

Minister/Permanent Secretary/Director of Energy

[RAB : Response to Consultation Document 17-0316 - Questions 2, 4, 7 & 8]

I am writing to plead the case for Solar PV Participants (“SPP”) and request your support in (1) defending the rights of the SPP when making the final determination regarding the proposed changes to BELCO’s Solar Net Metering Scheme, including the Transitional Measures or (2) at minimum, giving special consideration to existing SPPs who have already made their investment decision based on the original Solar Net Metering Scheme (grandfathering).

I contend (1) that any decision to close the Solar Net Metering Scheme hinders Bermuda’s progress towards widespread adoption and use of cleaner energy sources and technologies and (2) that the logic for the new feed-in tariff based on avoided costs is fundamentally flawed and should not be enforced.

We installed solar panels in the fall of 2014. The decision to commit to such a large investment was quite significant and it was at least two years from the initial quote request before we were sufficiently comfortable with the financial obligation to move forward. As with any investment decision, the potential for return must outweigh the cost. The government rebate and the payback period were key variables in our decision. The proposed changes to the Solar Net Metering Scheme not only negatively impacts the payback calculations for existing SPPs, they serve to increase the financial barrier to residential consumers and members of the community who wish to invest in solar panels as a cleaner, alternative energy source and thereby contribute to the environmental sustainability of Bermuda and ultimately, of our planet.

Bermuda has an abundance of potential natural energy from the sun, the oceans and the wind. Government should use its authority to support programs, promote initiatives and give incentives wherever possible that encourage everyone to choose alternative energy that reduce reliance on traditional sources responsible for global warming and other damaging effects on our environment. There are many people who would gladly do their part but in current economic times, financial feasibility still ultimately dictates change.

As I understand, the new feed-in tariff scheme allows Belco to charge one rate for the power received from SPPs and another higher rate for the power delivered to SPPs and that this rate differential applies not only the excess power but for all power generated by the SPP. I fail to see the logic in this and I believe the premise in the avoided-cost basis for Belco’s new feed-in tariff is flawed - flawed in the sense that it presumes Belco is entitled to earn a profit on all power produced and distributed on the island.

Belco should be indifferent to the existence of the SPP. That is, the fact that SPPs invest in solar panels, generate power and use power should conceptually, have no impact on Belco’s revenue or expense. If every SPP produce the exact amount it consumed, there rightly, should be no net monetary gain to Belco - except perhaps the fee for mandatory use of their power grid. If the SPP uses more, it pays the market rate to Belco. If it uses less, it only makes sense that Belco also pay the market rate to the SPP.

Belco can argue paying this market rate increases its cost but I argue that in reality Belco is only facilitating the transfer of power produced by the SPP to another Belco customer who is also charged the market rate. There is no real “cost” to Belco for this

pass-through energy and therefore no real cost to be avoided since the final customer still pays the same rate regardless of the source.

I found much of the documentation to be very confusing in language & terminology and possibly contradictory but I believe I have concluded rightly that the proposal to introduce a feed-in tariff will actually benefit Belco at the expense of the SPPs. It is because of this that I felt the need to submit my concerns to you and the Authority and it is my hope that you will take these comments into consideration when making the final decision.

Thank you for your time and attention.

Sincerely,

A Lisa Ty  
Solar PV Participant and Concerned Citizen

From: Alexander C. Cutler, Halcyon, 9 Windwood Drive, Pembroke  
To: The Regulatory Authority of Bermuda

Date: May 10, 2017

**SUBJ: Consultation on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination**

I have been made aware of a regulatory proceeding regarding Belco's solar PV payment rates by Tim Madeiros of AES Systems (Bermuda) Ltd., and wish to make my view known.

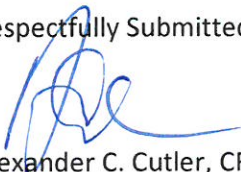
As a long-time clean energy, energy self-sufficiency and solar advocate, and as a current solar system owner, I very much want to see the outcome be one that is supportive of continued solar deployment on our island. And as someone who spent 15 years of my life as an electric utilities analyst in the US, I have considerable experience with the subject matter, and believe that I understand the issue from the utility's point of view.

From neither of my perspectives does the current proposal to allow the utility to pay avoided costs for all power exported to the grid (gross avoided costs) make sense, whereas either net metering or paying avoided costs for net exports (net avoided costs) are justifiable. Both of these would be supportive of the continued deployment of reasonably sized solar PV systems without doing undue harm to the utility, and are widely used by regulatory jurisdictions around the world. Should the RA choose to allow the utility to pay gross avoided costs, you would almost certainly halt solar PV system deployments in Bermuda and destroy the world class deployment and servicing industry that's developed. You would also, I believe, be adopting a stance that is unusual and out-of-step with modern electricity regulation.

I would strongly encourage the RA to adopt either a net metering or net avoided cost scheme, depending on the degree to which you wish to incent proliferation of alternative energy systems that the rest of the world would think is a "no brainer" for an isolated sunny location like Bermuda. It is the only form of alternative energy that clearly fits Bermuda's landscape, small scale and remoteness. Further, despite all the talk and power point presentations, we are simply too small to attract a scale wind, wave or ocean current system developer.

PV is our only shot. And should you choose a scheme that is unsupportive, or worse, unfair to those who have already invested in PV systems in good faith, not only will you halt further development and likely put the facilitators out of business, but you will also poison the possibility of restarting for a long time to come for justified fear of the rug getting pulled out again. People's memories will last far longer than a poor rate order. This would be an awful result for Bermudians and Bermuda, and an awful start for the RA.

Respectfully Submitted,



Alexander C. Cutler, CFA

Angus Macdonald

9 May 2017

**BY EMAIL: [nburgess@rab.bm](mailto:nburgess@rab.bm) & [renewables@rab.bm](mailto:renewables@rab.bm)**

Mr. Nigel Burgess  
Senior Manager Electricity Analysis and Planning  
Regulatory Authority  
Craig Appin House, 1<sup>st</sup> Floor  
8 Wesley Street  
Hamilton, HM11

Dear Mr. Burgess,

As a solar PV participant in Belco Solar Legacy plan, I am both troubled and disappointed by the recent order (*not readily listed on the News and Notices section of the RAB website*) issued by the Regulatory Authority of Bermuda (the “RAB”) and dated 17 April 2017 (the “Order”) which, in and of itself, seems at odds with your own Governance Policies (the “Policies”) requiring the RAB “*acknowledge stakeholder interests in their decisions and consult where appropriate*”

It was understood that new rates would impact solar clients that had installed, or were proven to be engaged in a residential solar PV contract prior to 15 August 2016 of which I am one. BELCO had also proposed to grandfather all of these customers in their 16 September 2016 submission to the RAB. Hundreds of Bermudian homeowners have made significant investments in solar energy systems based on the financial performance provided by the net metering program.

My system was sized to supply 100% of power requirements with a small surplus to cover facilities charges and other misc. Belco charges. With the new proposed avoided cost net metering plan I will have billing not credits and as this is an investment that was financed the ROI is now extended dramatically. People who invest in renewable energy like myself should not have their initial investment disrupted by changes in the rates or implementation of unanticipated tariffs, as defined by the situation we are currently in and evidenced by the Order. A sensible binding term agreement is what I thought I had with Belco and it is my understanding as they were in agreement to honor this it was RAB that changed it. I am severely disappointed with that as I thought it was the RAB job and agenda to look out for the little guy from powerful large corporations like Belco that have a monopoly.

Thank you for your fullest consideration of the foregoing. I look forward to your detailed reply and revocation of the Order.

Best regards,  
Angus Macdonald

Cc: [ggibbons@parliament.bm](mailto:ggibbons@parliament.bm)  
Minister of Economic Development

Angela Berry – Chair  
[aberry@rab.bm](mailto:aberry@rab.bm)

Kenneth Robinson – Commissioner  
[krobinson@rab.bm](mailto:krobinson@rab.bm)

Matthew Copeland – CEO  
[mcpeland@rab.bm](mailto:mcopeland@rab.bm)

Anthony Coleman

21 Hinson Island

27 April, 2017

Regulatory Authority of Bermuda

Hamilton

RE: Response to Matter17-03-16 Transitional Measures for Bermuda Electric Light Company  
Solar Net Metering Scheme.

Buying my PV system was a great expense for me.

But with the promise of being able to cover the costs over a known timeframe, I went ahead with the purchase.

Being paid less for the electricity that I produce, than the cost I pay to buy it, can be likened to stealing! Especially as there were promises for a firm rate at the onset that made the purchase of a PV system a worthwhile investment for me.

It is very surprising, and somewhat strange, that the RAA (who's job it is to represent, and make meaningful, and fair regulation for the man in the street) would seem to lean towards Belco's bottom line and not that, of the general population of Bermuda.

Surely the RAA should be embellishing the idea of PV installations, and improving the environment, not putting a damper on it, by backing decreased returns for the households that have PV systems, and those of future installations.

**BARRETT LIGHTBOURN, P Eng, BEAP**

10 Long Hill Rd  
New Vernon, NJ 07976

April 25<sup>th</sup>, 2017

The Regulatory Authority  
1<sup>st</sup> Floor Craig Appin House  
8 Wesley Street  
Hamilton HM 11

Ref: Response to Consultation Document 17-03-16: Comments on Regulatory Authority  
Emergency General Determination

To whom it may concern,

Thank you for the opportunity to comment on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination, issued on the 2<sup>nd</sup> of March, 2017 and the associated Consultation Document issued on the 16<sup>th</sup> of March, 2017.

Regarding the Consultation Document, I believe that, for an issue as important as the regulation of electricity generation on the island, the document that was issued on the 16<sup>th</sup> of March should have been accurate, well-written and clear in its purpose. Unfortunately, it wasn't. There are critical errors, specifically in Section 3 of the Consultation and some of the questions raised in Section 7 are obtuse or open-ended, making me wonder how a consensus of the responses can ever be drawn.

Furthermore, the documents issued by the RA on the 17<sup>th</sup> of April, which included a Clarifying Order and a 2<sup>nd</sup> version of the Consultation Document, don't address all the errors in the original Consultation Document or clarify the Transitional Measures set out in Section 6 of the Emergency General Determination (EGD). For example, Section 3.3 still indicates that a list of questions appears in Section 6 whereas the list actually appears in Section 7.

That being said, I would like to focus my comments on Section 6 of the EGD.

If I understand correctly, Section 6 (1) (a) mandates that all of the residential PV Customers who are part of BELCO's original net-metering scheme are to be transitioned to the avoided-cost program as of the 1<sup>st</sup> of January, 2017. I don't understand why the RA is mandating this, as the original program was offered by BELCO to customers and never part of the rate tariff. This is confirmed by BELCO in Section I.A. of their 16<sup>th</sup> of September, 2016 filing to the Energy Commission (EC) and by the EC in the Net Metering Section on page 3 of the Inquiry Response dated the 10<sup>th</sup> of October, 2016.

BELCO initially offered this program to its residential customers, indicating that a cap of 200 homes would be imposed. BELCO allowed this cap to expand and, as of September 2016, there were 325 participants in the program. In their September 2016 filing, BELCO stated that “BELCO will continue to pay the existing members of the programme the subsidized price for their power until instructed otherwise by the regulator.”

If the regulator, now the RA, doesn't impose anything on BELCO, the 325 participants will continue to be compensated for excess PV energy at the “sum of the highest tier retail rate plus the Fuel Adjustment Rate” (Paragraph One, Section I.A. of the BELCO Filing). The difference between this rate and the avoided-cost rate is significant and the transitioning to avoided-cost will negatively affect the cost-effectiveness of just about every solar PV installation in the program. Why would the RA want to do this?

I believe that the RA should remove from the EGD the requirement that the 325 original participants be “migrated over to the transitional avoided-cost program....”. If anything, mandate that BELCO continue to administer their original net-metering program for the accepted 325 participants. Otherwise, do nothing and let the interconnection agreement between BELCO and the Customer be the guidance in the event that BELCO attempts to modify their program.

