therein, amongst other factors.” In the current circumstance, this is an important point. While the Ministry of CPI has given input, it falls to the Office to finally determine that matter, as challenging as that task might be in the context of the period 2020-21.
175. It is instructive to recall the work of SPAC. The Committee prepared and submitted a report to the Board dated 9 November 2020. In the SPAC’s report, a rate of KYD \$0.22/kWh was proposed by the majority.
176. The Board considered the Committee’s Report during its Board Meeting held on 18 November 2020 and recalled that it must give due consideration to the recommendation of the Executive Director of Energy. The Office then spent many days discussing and attempting to ascertain the right balance in setting the FIT rate for this small reallocation of generating capacity.
177. The Board was mindful of the lack of empirical evidence and or economic analysis to justify the proposed FIT rate of \$0.22/kWh. The Office considered the determining the rates using an internal rate of return (‘IRR’) equivalent to CUC’s Return on Rate Base (‘RORB’).
178. The IRR methodology involved the Office utilising CUC’s 7.2% RORB for the year 2019 as a suitable target IRR for determining the FIT rates paid to CORE subscribers. The average RORB in the period 2009-2019 was 7.4%. The recommendation that emerged is based on the target of 7.2% IRR.
179. Thereafter the Office revisited the NEP and the other policy factors and local circumstances that are relevant.
180. Also CUC’s internal rate of return was considered as an appropriate bench mark, and an internal rate of return of 8% was thought appropriate. This could support a

FIT rate of \$0.175/kWh for systems 5kW and below and a FIT rate of \$0.15/kWh for systems between 5kW and 10 kW.

181. The Office proposes as its determination now to set the FIT rate for current capacity reallocation from the DER programme to the CORE Programme at KYD \$0.175/kWh for solar PV systems 5kW and below, and a tariff rate of KYD \$0.15/kWh for systems between 5kW and 10kW. It authorises the transfer of 500 kW.
182. The following basic analysis is instructive. The FIT rate set for the allocation in early 2019 was \$0.28/kWh for solar generation systems of up to a capacity of 5kW and \$0.24/kWh for systems from 5 kW to 10 kW. If the Office was to continue that CORE rate (28 cent/kWh), it represents a 180% premium over current avoided cost of RE. This result means that all electricity consumers together have to pay \$346,896/year more for the energy that 1MW of solar generated power infused into the grid.
183. A \$0.175 cent/kWh CORE rate represents a 75% premium compared to current avoided cost and consumers will pay \$144,540/year more for the energy from 1MW of CORE compared to today's diesel generated electricity. When spread over all CUC annual kWh sales, the average household will pay approximately \$0.0002241/kWh more which is approximately 25 cents more per month for an additional 1MW of capacity
184. In consequence, the subsidy is almost 2.5 times more for the \$0.28/kWh versus the \$0.175/kWh CORE rate.
185. The CORE rate earlier proposed by the Office, \$0.134/kWh, on the other hand, represents a \$0.034/kWh subsidy which is still 34% higher than the current avoided cost. At that CORE rate consumers still have to pay \$65,525/year more for the energy the 1MW infuses into the grid when compared to diesel generated electricity.
186. Beyond the extremely vibrant policy discussion and important mathematical regulatory calculations, and the methodologies used in other jurisdictions, the Office was mindful of the need to be predictable in its determinations. A reduction in the CORE rates and thus the subsidy to the future CORE customers, is now reasonably predictable. The rates are being adjusted from \$0.28/kWh (locked in) to \$0.175/kWh (locked in) for systems of up to a capacity of 5kW and from \$0.24/kWh (locked in) to \$0.15/kWh (locked in) for systems from 5 kW to 10 kW.
187. As the discussion in this consultation reveals, the next rate to be set will take into consideration the value of solar and/or via new and improved distributed energy resource programmes. This will be done in the context of the NEP.

## E. Proposed Final Determinations

188. The Office, after consideration of all of the input and responses, proposes now to make the following determinations, that:

- 1) 500 kW generating capacity is transferred from the DER programme to the CORE programme;
- 2) for current purposes the LCOE rate is an important, but not determinative factor in setting the FIT rate for the reallocation of capacity currently under consideration;
- 3) the FIT rate for the 2020-21 capacity reallocation from the DER programme to the CORE programme at KYD \$0.175/kWh for solar PV systems 5kW and below, and a FIT rate of KYD \$0.15/kWh for systems between 5kW and 10kW; and
- 4) The Office will use the LCOE data and rate as determined in the IRP (and future iterations) as well as the value of solar in determining the compensation to be paid to CORE customers in the years ahead.

END