In the last paragraph of Section 6 (1) of the EGD, the intent is not clear. Is this supposed to reflect what BELCO proposed in Paragraph 2, Section I.C. of their Filing dated the 16<sup>th</sup> of September, 2016? It doesn't seem so because the RA are putting commercial and residential customers in the same bucket, as per Section 6 (1) (b) of the EGD. Combining these sectors doesn't make sense to me, as the load profiles of the two sectors are quite different. Commercial customers will typically be consuming a bulk of their electricity during the day. Furthermore, most commercial customers will only be able to install enough PV capacity to satisfy a small portion of their load. On the other hand, residences have a very different load profile and PV system capacities are typically sized to offset a high portion of the annual consumption.

BELCO seems to have considered these factors in preparing their PV tariff proposal. Their residential model has the effect of right-sizing a PV system because the cost-effectiveness of the system is diminished by oversizing, as net exported energy is only worth \$0.1736/kWh. With BELCO's proposed commercial PV tariff, the base load of the property/building is the key factor because, in periods of low consumption (e.g. holidays or weekends), exported kWh will be reimbursed at the avoided-cost rate. Therefore, the greater the difference between the PV system capacity and the building's base load (i.e. more exported kWh), the lower the cost-effectiveness of the PV system installation.

If I have interpreted the Transitional Measures correctly, as laid out in the Clarification Order dated the 17<sup>th</sup> of April, 2017, the cost-effectiveness of a residential PV system will be affected significantly because the load profile of the residence will dictate what is exported to the grid and when. A residence that has very little daytime consumption will be penalized because they will be exporting a high portion of the PV systems' production. Conversely, a residence with a high daytime load will benefit because they will be offsetting consumption at a high cost/kWh rate rather than exporting at a low rate.

Another factor to consider is the kWhs exported from residential and commercial PV systems to the grid. At the moment, as I understand it, a kWh that is exported to the grid

is sold to someone else at the retail rate plus Fuel Adjustment. In my opinion, BELCO should be mandated to set aside the FA portion of the sale of those kWhs. Those funds could then be used to fund other energy conservation initiatives. While I think that Section 6 (1) (c) is intended to implement this accounting, it is not clear.

In conclusion, this is a very complicated issue which is likely to evolve at an ever-increasing rate as the island transitions to a smart grid. It is therefore imperative that this initiative to integrate solar PV into the existing grid be built on a sound foundation. While I applaud the introduction of the Electricity Act 2017 and the formation of the Electricity sector of the Regulatory Authority, I am concerned that this Consultation Document, and associated EGD, has created much confusion within the solar PV industry. Something that might help to clarify the intent of the RA's Transitional Measures would be for the RA to publish examples that illustrate the effect of the Measures, as well as BELCO's proposed PV tariffs, on both residential and commercial utility bills.

Once again, thank you for the opportunity to comment. Should you require clarification of any of the above, please do not hesitate to contact me. Otherwise, I look forward to seeing how the consultation process modifies the Transitional Measures.

Sincerely yours,

Barrett Lightbourn, PE, BEAP  
ASHRAE-Certified Building Energy Assessment Professional  
973-722-4199 (mobile)  
[bmlight@mail.ashrae.org](mailto:bmlight@mail.ashrae.org)





Ivy Lodge,  
23 Wilkinson Avenue  
Hamilton Parish  
CR04  
Email roe@northrock.bm

10/5/17

To the Regulatory Authority of Bermuda:

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After a lot of thought and consultation, my wife and I, both pensioners, made a substantial investment in solar panels, last year. The reasons being we wanted to do our bit to help the environment and also to ease our financial burden in our retirement.

We are customers of AES, and have had a lot of correspondence from Tim Madeiros regarding the proposed changes. We are very concerned about the changes because when we made our final decision it was based on Scenario 1 (Tim's description).

It is our understanding that in BELCO's original application they were prepared to grandfather in all existing customers prior to August 15th 2016 and we feel strongly that this should remain.

We also feel that full net metering should apply to all existing and new solar customers, as there are many, like us, who are concerned about the environment and their retirement years. It certainly would help towards their financial burden.

Yours sincerely



Barry Roe

**Mr. & Mrs. Carlos Amaral,**  
**#25 Garthowen Rd.,**  
**Devonshire. DV07**  
[amaralcm@ibl.bm](mailto:amaralcm@ibl.bm)

May 10<sup>th</sup> 2017

To the Regulatory Authority of Bermuda:

**RE: Consultation on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination.**

I have attached to this submission a copy of email correspondence between Tim Madeiros of Alternative Energy Systems (Bermuda) Ltd. and Dr. The Hon. E. Grant Gibbons, JP, MP as a clear reference for the various proposals suggested. I will refer to the scenario 1 below.

In 2010, we made a substantive investment in solar PV as an alternative method of energy production at the above residence in an effort to be environmental sustainability as well as easing the high cost of electricity.

As one of the early adaptors to this energy producing system, I have seen the benefits for myself as well as for Belco

After reviewing the three scenarios that Mr. Madeiros had outlined to the Hon. Minister Dr. Gibbons, I have a difficult time understanding how Belco has been given free reign by the R.A. As a customer who fell under scenario 1, I strongly believe that changes in the proposed billing will be a disincentive to households considering cleaner energy sources and it flies in the face of what one would think the R. A should be doing, regulating energy production. To add insult to injury, we the customers are then being charged a "regulatory authority fee" by Belco, despite the company having generated another windfall profit for the fiscal year 2016.

In closing, I feel that RA should require Belco to continue with the full net metering scheme for all current and future customers as an incentive to help produce clean, renewable energy.

Thank you in advance for allowing the opportunity to submit a submission.

Sincerely,



Carlos Amaral

Agapanthus  
24 Harrington Sound Road  
Hamilton Parish HS 02

April 29th 2017

### Solar Net Metering

Dear Mr Burgess,

I am writing to make known my concerns at the proposed Measuring of Solar Power by the Regulatory Authority.

Firstly it should be noted that we have made a very significant investment in photovoltaic installation with a view to reducing electric usage and to promoting clean energy.

The current proposals are confusing, unclear and in direct contradiction with the purpose of the regulatory Authority as set out in consultation document item 4.1 a) .

It remains unclear what net metering actually means. It should we believe be total of all energy produced by us and fed back to Belco. Secondly to interpret the net metering as referring only to the excess of the net amount produced as compared to what is used from the grid is inconsistent with logical common practice and would lead to little reduction in the cost of electricity used and moreover provide little return on the investment in the solar equipment installed. Also it is unclear where the fuel adjustment fits into the equation.

Of great concern also however is that neither of these interpretations are in line with the RA powers over the electricity sector. We quote the RA purpose:  
" to promote the use of cleaner energy sources and technologies, including the alternative energy sources and renewable energy sources."

Having made the effort, investment and commitment to clean less expensive energy which also attracts continuing investment in Bermuda, we now appear to be faced with a jumble of muddled proposals which benefit only Belco beyond their original wishes and which actively discourages investment in clean energy . It appears you have not consulted

with energy experts and not kept faith with the legislative context of the RA.

Please take the course of encouragement in clean energy which Bermuda desperately needs and make a clear and fair proposal for net metering.

Yours Sincerely

Charles and Maja Penruddocke

## L. Nigel Burgess CEng

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**From:** Charles Gosling <cgosling@goslings.com>  
**Sent:** Friday, May 12, 2017 2:26 PM  
**To:** info  
**Cc:** 'eggibbons@gov.bm'  
**Subject:** Submission to Regulatory Authority 12 May 2017

Dear Members of the Regulatory Authority,

I am writing on behalf of myself and my residential solar panel units as well as being a Managing Director of Gosling Brothers Ltd., one of the larger commercial producers of solar energy in Bermuda.

Over the last couple of months I have been following the attempts by Mr Tim Madeiros to receive clarity on the position of the Regulatory Authority regarding potential changes to the billing and crediting process between BELCo and solar energy producers (SEPs) to the grid. I am frankly confused at the inability of Mr Maderios to receive a clear and understandable answer as this does not enable me to particular comment or support something that has not been clearly presented.

If I was asked to revisit my personal investment or that of my company, I would have to decline due to insufficient and unclear information. Unfortunately we are all past that stage and I have to make a submission, again based on insufficient and unclear information. I am extremely uncomfortable being in that position.

However I have several concerns which I will set out below.

The Bermuda Government entered into a program to encourage the placement of solar panels in Bermuda. Along with BELCo a number of subsidies were offered as a part of the program. Potential customers created their own financial models to see if this was viable, the extent of their financial commitments and what the payback time would be- if there was one.

Contracts were entered into in good faith and many took loans to be able to seize what appeared to be an opportunity in reducing our dependency on one form of energy production as well as additional environmental and balance of payments benefits. It looks like this opportunity is about to be whisked away, with some having to bear potentially serious financial consequences.

I do not think that it reflects well on our island to set up one financial & contractual model only to have a Government authority dramatically switch the conditions part way. For those of you chuckling over the irony of my situation as Mayor of Hamilton and a contested \$18 million guarantee, I would gladly address your comments in a side discussion.

I cannot recall any request for public input with regards to any changes in the solar grid agreement. Unfortunately this questions of the role of the newly formed authority, how they will develop the characteristics of integrity, trustworthiness and reliability amongst those they are supposed to represent. I would consider this role to be as neutral (balanced) as possible, seeing how the country's development can be enhanced through cheaper energy costs, how to better our balance of payments through engaging in reusable & sustainable resources, supporting energy producers seeking to increase production and efficiencies together, how to encourage Bermudians to make proficient use of our current energy supply and seek alternates as they become pragmatically available can be viewed as starters.

It is also the role of an authority to get it right from the beginning. The foundations need to be strong and unquestioned through its initial considerations. It cannot present one edict only to replace it with another and then another within the space of a month or two. It calls into question the whole investigative process and whether or not full consultation had

been engaged in which takes into account the entire community, let alone those who have made an in good faith commitment. The decision making process has spoken for itself and raises its own series of questions. While this could be misguided perception, it has the same impact on the deemed authority of the Authority.

There are probably about 400 homes and businesses with solar panels connected into the grid with current billing details. This is not an unworkable number for the Authority to contact. As far as I can tell there has been no attempt to reach out to any of these users to inform, consult or request feedback. If it weren't for the efforts of Mr Madeiros, I doubt if anyone would have been aware of what you are proposing. Please do not consider a lack of communication as being anything other than a lack of transparency on your part and failure to engage in bringing these issues to the fore. Surely your mandate covers all of this stuff.

I appreciate the difficulty it is to engage in public consultation and to communicate with a disparate group of energy users/producers. You have one chance of a making a first impression and it should be right in everyone's eyes. I do not think you have achieved this but you also have a minimal profile, so a re-launch is possible.

If I understand what you are proposing, I do not think it reasonable to consider creating a billing process that ignores the fact that we are seeking alternate forms of sustainable energy and this solar energy is reliant on the sun which in turn determines the workday and energy usage. It is during the workday, in most parts, when electricity usage in Bermuda is at its highest, yet most residences are unoccupied or at their lowest consumption level. The residences' requirements are in the evening when the home is re-occupied and overall energy usage is at its lowest. They are now forced by hap chance to essentially selling whatever they produce during the day, when BELCo's costs are at their highest, at an avoidance cost rate and then purchasing in the evening when their means of energy production is non-existent.

All kilowatts are not equal. Netting out usage and production on a monthly basis removes most of that inequity- and for me, my entire argument.

Commercial usage is different, and I could accept the Authorities suggested rate rebate as commercial usage normally reaches its maximum during working hours, which in turn are normally daylight hours (hours of maximum production). Doing a monthly one for one netting would assist those commercial properties whose operating hours aren't daylight hoursx7 days a week, and where BELCo greatly benefits from exported energy. Again the lack of a public meeting stops me from making a full commitment as I am unaware of credible counter arguments to my supposition which could arise in such a forum.

To add to the confusion I received a second invoice from BELCo this month to replace an earlier and incorrect one (?). Along with the bill I received two billing scenarios (I assume) giving me my billed charges using DEL Consumption (?) and one using NET. Each one had a separate and unique total, without any explanation as to what it was supposed to represent.

As already stated, I have no problem using the Rating Authorities suggested rebate of approx. 17 cents (even if it takes into account BELCo's infrastructure costs and ignores mine) but only when netted at the end of the month based on overall usage calculated simply by subtracting receiving vs delivery. If I end up being an end consumer at BELCo, at their 1<sup>st</sup> Block Rate for the first 250 kw's after netting, and then the 2<sup>nd</sup> Block after that. This is almost the NET Consumption scenario presented by BELCo.

The other scenario presented by BELCo (DEL Consumption) merely cuts my pre-solar bill by about 2/3rds . All I know is that I produce 3 times as much power as I receive from BELCo and yet it would look as if at the end of the month, I am the one obligated to BELCo. This would end up with my going off grid- the difference between current revenue and potential costs makes this a no-brainer. This does not help in creating a sturdy multi-contributor grid.

Having taken on the commitment of investing in Bermuda's energy future as well as slowing globe's climate change through reducing my carbon footprint, I find it galling that we should be considering a huge step backwards away from

achieving resource sustainable goals by encouraging further alternate energy production and engaging in such a manner as to make our contractual obligations more questionable.

Respectfully,

Charles Gosling  
27 Harvest Lane  
Hamilton Parish CR 01

Gosling's Limited CONFIDENTIALITY NOTICE: This communication is intended only for the person to whom it is addressed and may contain confidential and/or privileged material. Any retransmission, dissemination, use of, or taking any action in reliance upon, this communication by persons other than the intended recipient(s) is prohibited and may be unlawful. If you have received this in error, please notify the sender and delete the material from any computer. WARNING: whilst we take reasonable precautions to ensure that any attachment has been swept for viruses, we cannot accept liability for any damage sustained as a result of software viruses and would advise that you carry out your own virus checks before opening any attachment.

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RESPONSE TO CONSULTATION DOCUMENT 16-0819: COMMENTS ON REGULATORY AUTHORITY AND GOVERNMENT FEES PROCESS

May 12, 2017

Regulatory Authority of Bermuda

Dear Sir/Madam,

I am writing to you to convey my very serious concerns regarding the recent decision by the Regulatory Authority of Bermuda (RA) to disallow the grandfathering of net metering for existing solar photovoltaic (PV) system owners. Belco themselves have explicitly said this would not be fair in its September 2016 letter to the Energy Commission. This is extremely unfair to those individuals including myself that have invested in PV systems on the assumption of net metering. To renege on that agreement is unfair and flawed long term policy. The RA's emergency decree of March 2017 was done without public consultation and is very unclear. Even after the clarifying order, it is very difficult to understand. The government should be promoting renewable energy initiatives and in fact did so until recently through the subsidy program. I don't understand this contradictory result and would implore you to reconsider. Personally, this decision if upheld will cost me several thousand dollars and prevent me from personally combatting climate change and environmental issues. Longer term it will likely lead me to pursue removing myself from the Belco grid altogether. If others take this view, the result will in infrastructure and electricity costs being passed on to a smaller customer base. This is not good for those customers or for Bermuda. I urge you to reconsider the implications of this position.

Best Regards,

Chris Jansma

100 Harbour Road, Warwick, PG01



David and Sarah Cooke  
3 Bellevue Drive  
Paget, PG06

24 April 2017

Dear Mr. Burgess,

RE: Response to Consultation Document 17 - 0316: Comments on Regulatory Authority  
Emergency General Determination

The recent decision by the Regulatory Authority to change the rules for people who invested tens of thousands of dollars in clean solar energy is outrageous. It is outrageous from the perspective of individuals who made the investment based on Government policy and from the perspective of the broader Bermuda community that benefits from the use of clean energy.

In considering whether to install solar power, my husband and I focused on the clean nature of the energy supply and on the long-term economic benefits offered by solar and promoted by Government by the pricing structure. Like many other middle aged people, we attempted to plan for and minimize future expenditure. We were planning ahead and believed what we were told, and now we face the prospect of being penalized for that.

As I have said, a major factor in our decision to invest a substantial amount of money in solar energy was the Government agreed billing scheme that actively sought to incentivise our long-term investment. The proposed change removes that incentive after the fact and, in my view, is short-sighted, unfair and unethical. It also sends a message to people that the Government is untrustworthy/unreliable - it will not adhere to policies/rules which it puts in place to encourage people to take particular action and which people then rely on.

My husband and I strongly object to this proposal and feel it should not be allowed to stand.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "D Cooke", written in a cursive style.

**WEDGWOOD, 18 BURGESS POINT RD,  
WARWICK WK 04**

11<sup>th</sup> May, 2017

**Response to Consultation Document 17-03-16**

To the Regulatory Authority (RA) of Bermuda

I have a 10.8 KW residential grade solar photovoltaic (PV) system installed at my home, for which I invested \$62,908 (\$57,908 after the Government rebate) in 2013. I became a BELCO net metering customer in March 2014. My system produces on average 1,200 KWH per month in the summer months and around 800 KWH per month in the winter months when the sun is lower. Hence, I generate around 14,000 KWH per year, depending on the daily amount of sunshine. I have exact figures if you would like them. BELCO “delivers” to me around 850/900 KWH per month (averaged), thus in the summer months, I deliver into the grid more electricity than I am consuming (I do not run air conditioning) and in the winter, I use more BELCO-supplied electricity as I do not generate enough in the winter months to be a net supplier to BELCO.

I want to give you some background as to why I invested such a substantial sum for a solar photovoltaic system. Quite apart from the fact that it has long concerned me that our ‘green credentials’ lagged behind other economies, I felt that Bermuda was very slow to embrace solar power alternatives. During the time that Bermuda’s economy was booming and BELCO was struggling to keep up with demand, I was very concerned about a possible BELCO power plant accident as a result of having to keep an aging plant operating constantly at full capacity or an environmental disaster on our reefs with ever more shipments of diesel fuel being imported to keep the BELCO engines running. I worked in the energy industry and watched with interest as renewable energy alternatives became ever more accessible (and affordable) to household consumers.

In 2010, as a direct result of the Government of the day increasing the payroll tax, without any consultation with the international business community, my employer closed its Bermuda operations and moved to the Isle of Man – quietly, without fanfare; as did hundreds of other Bermuda-registered companies. It is to be hoped that the law of “unintended consequences” and its result, contributing to Bermuda’s extended recession, would discourage Government from arbitrary and harmful actions, but the recent action of the RA in decreeing new measures for households with PV installations appears to indicate that they care not for the impact of their decisions.

In 2010, I, along with two other Bermudian employees, was made redundant. During 2011, I applied for in excess of 100 positions in Bermuda, but in spite of (or because of) in excess of thirty years’ experience as an international company executive, working both in Bermuda and abroad, I was unable to secure comparable full-time employment. Overnight my income was some 30% of what it had been, and I was a single-parent with three children still in full-time education. I tell you all this because I believe there is a perception by the RA that everyone who installed solar panels on their homes is classified as “rich”.

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WARWICK WK 04**

11<sup>th</sup> May, 2017

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One of the things that I found most difficult to budget on my much-reduced income was the monthly BELCO bill. It seemed to be increasing at an alarming rate and in spite of turning off hot water heaters, lights, only using my oven as a last resort, NEVER using the dryer and other energy-saving measures; I was unable to get my BELCO bill to a manageable level. The BELCO bill was the single largest monthly household expense – without any air conditioning at all.

My late father noticed my struggle and, whilst he was a pensioner and also living on a reduced and fixed income, he did have some savings which, due to the low interest rate environment, were not earning him any significant additional income. He very kindly made a gift to me of sufficient funds to install a PV system. I gratefully accepted his generous offer.

I sized my PV system in order to minimize my monthly BELCO bill in the expectation that in the summer months I would generate more electricity than I was consuming and that the “credit” earned by me in my BELCO account would then go towards reducing my BELCO bill during the winter months when I would be generating less than my monthly consumption. In this way, the smoothing of my monthly BELCO bills took an enormous amount of pressure off my monthly household expenses and I also felt I was doing something, in my own small way, to reduce the “load” on BELCO during the months when the demand for electricity was at its highest – with people other than me running air conditioning.

Apart from a few months when my generation capacity was impaired after damage sustained during hurricanes Gonzalo and Fay, the system has operated largely as expected. At the time of the installation the “pay back” (anticipated return on the capital investment) was estimated to be around 6-7 years, depending on my electricity consumption.

Once my PV system was operational, I signed an agreement with BELCO which governs the basis upon which they purchase from me, electricity that I send into the grid in excess of my own consumption. It is my understanding that this agreement is a legally binding contract. This contract provides that (inter alia): **“The Facility’s net energy production shall be credited to the Customer each month at the same monthly rate applicable at the time of production that BELCO charges the Customer for its supply of electricity to the Customer, inclusive of any fuel adjustment rate charges. The Customer acknowledges and agrees that the fuel adjustment rate is variable and subject to change on a monthly basis.”**

NOWHERE does it state that BELCO will suddenly and without any valid reason change the rate at which it will buy electricity from me to < 20% of the rate they charge me for my consumption of electricity in excess of what I generate. This is and was not the basis of the agreement. The agreement allows BELCO to vary the fuel adjustment rate, NOT the rate at which they agreed to purchase my excess electricity generation.

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It is my understanding from discussions with BELCO as a result of the Emergency General Determination (EGD) Consultation document(s) dated 16<sup>th</sup> March and 17<sup>th</sup> April 2017, that BELCO applied for and is willing to continue its current agreement with me (and other PV net metering customers) but that the RA has arbitrarily determined that it is not able to do so. This is astounding and, in my view, is **unacceptable behavior on behalf of the RA**. How a newly-formed RA acquired the authority to interfere with independent agreements between BELCO and its customers is beyond comprehension. I would request the RA to advise all affected customers how they came to this ill-founded conclusion and how it is expected to benefit anyone in Bermuda? To this end, I look forward to a response from the RA.

There is wording in the EGD about “minimizing the subsidization financial impact to non-solar PV customers” and I would point out that this “subsidization” is, in my view, imaginary. As PV customers, we continue to pay a monthly facilities charge and a fuel adjustment charge so, just as non-PV customers, we are contributing to the cost of maintaining the grid and to BELCO’s fixed costs. However, we have ADDITIONALLY, invested large sums of money (by any measure) in PV systems that REDUCE the load on BELCO’s facilities and help BELCO maintain peak loads without having to bring on-line extra engines, thereby contributing to the increased longevity of the BELCO plant and HELPING delay the costs of replacing fixed assets which would inevitably fall upon BELCO customers, both PV customers and non-PV customers. Hence if that is the sole argument that the RA has for forcing BELCO to tear up the current agreements with their PV customers, it is spurious in the extreme.

Apart from the other obvious flaws in the EGD, such as the ambiguity in the language and the misuse of various terms for describing how the systems operate, it appears that no-one is able to explain how the RA wishes to operate a new scheme, with BELCO telling its PV customers that we will remain “net metered” customers and the various explanations emanating from the RA indicating that we will pay the full BELCO rate **from the first KW** that we import from the grid without any offset for what we are sending into the grid. So, which is it?

From my perspective, any change to my current and legally binding agreement with BELCO is unacceptable, especially when BELCO itself is willing to continue the agreement, thereby “grandfathering” their original PV customers. The RA will be making a grave error if this course of action is pursued, and the Government that backs this kind of erratic action will be looked upon poorly and will suffer accordingly – conscientious, first world governments do not interfere with private contracts to the detriment of its citizens. If these citizens are voters, they suffer the consequences as a result.

I am sure the RA itself would feel equally horrified if, for example, the Government had offered it a pre-determined rate on its office space, then suddenly announced that henceforth the rate would change to the severe detriment of the RA. In third world countries this sort of thing happens all the time and one can buy insurance against the

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risks of expropriation; it is indeed a sad day when our regulatory agencies are allowed to effectively nationalize assets that were installed by private investment. What sort of confidence does this inspire when we are seeking all sorts of new outside investment in Bermuda?

The immediate impact on me personally will be to bring back the volatility of the monthly BELCO bill, thereby negating the sole reason for investing \$60,000-odd of my father's savings. The return on investment will be extended from 6-7 years to in excess of 15 years and I highly doubt I would have made the same investment if this was the expected outcome. On a monthly basis, I will be forced to find an additional \$600 from a monthly income that does not have that kind of flexibility in it.

Having stated my disappointment and anger at your proposals, I now answer your questions as requested:

1. I am thrilled that more households are utilizing PV Solar and think it will only get better and more affordable. Even today Tesla has announced roof tiles that look like ordinary roof tiles but which contain PV cells and generate electricity. Soon we will be able to buy paint (white paint for Bermuda) that will paint on PV cells onto our Bermuda roofs to generate electricity. Bermuda could become self-sustainable in terms of energy, reducing the need to ever import diesel fuel for turbine engines. Battery technology is also reducing in cost, so households now have a very real possibility of detaching from the grid entirely. It is tempting to invest in battery storage if BELCO is no longer going to pay me a fair rate for my surplus energy.
2. I think that the RA's calculation of the \$0.1736 KWH "avoided cost" rate is indefensible and the RA needs to publish how it arrived at this rate and what authority it has to force BELCO to tear up the agreements it has with its existing PV customers. If BELCO shareholders are prepared to absorb the cost of continuing to buy surplus electricity at the same rate as they charge their customers to buy electricity from them, they should be allowed to do so. It is not for Government to interfere in private agreements.
3. No, I do not think there should be capacity limits on solar systems installed on individual customers' premises in Bermuda. BELCO sales are down (their results were published yesterday) but that is mostly due to a reduction in the size of our population due to the emigration caused by our shrinking economy. When our economy improves and people become better off, electricity consumption will increase once more and if more people are using PV solar systems, it will allow BELCO to fulfill the island's needs without increasing capacity, thereby avoiding future plant investments – this benefits both BELCO shareholders and consumers. In today's paper the CEO of BELCO says "BELCO's assets are aging and inefficient; driving up cost to the customer and increasing the risk of BELCO not being able to meet Bermuda's future electricity demand". PV solar customers can assist greatly in meeting Bermuda's future electricity

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demand, yet the first actions of the new RA is to punish those who have invested in this technology.

4. I think the RA should desist from trying to fix something that isn't broken and stop interfering in private contracts to the detriment of Bermudians who have, in good faith, made huge investments to assist in protecting Bermuda's future electricity supply.
5. I think BELCO does a good job of explaining how their metering and accounting works to those who ask. I don't understand how the RA thinks they might be better at doing this than the professionals at BELCO.
6. I think these questions are outside the remit of the RA and I question the authority's competence to deal with them.
7. Yes, but then the RA cannot change the rules once play has commenced.
8. The only barrier is uncertainty (current and future, if what the RA is planning is implemented) and lack of clarity relative to the framework the RA has yet to develop and is unable to explain. The very actions of the RA to date are sufficient to deter future investors in PV systems.

Yours faithfully,

Elspeth A. Weisberg

Email: [Elspeth@logic.bm](mailto:Elspeth@logic.bm)

Phone: (441) 232 0293

*(submitted electronically).*

“Cheers”  
3 Steeple Road  
Smith’s FL06

Nigel Burgess  
Senior Manager Electricity Analysis & Planning  
Regulatory Authority  
1<sup>st</sup> Floor Craig Appin House  
8 Wesley Street  
Hamilton HM11

17<sup>TH</sup> April 2017

Dear Mr. Burgess,

**Re: Consultation on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination**

We are Solar PV Participants having installed an 8.75Kw residential solar system in 2014. We are shocked at the recent proposals in the Consultation Document issued on 16<sup>th</sup> March in which the Regulatory Authority recommends that “All original PV producers should be migrated over to the transitional avoided cost program effective January 1, 2017”. At current rates and using an avoided cost rate of 17.36 c/kWh the Energy Commissions proposal decreases the amount paid to grandfathered PV producers by a minimum of 7.39 c/kWh to a maximum of 25.26 c/kWh. This is a huge impact and increases the pay back period of PV systems by many years.

Belco’s letter to the Energy Commission of 16<sup>th</sup> September 2016 proposed that it would “grandfather customers who had made concrete financial investments relying on the existing programme” meaning that customers such as ourselves would continue to be paid the Residential Net Metering Rate for the energy we produce and sell to Belco.

**I. SUMMARY OF BELCO’S ACTION AND PROPOSED NEW TARIFF**

As described below, BELCO (1) has closed its existing residential solar programme to new entrants; (2) will grandfather customers who have made concrete financial investments relying on the existing programme; and (3) proposes a feed-in-tariff to cover all new entrants below grid-scale level based on avoided costs.

I would be grateful if you could confirm that the grandfathering proposed by Belco remains in place. It is incomprehensible that the Energy Commission should propose a change which Belco did not request. The EGD needs to be revised to reflect the grandfathering clauses proposed by Belco. The Energy Commissions proposal is unfair and extremely disappointing to existing PV producers such as ourselves who have made significant investments in solar systems and the future of a “green” Bermuda.

We look forward to your response.

Yours sincerely,

Guy & Fiona Kelly

Ian D. Hunter  
"Sky High"  
5 Windcrest Drive  
Paget, PG 05

Regulatory Authority of Bermuda  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, HM 11

re: Rates for Solar Investors.

April 28, 2017.

Dear Regulatory Authority of Bermuda,

Before I purchased and had my Photovoltaic system installed, I did a lot of research on the product, the environmental impact and most especially what the pay back period would be to be sure that it would financially feasible.

Calculating the pay back was figured on three things, 1. What Belco would pay for the electricity that I produced when that went back into the grid. 2. The amount of sunshine that Bermuda on average gets. 3. The cost of fuel that Belco used to generate electricity.

With number 1, I was at the time going by the stated facts, which was a fixed amount to be paid to me for the amount going to the grid.

With number 2, the amount of sunshine gets is fairly stable.

With number 3, I knew that this was always going to be flexible and like most, thought that the cost of fuel would never tumble to as low as it did.

With these, I was able to calculate that I would get a pay back for my investment within 5 to 6 years.

I understand that Belco has found that the amount that they were required to pay to people who supplied to the grid was high and was unsustainable for them.



With this in mind I am not against a reduced rate to be paid to us who would be grandfathered in. But I strongly disagree with what I understand to be the Commission's proposal to not have to pay for any electricity that we generate and put back into the grid. Changing the goalposts from one playing field to another is not fair to anyone who has invested money into making Bermuda a better place.

I and many others are very concerned with the negative environmental impact that a carbon fuel burning generating plant that Belco is using on this beautiful island home of ours. Especially now when we can do so much to improve it with alternative energy generating products.

Bermuda could and should be a world leader in this. We are small enough that we could be totally independent of generating electricity by an expensive, dirty polluting means. Every house and building that is being built today should be required to install photovoltaic panels, small wind generators and solar water heating panels, it is absolutely ridiculous that this has not happened. The government should allow/require Belco to install large wind generators.

Bermuda exports a huge amount of our hard earned foreign exchange on fuel oil to produce electricity, which in this day and age is crazy.

I do understand how difficult it is to change direction when not only does the Bermuda Government (us) derive income from duties charged and the dividends that Bermudians are paid for monies invested into Belco. But to make Bermuda a better place to live, we need to make positive changes as we head into the 2020s.

I trust that the members of the Bermuda Regulatory Authority make a proper and fair decision on this issue.

Kind regards

Ian Hunter.

Rivendell,  
Bayview Unit# 4  
182 North Shore Road  
Hamilton Parish CR04  
Email: [ianhind@northrock.bm](mailto:ianhind@northrock.bm)

10<sup>th</sup> May 2017

To the Regulatory Authority of Bermuda:

**Consultation on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination**

In 2016, my wife and I made a considerable financial investment in the installation of solar panels at our residence, address above. The decision taken was in the understanding that an agreement had been reached between us and BELCO (the Contract) that would ensure, amongst other things, that the Energy Exported (as defined in the email dated Friday, March 31, 2017 to the Regulatory Authority from Tim Madeiros, see attached) would be sold at a specific rate as described in Tim's email dated March 29, 2017, Scenario 1, see attached.

We have been horrified to find that over the last few months the 'goalposts' have been moved as the RA and BELCO proposal is as described in Scenario 3. As I am nearing retirement and our financial plan was predicated on a payback period of 6-7 years, the result of the proposal will have a serious effect on our future financial wellbeing. In fact, the payback period is likely to be in the region of 15 years, which, for a person of my age is not an attractive financial proposition.

Never a week goes by without an article appearing in the media from some other part of the world, of the advances in solar panel technology and the uptake by both private residences and commercial entities. In fact, in Scotland, for example, government Ministers have set a target of 100% energy

generation from renewable sources by 2020, of which solar PV cells will play a huge part.

It is therefore with astonishment, trepidation and disappointment that we find the RA proposing Scenario 3 when the rest of the world is heading in the other direction. It goes without saying, surely, that on such a small island with some of the most expensive electricity in the world, that this is a disastrous decision.

I therefore request that the RA reconsiders its position and instructs BELCO to revert to the original full net metering scheme for everyone, both current and future.

Yours faithfully,

Ian Hind

Janice & Bill Bucci  
60 Middle Road,  
Smith's FL06

April 26, 2017

Nigel Burgess  
Senior Manager Electricity Analysis and Planning  
Regulatory Authority  
1st Floor Craig Appin House  
8 Wesley Street, Hamilton, HM11  
Bermuda

Dear Mr. Burgess,

As an investor in solar energy, I am concerned with the recent order issued by the Regulatory Authority of Bermuda (RA) on April 17, 2017.

The new proposed feed in tariff/net billing scheme outlined by the RA will not only de-incentivize investing in solar, it will negatively impact the return on investment that we and other solar PV participants were expecting when we invested in the this non-polluting, low maintenance form of renewable energy.

I also believe that existing solar net metering customers on the scheme should be honored and grandfathered in. Hundreds of Bermuda homeowners have made significant investment in solar energy systems based on the financial performance provided by the net metering program. It was understood that new rates would not impact solar clients that had installed, or were proven to be engaged in a residential solar PV contract prior to August 15<sup>th</sup> 2016. BELCO had also proposed to grandfather all of these customers in their September 16<sup>th</sup> 2016 submission to the RA.

So why has the RA mandated the same flat rate of buying electricity from all customers? Those who were already a net metering customer at August 15<sup>th</sup> 2016 are being disadvantaged, this new rate will mean a longer return time and higher bills than budgeted for when their initial investment was made.

We truly hope you will reconsider this one flat rate in your emergency order and instead mandate the credit to be at the retail rate that was expected when investors bought into solar energy.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Bucci". The signature is written in a cursive style with a large initial "B" and a trailing flourish.

Mr. & Mrs. Bill Bucci

Lantana Cottage  
6 Chapel Road  
Paget PG02

11<sup>th</sup> May 2017

The Regulatory Authority of Bermuda

To Whom it may concern

Kindly find attached a copy of communication between Dr. The Hon E. Grant Gibbons and Tim Madeiros of AES Bermuda Ltd to which I will refer.

About 12 years ago now we made a substantial investment in solar panels for our home. We did so for both environmental and financial reasons.

We now understand that (see the email exchange) all existing PV customers will be switched from the present situation (Scenario 1 in the email) to Scenario 3. This will change the terms of our present contract, without consent, to a very different set of terms with a substantially different financial outcome for us.

You can look to countries throughout the world where commitments to renewable sources of energy are mandated and investment encouraged through incentives. The proposed change will discourage others to make a commitment to better

our environment (and balance of payments) in the future. This backward step isn't fair to current PV customers and not the direction that Bermuda should take.

Please represent the citizens of Bermuda and don't allow BELCO to make this backwards step.

Yours sincerely



Judy Motyer

**TO: Nigel Burgess**  
**Senior Manager Electricity Analysis and Planning**  
**Regulatory Authority**  
**1st Floor Craig Appin House**  
**8 Wesley Street, Hamilton, HM11**  
**Bermuda**

April 26, 2017

Dear Mr. Burgess,

As a solar PV participant, I am very disappointed by the recent order issued by the Regulatory Authority of Bermuda (RA) on April 17, 2017 and I am writing to voice my support of the proposed new tariff outlined in section I.C of BELCO's letter to the RA, dated September 16<sup>th</sup> 2016.

The new proposed feed in tariff/net billing scheme outlined by the RA will not only de-incentivize investing in solar, it will negatively impact the return on investment that solar PV participants were expecting when they invested in the this non-polluting, low maintenance form of renewable energy.

I also believe that existing solar net metering customers on the scheme should be honoured and grandfathered in. Hundreds of Bermuda homeowners have made significant investment in solar energy systems based on the financial performance provided by the net metering program. It was understood that new rates would not impact solar clients that had installed, or were proven to be engaged in a residential solar PV contract prior to August 15<sup>th</sup> 2016. BELCO had also proposed to grandfather all of these customers in their September 16<sup>th</sup> 2016 submission to the RA.

Furthermore, a sensible term should also be implemented, so as to assure those who invest in renewable energy cannot have their initial investment disrupted by changes in the rates or implementation of unanticipated tariffs, as defined by the situation we are currently in. A 20 year plus term agreement, with sensible inflation rates applied, would assist with de-risking the longer term adaptation of solar energy in Bermuda.

It is paramount that the RA considers these elements and implements a sensible tariff and term so as to encourage the installation of more solar PV systems and support those consumers who have made investments in renewable technology and our environment already.

In this day and age, we need more collaboration and less resistance to clean energy adaptation, in order to keep more money in our local economy while reducing our contribution to the drastic effects of climate change. This is about the sustainability and the future of our country and our people.

You are hereby authorised to disclose the contents of this submission save for my personal contact details.

Sincerely,



Julia Gunther

5 Shaw Wood Rd  
Pembroke HM01  
Tel. (441) 295-2061

10 Leacraft Hill Road,  
Southampton, SB03  
10<sup>th</sup> May 2017

**Response to Consultation Document 16-0819: Comments on regulatory Authority and Government Fees Process**

We are writing to strongly object to the proposed termination of net metering for BELCO's residential solar photo voltaic customers. We installed our system in early 2015 after determining the initial investment to install the system could be recouped in a reasonable period which made the investment worthwhile while playing our part to reduce our carbon footprint and help Bermuda achieve a reduction in the use of fossil fuels. We understand that producing more cleaner, greener energy has been encouraged and supported by the Bermuda Government in their subsidy system for early subscribers to various wind and solar renewable energy systems. It has also been evident in many news articles that there are efforts being made by the Government to increase commercial and domestic investment in solar production. The Bermuda Government played its part to encourage residents to install solar systems and BELCO set up the net metering system to make it financially viable. Those of us who installed solar systems in the early stages had a signed contract with BELCO outlining this agreement and BELCO wrote in a statement in September 2016 that their existing net metering customers would be grandfathered in, so had no intention to compromise their net metering customers. This breaking of contract will be subject to legal challenge if it goes through. It is not only illegal but immoral. How can we trust entities in the future if important decisions and contracts like these can be reversed at the stroke of a pen.

There has been much confusion around the purported costs to BELCO of the 'subsidy' to the net metering customers but no accounts relating to the profit they make by selling the excess electricity generated from solar customers to their other customers. It requires a clear and fair understanding of all the facts before sweeping changes such as these can be made.

Solar customers have made heavy investments in their systems. Multiple Bermudian companies have been set up to provide solar energy systems and support their existing customers. What will happen to the existing customers when these Bermudian companies are forced out of business because the systems are no longer economic for customers to install – everyone loses.



In closing I would encourage the Bermuda Government, Regulatory Authority and BELCO to think long and hard and have ALL the facts available before embarking on these proposed draconian changes to net metering customers. We wish to live in a country that supports efforts to reverse climate change and to encourage everyone to do their part in this process. Investing in renewable energy is an important part of this process.

Sincerely,

Dr. Kathryn Suter and Mr. Alfred Wood

Kristina Moniz  
10 Pampas Road  
Smiths, FL 05  
441.236.5915(h)  
441.534.9891(c)  
Email: [zmoniz@transact.bm](mailto:zmoniz@transact.bm)

May 10, 2017

To the Regulatory Authority of Bermuda:

**Re: Consultation on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination**

I have attached to his submission a copy of email correspondence between Tim Madeiros of Alternative Energy Systems (Bermuda) Ltd. And the Dr. The Hon. E. Grant Gibbons, HP, MP (document named "AES-MED\_email correspondence\_2017 04 20.docx"). I have done this as it is a clear articulation of the issues that I see with the current proposals, as I understand them, from the Regulatory Authority (the "RA). I already refer to the scenarios therein below.

As a client of AES, I, as many in Bermuda have done, made a significant investment in both my and the island's future when I chose to install solar panels at my residence (address above) in 2009. This was done for reasons of financial prudence as well as environmental sustainability.

With the current proposal to move all existing and future solar PV customers from Scenario 1 (per Tim's description) to Scenario 3, the RA and Belco will be causing people who quite reasonably understood they were making on financial decision to have made a completely different one with dramatically difference consequences. This is effectively changing the terms of the contract after it has been entered into and will case material financial harm to my household.

Furthermore, changing the terms in this way will most inevitably dissuade many people from making such as investment. At a time when responsible jurisdictions are encouraging their citizens to make investments that improve the resilience of the local infrastructure and are minimally harmful to the local and global environment, this would seen to be a disastrously retrograde step. We have some of the most expensive and polluting fossil-fuel produced electricity in the world here in Bermuda. Minimizing the financial effectiveness of investment in Solar PV as an alternative method of energy production would be neither prudent nor responsible.

I would therefore propose that the RA require BELCO to maintain the full net metering scheme for all current and future customers. Thank you in advance for your consideration of this submission.

Sincerely,

Kristina Moniz

18 April 2017

Response to Consultation Document 17-0 316: Comments on Regulatory Authority Emergency General Determination”

The (17 April 2017) ruling on the Belco payment to existing PV customers is totally unfair. When my wife and I made our decision to invest considerably in PV two years ago it was based on a certain investment return. Now that return has been taken away and we have been left 'holding the bag'. I ask that this ruling be reconsidered as my wife and I will now face significant financial loss.

Why should PV owners be held ransom by Belco. Why should PV owners have to pay for a bad business decision Belco committed. Belco should be made to stick by their decision and pay PV owners as promised. To encourage renewable energy Belco should be paying more incentives not paying less incentives.

Additionally, today (18 April 2017) we received our monthly bill from Belco with no credit whatsoever for the energy we supplied to the grid. This surely is against the RAB ruling. Unfortunately there is no fine which can be applied to Belco for this flagrant disregard. Perhaps some type punitive controls should be put into place.

May 7, 2017

Mr. Randy Rochester  
Permanent Secretary  
Ministry of Economic Development  
Bermuda

Dear Mr. Rochester,

I recently wrote to Minister Gibbons and you concerning the termination of net metering for Belco's residential customers who have installed solar PV panel arrays. While that letter addressed the inherent inequity in abolishing net metering after Belco's residential customers made investments in solar photovoltaic (PV) technology that were predicated on it, this letter addresses Belco's proposed tariff.

From what I have seen, there is very little evidence that the Regulatory Authority (RA) critically examined Belco's letter of September 16, 2016, which lays out its case for the new feed-in-tariff (FIT). In their case for a new FIT, Belco made statements that apparently were just accepted as facts by the RA:

- Belco's subsidy of net metering amounted to \$594,395. I am not saying that Belco's number is incorrect, but there are no data to back that up. There are almost certainly accounting assumptions that underlie that amount, and we have no way of knowing what those assumptions are and whether they are applied consistently.
- They make the seemingly reasonable statement that the new FIT should be cost-based. This sounds fair enough, but, meanwhile, Belco's own retail rate structure is heavily usage-based not cost-based.
- Monthly accounting for net usage is just taken for granted as fair, but this type of accounting, along with their avoided cost analysis around fuel oil costs, completely ignores the seasonal variability of solar PV production and the island's overall electrical consumption.
- Belco makes the case that the new FIT is somehow fairer to lower income households, and that the supposed subsidy of \$534,395 paid to solar PV customers is being borne by those low income households. The impact of the new FIT is not more equitable than net metering was. It certainly puts more money in Belco's clearly pocket, but there is nothing in their letter of September 2016 that outlines any benefits of the new FIT for lower income households. The second statement is also hard to verify given what I have noted above regarding the lack of any data being released that would back up Belco's calculation of the subsidy.
- If we assume that net metering did create some level of problem for Belco, then where are the data that show the impact of the new FIT. What is the stated purpose that the new FIT is intended

to achieve? Is it to end the subsidy, or is it to increase Belco's net profits? No information has been provided so that the public can understand what the new FIT means for Belco's bottom line.

- If Belco's supposed subsidy paid to residential solar PV customers now will become a profit it makes from those customers under the new FIT, then the new FIT essentially is subsidizing Belco with the capital investments made by its residential solar PV owners.

I suspect that is the economic reality, but it is impossible to know the magnitude of the change given the lack of data shared with the public.

An electricity tariff is not the most exciting of political topics, but the new FIT by locking in lower production costs for Belco with no rate relief for either solar PV customers or the larger population of electricity consumers in Bermuda amounts to an asset seizure by a monopolistic entity with the approval of the Bermuda Government.

It is something that Bermuda's citizens should be shocked by, and it is not the way that country that claims within the rule of law should operate.

Above are just some of the considerations that the Regulatory Authority should have addressed by now. Below I will discuss a few of those topics in greater detail.

### The Avoided Cost Basis Of The FIT vs Belco's Actual Rate Structure

Belco argues that its 'avoided cost', which is the basis of the new FIT, should be calculated as follows:

Adding the other avoided costs, the total avoided cost and tariff is 17.36 cents/kWh:

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

But this is not the logic behind Belco's retail pricing to its customers. If it were, then someone should explain why there are three rate tiers in every Belco residential bill. The below is excerpted from my April 2017 Belco bill. If Belco's avoided fuel cost is \$15.73 per kWh, then why is it charging me three different marginal rates for my consumption?

The Tier I rate, as can be seen below, is \$0.1575/kWh plus a fuel adjustment surcharge (essentially an additional charge of 9 cents per kWh equaling \$0.2475 per kWh in total. The Tier II rate is \$0.33 with fuel surcharge, and the Tier III rate is \$0.4262 per kWh with the addition of the fuel adjustment.

Calculation of Charges / Credits			
FACILITIES CHARGE			\$39.95
<b>DELIVERED TO CUSTOMER (DEL):</b>			
FIRST	250 KWHS	\$0.1575 per kWh	\$39.38
NEXT	250 - 700 KWHS	\$0.2400 per kWh	\$108.00
OVER	700 KWHS	\$0.3362 per kWh	\$375.20
FUEL ADJUSTMENT*		\$0.0900 per kWh	\$163.44
<small>*INCLUDES GOVERNMENT TAXES ON FUEL OF \$102.42</small>			

Government should ask Belco what is the purpose of the Tier II and Tier III rates. As a matter of economic reality, their marginal costs for each additional kWh consumed should go down as consumption increases up to the point where they outrun the capacity of the grid. At worst, those marginal costs flatten.

The cost of generation does not vary in Bermuda between different forms of generation. Apart from burning various grades of fuel oil, there are no hydroelectric, nuclear, or coal-fired power plants in Bermuda, and the only apparent variation in Belco's marginal cost analysis is between the costs of different types of fuel oil for Belco's generators: Light Fuel Oil (LFO) burned in the warmer months and HFO burned in the winter months and the cost between gas turbine vs. reciprocating engine (GT vs RECIP) fuel oil.

Belco has averaged this fuel cost out at \$0.1575 in their avoided cost exhibit above, and it is the predominant element in their avoided cost rate of \$0.1736 kWh. Even here Belco is mischaracterizing the reality in a way that is convenient for itself, but more on that to follow.

For the moment, let's assume Belco's rate of \$0.1736 kWh is a fair reflection of their marginal cost. If that is true, why is Belco allowed to increase its profit margin from 7.39 cents per kWh in Tier I (rate of 24.75 cents per kWh minus their own quoted avoided cost rate of 17.36 cents per kWh) when any residential consumer uses more than 250 kWh a month.

Belco's profit margin further increases to 25.26 cents per kWh for the amount of monthly consumption over 700 kWh, as can be seen above from my April bill as an example. A fundamental question has to be asked of Belco regarding their three pricing tiers – is the purpose of tiered consumption-based pricing to encourage private residences to manage their consumption of electricity or is it simply to increase Belco's profit?

If it is to encourage efficiency, then solar PV panels are the equivalent of increasing efficiency because they are reducing the residence's net consumption, and that in its simplest form is a robust justification of net metering. Electrical production by the homeowner is equivalent to increased efficiency, and if the existing retail tariff is charged on tiered consumption-based marginal rates, then net metering is the fairest and most appropriate way of rewarding a residence's increased efficiency in the form of its reduced net consumption and its offset against Belco's aggregate consumption.

I would state the above more directly as follows:

Why is Belco able to charge its residential consumers an embedded profit in its lowest rate Tier I (on top of a facilities charge) and then increase that profit in two higher-priced tiers when a residential generator is only paid a single flat rate that is 30% lower than Belco's lowest rate. As if that were not bad enough, Belco is then allowed to increase its profit margin up to 143% in its Tier III rate!

This all flows from accepting Belco own statement of its costs as face value.

Belco's letter states that pricing should be cost based (see II.C), but their whole rate structure is usage-based in three successively increasing rate tiers that have nothing to do with cost. If residential solar PV customers have a fixed single tier tariff, then so should Belco; otherwise, Belco should dispense with arguments around cost-based pricing.

## Supply and Demand vs. Belco's Avoided Cost & Marginal Economies

Belco's analysis ignores fundamental aspects of its transmission and distribution (T&D) network. When it comes to managing an electrical T&D grid, the operator's job is similar in its most basic conceptual terms to managing a balloon under air pressure, with air coming into and out of the balloon representing electricity. Too much or too little air coming into or out of the balloon will cause it to burst or deflate. When it comes to an electrical grid the analogous result is physical damage to the network and the devices connected to it.

In other words, the operator of an electrical T&D grid is continuously matching supply and demand to keep the grid in balance. Failures in matching supply and demand lead to brownouts, blackouts and power surges.

Supply and demand across an electrical grid change across the hours of the day and vary dramatically by season. Belco's analysis just ignores these seasonal changes for its own profit motives.

Everyone who has a solar PV system in the northern hemisphere knows that their system's peak production occurs during the spring and summer period from March 21st to September 21st (leaving aside random variability in the weather patterns).

It also should be clear that Belco's peak in variable costs come during these same summer months. This can be seen from their letter of September 2016. Belco's cost of fuel increases in the spring and summer when Belco burns light fuel oil for gas turbines:

Marginal Fuel production by Unit Fuel type			
January	HFO Recip	\$	0.0976
February	HFO Recip	\$	0.0976
March	HFO Recip	\$	0.0976
April	LFO Recip	\$	0.1481
May	LFO Recip	\$	0.1481
June	LFO GT	\$	0.2106
July	LFO GT	\$	0.2106
August	LFO GT	\$	0.2106
September	LFO GT	\$	0.2106
October	LFO GT	\$	0.2106
November	LFO Recip	\$	0.1481
December	HFO Recip	\$	0.0976
Weighted Average Marginal Cost of Fuel			<u>\$ 0.1573</u>

They describe the above cost of \$0.1573 per kWh as a weighted average, but that is not true. It is just a simple average of each month's cost given equal weight. This effectively means that Belco's whole analysis is distorted.

A residential solar PV customer provides power to Belco in the summer months when the longer days produce more surplus power (residence's production exceed its consumption). Those surpluses in the spring and summer period flow back out onto the grid when Belco's fuel costs are at their highest at 21.06 cents per kWh, as can be seen above.

Beyond that, total consumption across the island of Bermuda is at its heaviest across the summer months. In the absence of data from Belco, let's assume that 60% of the total annual electricity used is during the spring and summer months. Those months should then be weighted by their rate and by their higher total consumption, and in Belco's calculation above, they are not.

Belco is averaging into their avoided cost winter months when a residential solar PV customer produces virtually no power to the grid and when Belco's fuel costs are much cheaper – 56% cheaper in fact than in peak summer fuel costs for gas turbine light fuel oil. How is that fair?

If the FIT is justified by marginal cost economics as Belco pretends is the case here, why are they allowed to ignore the enormous seasonality around power consumption and calculate a flat monthly rate that ignores both the supply and the demand curves of power generation and consumption in Bermuda?

Put more simply, if nearly all of a residential solar PV's customer's produced surplus is sold to the grid during the spring and summer months between March 21<sup>st</sup> and Sept 21<sup>st</sup>, why is Belco allowed to base their pricing on an "avoided cost" calculating using months when that residential customer is not actually selling power to them and when Belco's 'avoided costs' are lower?

### **Monthly Account vs. Annual Accounting**

There is another gross lack of equity underlying Belco's calculation of usage in monthly not annual terms. Due to the high level of seasonality inherent in solar power production, Belco's monthly accounting of consumed vs delivered power is greatly to their advantage. My specific case is illustrative of this, and it would be true of many of the larger residential solar PV installation across the island.

Across the full twelve months of the year, using net metering, I am still a net electricity consumer from Belco. In the summer months I accrue a credit for the power I have produced to the grid, which in turn I give back in the winter months, and I end up owing Belco on the order \$1,000 to \$1,500 per year when annualized.

Under the new system, my credit will be greatly reduced by the new FIT in the summer months, but I will keep paying Belco according to their three-tiered consumption-based rate system with higher embedded profits for Belco at each tier during winter months.

Why not let all residential solar PV customers simply net out their consumed vs. produced power across a full calendar year. Belco can have no reasonable objection to this.

### **Belco as Robin Hood**

In its letter of September 16, 2016, Belco states the following:



## II.B. BELCO's subsidy is ending.

The total subsidy paid by BELCO to date amounts to \$594,395. As the number of participants increases, so does the cost of the subsidy. These numbers will become unsustainable, and BELCO can no longer pay the subsidy beyond current participants. This conclusion is confirmed by the Commission's March 31, 2016 directive, providing for an account recovering the costs of net metering and the Commercial Renewable System Excess Energy Rate ("CRSEER"). BELCO will have this account in place by the end of the year.

Hence, other ratepayers would be called upon to pay any further subsidies.<sup>1</sup> Not only would that result be contrary to fundamental ratemaking principles, Bermuda law, and sound economics, but, notably, studies have shown that such subsidies can end up benefiting higher income ratepayers, paid by ratepayers with lower incomes. See <http://www.ourenergypolicy.org/wp-content/uploads/2014/04/cali-net-metering.pdf>;<sup>2</sup> <http://www.ourenergypolicy.org/wp-content/uploads/2014/04/cali-net-metering.pdf>; <http://pscstar.louisiana.gov/star/ViewFile.aspx?Id=f2b9ba59-eaca-4d6f-ac0b-a22b4b0600d5>,<sup>3</sup> see also Ashley Brown and Louisa Lund. "Distributed Generation: How Green? How Efficient? How Well-Priced?" Electricity Journal, April 2013, p. 32. ("any additional cost or delta revenue loss attributable to DG that is passed on to the balance of customers has a high probability of being a wealth transfer from the less affluent to the more affluent.")

There is no rationale for lower income customers to subsidize higher income customers.

The impression we are left is that a bunch of wealthy homeowners have installed solar PV systems and Belco's lower income customers are paying the price for it under net metering.

This bears some investigation. As any electrical utility engineer will tell you, a kW once it is produced onto the grid is a kW. There is no difference between the electricity that any solar PV installation produces (once it has been converted into AC from DC by the homeowner's inverters) and the electrical power that Belco produces by burning fuel oil, except for the additional environmental costs incurred by Belco's burning of fossil based fuels.

Leaving aside any debate on climate change, the simple fact is this, the surplus power solar PV residences produce is sold to their neighbors with Belco as the middle man. If a residential solar PV customer is producing power and his or her neighbor on the same circuit is simultaneously consuming electricity with total accumulated usage already having exceeded 700 kWh that month, then Belco is selling one customer's surplus power to his or her neighbor at the same 42.62 cents per kWh as if it came from Belco's own generators.

By allowing Belco to pay that residential solar PV producer just 17.36 cents per kWh hour for his or her power, the neighbor is seeing no benefit under the new proposed FIT. The FIT is just locking in a subsidy to Belco of 25.26 kWh.

Belco can argue that I am using their Tier III rate in the above example, but that is the tier that is most likely to be in effect for my neighbor when a residential solar PV system is producing power during the middle of a sunny day in the latter part of each month between March 21<sup>st</sup> and Sept. 21<sup>st</sup>.

There is simply nothing in Belco's new FIT for lower income consumers. Belco is forcing solar PV producers to accept a flat rate that is distorted by the fact that it ignores the seasonality of solar production and electrical demand. That unfairly low price paid to residential solar PV producers is just extra margin for Belco, and in essence a government subsidy of Belco if the Bermuda Government lets this stand.

## **Was the Old Net Metering Fair?**

Belco talks about its accrued “subsidy” of \$594,395 with no information to back that amount up. The essence of the economic advantage of net metering to solar PV customers was that they were paid at the highest marginal rate Belco was able to charge them as individual users.

Under net metering, the homeowner’s produced power was paid for starting at the top Tier III rate and working its way down the pricing tiers depending on that residence’s balance of power consumed vs power produced.

Was that somewhat unfair to Belco? Perhaps, but it is not as unfair as one might think. Again, when a solar PV system is at its most productive is likely to be the same time at which Belco is charging most of their neighbors those peak usage Tier III rates.

There are also slight efficiencies with the grid in having power production more localized next to consumption, which equal a reduction in power lost due to T&D. Belco explicitly recognizes that increased T&D efficiency from solar PV production in its new FIT with the 1.6% upcharge in the avoided cost calculation. Was this improved grid efficiency ever factored into the stated cost of their subsidy under net metering? It is impossible to know because that information has not been shared publicly.

## **Purpose of the New FIT?**

Leaving aside T&D loss and taking Belco’s estimate of its subsidy at its face value, then how do we know the impact of the new FIT? Does it merely halt the accrual of any further subsidies paid to solar PV residences as Belco would lead you to believe in their letter? I doubt that is the case given the economic distortions inherent in their fixed cost analysis and in their existing consumption-based tiered retail rate structure.

I would have no problem if the new FIT is cost neutral to Belco, but that has to be demonstrated by Belco first, and they have wholly failed to do so.

Is the new FIT intended to recover for Belco its stated subsidy of \$594,395 previously paid to residential solar PV owners? If it is, that should be made clear, firstly, and secondly, that would mean the new FIT should be temporary; otherwise it is a permanent subsidy to Belco paid by its residential solar PV consumers in order to address what was at worst a temporary problem for Belco.

If there were slight distortions with old net metering, then for new installations only I would suggest some combination of the following measures so that solar PV producers are neither penalizing nor subsidizing Belco:

- 1) Average out net usage for solar PV customers across a calendar year and not month by month.
- 2) Use the middle Tier II rate + the fuel surcharge as the basis for the FIT. Belco must have the data to back test this, or any other pricing structure, with their consumption and billing statistics for the last few years under net metering for solar PV residences.

The public should have the data to see what the new FIT does relative to Belco's putative subsidy amount of \$594,395. If the Tier II rate ignores the tax impact of any fuel taxes, then it would be easy to back that out of the Tier II rate, but that is not how Belco has calculated their 'avoided cost' rate.

- 3) End Belco's three-tiered pricing structure. If Belco is going to expound on the virtues of cost-based pricing, then the Regulatory Authority should eliminate Belco's consumption-based pricing tiers.

Residential solar PV producers are on the one hand being lectured by Belco on cost economics (and those cost economics are distorted as it is), but as consumers, which many of them still are, they then have to pay Belco according to its consumption-based retail rate structure.

How is that in any sense equitable?

- 4) The new FIT is going to be reviewed monthly if Belco's proposal is accepted. This will be inherently damaging to the solar PV industry in Bermuda. No one will make a 25-year investment when the rug could be pulled out from under that investment on a month-to-month basis.

Because Belco has steadfastly refused to invest any of its own capital in renewables, it remains, and leaves all of Bermuda, hostage to world oil markets. The inherent volatility in those markets leaves Belco wanting a monthly bite at the FIT that will stifle independent generators from making the long term investments that Belco itself was too short-sighted to make.

Bermuda is essentially being made to pay for Belco's failure to implement a balanced energy strategy, and that in turn is damaging to the island's entire economy.

Monthly tinkering with the FIT is just another negative aspect of Belco's proposal. Belco's letter linked in a number of policy papers around feed-in-tariffs. If they read those papers, they would see lots of references to the need for pricing stability and sustainability when it comes to setting FITs for renewable energy sources from independent generators.

There is a new Regulatory Authority Fee on Belco bills. If we are now paying for Government to regulate Belco, then please ask Belco to produce their aggregate billing and consumption data for net metering customers, and please press them to make a more straightforward data-based case for their FIT that takes into account the variability in solar PV production based on the season and the consumption of power that roughly follows that same seasonality.

Sincerely yours,

Michael Hoffmann  
"Skyward"  
#13 Shaw Wood Crescent  
Pembroke HM 01

Patrick and Barbara Cerra  
9 High View Lane  
Southampton, SN01  
Bermuda

1 May 2017

Mr. Nigel Burgess  
Senior Manager Electricity Analysis and Planning  
Regulatory Authority  
1st Floor Craig Appin House  
8 Wesley Street, Hamilton, HM11

Dear Mr. Burgess:

Our names are Patrick and Barbara Cerra and we live at the address above. We are “Scheme Participants” having a “Small Scale Renewable Generator Interconnection Agreement” (the Agreement) with Belco that was executed 15 February 2012. We welcome the opportunity the Regulatory Authority (RA) has provided for response to the RA Consultation Document of 16 March 2017. This letter is our input to the Consultation Document and more specifically a response to the Regulatory Act 2011 “Order” (the Order) issued 17 April 2017.

First, we feel the Order was premature, being issued on 17 April, when consultation had been solicited through 27 April (and now extended to 12 May). We feel the Order is unfair to scheme participants, unwarrantedly advantageous to Belco and damaging to the future of the solar industry in Bermuda. Essentially, we believe the Order is faulty on many levels and we provide arguments on a contractual, ethical, environmental and economic basis below.

Contractually, as stated above, we have a two-party Agreement with Belco, written under Bermuda law that spells out the terms and conditions of our net metering agreement. It’s hard to understand how a third party, i.e., government through the RA, can issue an Order that essentially damages the scheme participant (us) and advantages the other party (Belco). We understand that Belco’s original application was to grandfather existing solar customers into the net metering Agreement. How is it right that Government, who is not party to the Agreement, can materially change the Agreement? Are contracts written in Bermuda no longer worth anything? How can anyone feel confident in Bermuda contracts going forward?

Also, when we originally decided to invest in a solar system, our research indicated that our payback period or return on investment (ROI) would be about 8+ years. The RA Order now pushes that ROI out several years. How is that fair and why would the RA discourage future solar investment in Bermuda by increasing ROI for new systems?

On an ethical basis, we have several questions with regard to the RA Order. How can it be seen as ethical for Belco to purchase a KWh of power from us for approximately 17 cents and then sell it to some unsuspecting Bermuda customer for 17 cents plus a “fuel

adjustment cost?” There was no fuel adjustment cost to Belco as that KWh was generated by our solar system. To call it a fuel adjustment cost is disingenuous if not unethical. We submit that a new cost category should appear on the customer’s bill that would more accurately describe this cost as something like “Government windfall to Belco via RA Order.”

On an environmental basis we don’t see how the RA Order could be a good decision since it will discourage the use of solar power going forward. This appears to be a complete Government reversal on this position as back in 2012 Government encouraged the purchase of residential solar systems through the Department of Energy’s “Solar Photovoltaic Rebate Initiative (SPRI)” of which we qualified. We don’t understand why the RA would endorse an order that advantages Belco’s use of diesel fuel versus solar power, when solar is so much cleaner for the environment.

Finally, on an economical basis, we feel the RA may miss the opportunity to lower future energy costs on an aggregate basis across Bermuda. It has already been shown that solar power is far cleaner and more cost effective than power generated from diesel fuel and in the longer term will become even more economical through improved technology (cheaper solar panels and inverters and improved batteries, etc.). It is also well known that one of the greatest deterrents for large scale construction projects in Bermuda, e.g. hotels, is the high cost of energy. Further, we believe that the RA Order could cost Bermuda future jobs that would have otherwise been created by a robust solar power industry.

In summary, we appreciate the RA request for consultation and hope that the RA will take our arguments into consideration. We hope that the RA will carefully deliberate these issues in coming up with policy that is fair and equitable for all stakeholders and will ultimately encourage the future of the solar power industry in Bermuda

Sincerely,

Patrick and Barbara Cerra  
1-441-238-0508 (tel.)  
cerrap@logic.bm (email)

**Paul Hubbard**  
**#8 “Stowehaven”**  
**Richmond Road, Pembroke, HM 08, Bermuda**  
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Fax No.: w) (441) 242 3101

May 9, 2017

Mr. Randy Rochester  
Permanent Secretary  
Ministry of Economic Development  
Bermuda

Dear Mr. Rochester,

**Re: Net Metering Change in Pricing/Regulatory Authority of Bermuda Recommendation**

In 2015, I invested in thirty-three solar panels in response to Government encouragement promoting alternative sources of energy and do my small part for the overall environment. BELCO in previous years had suffered through lack of capacity, lack of maintenance over many years with occasional power outages and load shedding.

My investment of over \$40,000 was a significant capital outlay with an estimated twenty-five year lifespan and the benefit is likely to exceed our occupancy of our house.

The Government’s policy was to encourage this sort of development for the benefit of the Bermudian environment.

I would also mention that several years ago, I was contacted by a Public Company who were proposing building a natural gas plant in Bermuda and projected that they could reduce the cost of power to the Bermudian public by half. They also were proposing to finance a new plant to assist BELCO. I arranged for preliminary introductions with the Government at the time and also with the Manager of BELCO but unfortunately this was not progressed by BELCO or the Government at the time. I subsequently am aware that this company has invested in a natural gas generation plant in Small Island in the Far East and also in the Caribbean. I suspect the reason that BELCO did not proceed and progress this idea was due to the large investment in the current plant which was to be made obsolete if a proposal had progressed.

I have been monitoring my electricity bills since the installation of our solar panels but if the new rate recommended by the Regulatory Authority now apply, then the reasons for my significant capital investment will be reduced significantly. Based on my average usage for the 9.9 kWh that my installation can produce, I estimate that my billings will increase by 268% from the current level. This seems totally unfair, particularly as the objective of installing solar panels was to improve the environment in accordance with Government’s recommendations.

I fully endorse Michael Hoffmann’s letter of the 7<sup>th</sup> May to Mr. Randy Rochester and would wish to make the same submissions to the Regulatory Authority and the Government.

Yours sincerely,

Paul B. Hubbard

CC: Regulatory Authority of Bermuda

Peter & Shari Barrett  
54 North Shore Road  
"Sunnyside Cottage"  
Shelly Bay, Hamilton Parish FL 04

Ph: 297-4032  
Email: [accs@logic.bm](mailto:accs@logic.bm)

May 10, 2017

To the Regulatory Authority of Bermuda:

**Re: Consultation on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination**

As a client of Alternative Energy Systems (Bermuda) Ltd., my wife and I made a significant investment in solar panels at my residence about two years ago.

This was done to hedge against the rising cost of electricity in Bermuda. As my wife and I head towards retirement, we don't want rising BELCO bills to keep us down. We also don't want our financial freedom to be jeopardized by negative world events which often cause fuel prices to skyrocket to record levels resulting in BELCO fuel transfer payments soaring to record highs.

We also chose solar to support the environmental sustainability of Bermuda as it continues to invest in hotels and other large capital projects. Investing in solar would have never been feasible without effective reverse metering allowing customers to pump excess electricity back onto the grid at customer retail rates.

With the current proposal to move all existing and future solar PV customers from Scenario 1 (per Tim Madeiros' description) to Scenario 3, the RA and BELCO will be causing Bermudians to face a dramatically different economic scenario. This is also changing the terms of a contract without the approval of the panel owner.

This change in policy will also affect negatively how Bermudians feel about solar generation. Unless persons can pump excess power back onto the grid at retail rates, why would anyone "go solar" when most solar power is generated during the daytime when most people are out of the house? Persons will also not invest in a home battery solution to store unused solar power as they are far too expensive to make such efforts worthwhile.

What is also perplexing is that the proposed policy changes runs counter to Bermuda's own national interests. In the long run the policy change will result in a larger, more costly BELCO infrastructure; indeed an infrastructure which pollutes more and lends itself more open to risks. Economically the policy change will have a negative impact on Bermuda's balance of payments and make it more exposed to energy crisis's and shortages. In the long run Bermudians will ultimately not invest in the maintenance and repair of their older panels and we will fall right back again to electricity bills which are the second or third highest in the world.

I therefore propose that in the best interests of all Bermudians and BELCO alike that the RA require BELCO to maintain the full net metering scheme for all current and future customers. This will enable Bermuda to continue its march forward towards energy efficiency and sustainability.

Very best,



Peter Barrett  
297-4032

**R. Blake Marshall**  
**"Low Tide"**  
**12 Rebecca Road**  
**Southampton SN 04**

April 27, 2017

Mr. L. Nigel Burgess  
Senior Manager Electricity Analysis and Planning  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton HM 11

Dear Mr. Burgess,

### **Potential Changes To Net Metering**

In June of last year, I completed the rebuild of my home at 12 Rebecca Road in Southampton. As part of this rebuild, I invested approximately \$50,000 in a solar photovoltaic system with an understanding that I would receive a payback of my investment of approximately 7-10 years based on the Net Metering scheme in place with Belco at that time. Under this scheme, energy delivered to me by Belco and energy received by Belco from me would be charged at the same rate per kilowatt hour. My decision to install a \$50,000 solar photovoltaic system was made, in good faith, based on this Net Metering described above.

It is now my understanding that Belco wishes to change the Net Metering scheme and have applied to the Energy Commission/Regulatory Authority of Bermuda for approval. Under the new scheme applied for by Belco (Avoided Cost for Energy Excess of Net (ACEEN)), net energy received by Belco from customers would be paid at a lower rate (\$0.1736/kWh) than what is paid under the Net Metering above and therefore result in a lower credit to the customer for energy sold back to the grid. However, as part of their application, Belco agreed that existing customers with solar photovoltaic systems as of August 15, 2016 would remain on the existing Net Metering tariff plan.



Now it is my understanding that the Energy Commission/Regulatory Authority have issued an Emergency General Determination (EGD) recommending that ALL exported energy by customers would be at the lower rate (\$0.1736/kWh) and that it would apply to all customers, including those that had solar photovoltaic systems in place on or before August 15, 2016. The result of this recommendation is that all customers, including myself and others who would have been grandfathered in by Belco, will see a substantial decrease in their return on investment in a solar photovoltaic system.

In summary, I made a substantial investment in a solar photovoltaic system based on a payback of my investment over 7-10 years. This payback was predicated on a Net Metering scheme in place with Belco. Belco wishes to change this plan but agreed to grandfather those systems that were in place on or before August 15, 2016. The Regulatory Authority, for no apparent good reason, recommends to not only reduce further the amount of credit customers would receive for energy received by Belco as applied for but to also make it applicable to ALL customers. This makes no sense and greatly disadvantages those customers who made significant investments based on the Net Metering scheme in place at the time. I strongly urge the Regulatory Authority to revisit their recommendation and approve only what Belco is applying for including grandfathering those customers who had a solar photovoltaic system installed on or before August 15, 2016.

Yours sincerely,

A handwritten signature in cursive script that reads "R. Blake Marshall".

R. Blake Marshall

Rachael Hayward  
Jacaranda  
9 Sharon Lane  
Pembroke HM08  
Email: [rachaelhayward@yahoo.com](mailto:rachaelhayward@yahoo.com)

11th May, 2017

ATTN: The Regulatory Authority of Bermuda

**Consultation on the Regulatory Authority (Transitional Measures for BELCO Limited Solar Net Metering Scheme) Emergency General Determination**

Please find enclosed my submission to the Regulatory Authority to reconsider its Clarification Order of April 18<sup>th</sup>, 2017; along with a copy of the correspondence between Tim Madeiros of Alternative Energy Systems (Bermuda) Ltd. and Dr. The Hon. E. Grant Gibbons, JP, MP, as an explanation of the issues with the current proposals.

During a full renovation of our property, we decided to invest in installing solar panels in 2015, and obtained a mortgage from the bank, taking into account the savings that were estimated based on the Net Metering solar initiative stated by BELCO at the time. There was no warning by BELCO that the initiative could be retroactively changed. I am unclear why BELCO would propose Scenario 2; and then the Energy Commission on October 11<sup>th</sup>, 2016, would recommend Scenario 3, further disadvantaging the consumer. The aim of the Energy Commission was to regulate the electricity industry by approving or disapproving of changes only (per the government website). With the transfer of responsibility to the Regulatory Authority of Bermuda, on October 28<sup>th</sup>, 2016, I am also unclear why the RA issued a Clarification Order on April 18<sup>th</sup>, that contradicted their Emergency General Determination of March 3<sup>rd</sup>. I would request that the RA more fully review the facts and decisions; as the repercussions may not have been fully appreciated in the transition of responsibility.

Rather than accepting the change, it will also spur people to invest in cells to store the solar power, instead of diverting to the power grid, where it can increase the power supply. It is of great benefit to ensure there are affordable alternative methods of energy production, which also helps preserve our ability to collect rainwater for our fresh water supply (from pollution deposited on rooves, caused by fossil-fuel produced electricity - which we have evidence of from living near BELCO).

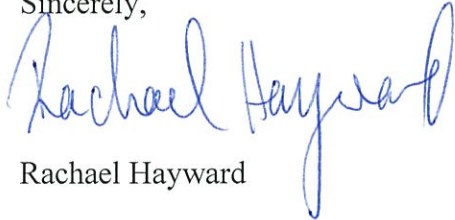
The Regulatory Authority

11th May, 2017

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Thank you for your assistance and I request that the RA reconsider maintaining full net metering scheme; and at the minimum not retroactively changing the initiative, so consumers can make an informed decision when making such an investment.

Sincerely,

A handwritten signature in blue ink that reads "Rachael Hayward". The signature is written in a cursive style with a large, looping initial 'R' and a long, sweeping tail on the 'd'.

Rachael Hayward

May 8, 2017

Dear Sirs,

I am deeply disappointed with the proposed changes to the NET Metering process for existing customers with PV Systems. At a time in history where renewable energies should be encouraged, Bermuda has once again proven itself to be 'another world' through proposed policies which greatly discourages individual investment in environmentally friendly alternatives. On a personal note, I am disheartened that the RAB outright ignored the proposal by Belco to grandfather existing customers who have made significant financial investments into this renewable energy source with the good faith understanding that their return on investment would be honored by the agreement between themselves and Belco. The audacity with which the RAB has deemed this contract to be cancelled, despite neither party recommending it to be cancelled is beyond comprehension. Furthermore, it is downright unfair and unjustified. While I can appreciate that owners of PV systems should not unfairly 'profit' from unused energy in a given due to an over-sizing of one's system, it would seem reasonable that the existing arrangement of individuals selling back power at the same rate they purchase it for (provided they are not in a net credit position at the end of the month) is equitable to all parties. The inequitable proposal of selling back all power, rather than monthly excess power, at the lower fixed rate is harmful, if not the death knell, for the overall solar industry in Bermuda, and also encourages existing owners to simply move further 'off grid' through the installation of battery backups in order to self-consume. This is neither beneficial to Belco long term, nor to the environment.

Furthermore, the lack of clarity from the RAB has left much to be desired. The original stance of the RAB through their paper implied that only the NET monthly excess would be at the reduced rate, but then the clarifying order was contrary to this statement. Upon seeking clarification, at best the responses were inconsistent, and at worst were altogether confused. For the sake of this nascent industry to Bermuda and for a sustainable energy program, we have to do better than this.

Sincerely,  
Salvatore Tucci  
81 Cobbs Hill Rd.  
Warwick, PG04

126 Harbour Rd.,  
Paget PG-05  
Email: vallispietila@logic.bm

10<sup>th</sup> May 2017

To the Regulatory Authority of Bermuda:

**Re: Consultation on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination**

We are very disappointed in the proposal from the Regulatory Authority to force a change to the contract between us and BELCO on our Net Metering agreement.

We made a significant investment in both our and the island's future when we chose to install solar panels at our residence (address above) in December 2008. This was done for reasons of environmental sustainability and financial prudence. We installed a 4.2KW system. BELCO installed our net meter in December 2010.

We have a small scale residential system and despite many energy saving actions on our part (LED lighting, insulation in the ceilings, sola-tube lights in common rooms, etc.) we expect to reach payback at the life expectancy of the panels (25 – 30 years). If we do not receive equal credit for received (by BELCO) KWs then there is no point in doing renewables.

From some letters to the editor in the past some people think that they are subsidizing those who have PV systems. We do not understand this since we also pay the same facilities charge like all BELCO clients. Whatever credit we get BELCO charges on to the next consumer for the energy that they use that we produced – without having to burn fossil fuels. The less fossil fuel used the better for EVERYONE.

Your proposal to only allow a small percentage credit on each KW is not reasonable or sustainable for our residential size system and completely contradicts the Governments mission of encouraging renewables.

The current proposal to move all existing and future solar PV customers from Kw for KW to a whole percentage based credit system is not fair to those persons who have already made financial sacrifice based on the existing agreements set up with BELCO. This is effectively changing the terms of a contract after it has been entered into and will cause material financial harm to many of those people.

At a time when responsible jurisdictions are encouraging their citizens to make investments that improve the resilience of the local infrastructure and reduce ecological harm to the local and global environment your proposal seems to be a disastrously retrograde step. We have some of the most expensive and polluting fossil-fuel produced electricity in the world here in Bermuda. Minimizing the financial effectiveness of investment in solar PV as an alternative method of energy production would be neither prudent nor responsible.

We would therefore propose that the RA require BELCO to maintain the full net metering scheme for all current and future customers.

Thank you in advance for your consideration of this submission.

Yours faithfully,

Sarah and Jyrki Pietila

## SOLAR NET METERING SCHEME

I am the owner of a small PV system at my residence.

I proceeded with the installation in 2015 based on certain understandings that made the return on investment (by loan) affordable.

I now understand from my supplier that it is proposed that my surplus production will now be calculated at a different rate (about half) by BELCO.

Contractual relationships exist between the approximately 350 'legacy' net metered customers and BELCO. From the evidence available, BELCO were not seeking to disadvantage these legacy customers or invalidate their contracts by way of their application to institute a revised form of net metering for new customers, after the August 15<sup>th</sup> press release. The RAB by their actions have essentially superseded the contracts that existed and overruled the terms that were jointly agreeable to the two parties and in doing so have caused significant financial damage to the legacy participants.

If this is indeed the case, I will seek compensation as my ROI calculations are no longer valid by this action.

Further, I would like you to consider the following:

In total contrast to BELCO's filing, the RAB's interim orders completely remove any calculation of a NET POSITION from the equation. And all kWh's produced by solar that are not immediately consumed by the property, at the time of production, are valued at the Avoided Fuel Cost rate of \$0.1736.

By completely removing the cycle for calculation of a NET POSITION, from the equation, the customer who exports the majority of their solar production during the day back to the grid has been given an immediate 60% reduction in the value of each kWh they produce.

Thank you for the opportunity to submit my view on this matter.

Scott Stewart  
7 Agars Hill  
Pembroke HM05  
535 6404

Mahogany Reef  
#4 Harbour Road  
Warwick WK04  
[somers@mahoganyreef.com](mailto:somers@mahoganyreef.com)

9 May 2017

To the Regulatory Authority of Bermuda:

**Consultation on the Regulatory Authority (Transitional Measures for Bermuda Electric Light Company Limited Solar Net Metering Scheme) Emergency General Determination**

Please find attached with this submission a copy of email correspondence between Tim Madeiros of Alternative Energy Systems (Bermuda) Ltd. and Dr. The Hon. E. Grant Gibbons, JP, MP (RAB-SolarSubmission-Email.pdf). I attached this as it has been the clearest explanation of the situation as I understand related to the current proposals from the Regulatory Authority (the "RA"). I also refer to that in the following submission.

My family and I made a significant investment in both our financial future, and the island's future when we made the decision to install solar panels at our residence in 2011. This was done for reasons of environmental sustainability as well as financial prudence and we were part of the first 200 BELCO customers to "go solar".

With the current proposal to move all existing and future solar PV customers from Scenario 1 (per Tim's description) to Scenario 3, the RA and BELCO will be causing our family financial harm and is effectively changing the terms of a contract after it was entered and agreed.

More importantly our family further views these changes will negatively impact the power industry as a whole. Changing the terms in this way will almost inevitably dissuade many people from making such an investment. At a time when responsible jurisdictions are encouraging their citizens to make investments that improve the resilience of the local infrastructure and are minimally harmful to the local and global environment, this would seem to be a disastrously retrograde step. Minimizing the financial effectiveness of investment in solar PV as an alternative method of energy production would be neither prudent nor responsible.

Thus my family is looking for the RA to follow the Regulatory Act 2011, and to "*protect the rights of consumers, encourage the deployment of innovative and affordable services, promote sustainable competition, foster investment, promote Bermudian ownership and employment and enhance Bermuda's position in the global market*". Allowing BELCO to change the terms of our contract as proposed goes against everything the RA is charged with. I would therefore propose that the RA require BECO to maintain the full net metering scheme for all current and future customers.

Thank you in advance for your consideration of this submission.

Yours faithfully,



Somers Kempe

**From:** Charles Gosling  
**To:** [info](#)  
**Cc:** ["eggibbons@gov.bm"](mailto:eggibbons@gov.bm)  
**Subject:** Submission to Regulatory Authority 12 May 2017  
**Date:** Friday, May 12, 2017 2:26:31 PM

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Dear Members of the Regulatory Authority,

I am writing on behalf of myself and my residential solar panel units as well as being a Managing Director of Gosling Brothers Ltd., one of the larger commercial producers of solar energy in Bermuda.

Over the last couple of months I have been following the attempts by Mr Tim Madeiros to receive clarity on the position of the Regulatory Authority regarding potential changes to the billing and crediting process between BELCo and solar energy producers (SEPs) to the grid. I am frankly confused at the inability of Mr Maderios to receive a clear and understandable answer as this does not enable me to particular comment or support something that has not been clearly presented.

If I was asked to revisit my personal investment or that of my company, I would have to decline due to insufficient and unclear information. Unfortunately we are all past that stage and I have to make a submission, again based on insufficient and unclear information. I am extremely uncomfortable being in that position.

However I have several concerns which I will set out below.

The Bermuda Government entered into a program to encourage the placement of solar panels in Bermuda. Along with BELCo a number of subsidies were offered as a part of the program. Potential customers created their own financial models to see if this was viable, the extent of their financial commitments and what the payback time would be- if there was one.

Contracts were entered into in good faith and many took loans to be able to seize what appeared to be an opportunity in reducing our dependency on one form of energy production as well as additional environmental and balance of payments benefits. It looks like this opportunity is about to be whisked away, with some having to bear potentially serious financial consequences.

I do not think that it reflects well on our island to set up one financial & contractual model only to have a Government authority dramatically switch the conditions part way. For those of you chuckling over the irony of my situation as Mayor of Hamilton and a contested \$18 million guarantee, I would gladly address your comments in a side discussion.

I cannot recall any request for public input with regards to any changes in the solar grid agreement. Unfortunately this questions of the role of the newly formed authority, how they will develop the characteristics of integrity, trustworthiness and reliability amongst those they are supposed to represent. I would consider this role to be as neutral (balanced) as possible, seeing how the country's development can be enhanced through cheaper energy costs, how to better our balance of payments through engaging in reusable & sustainable resources, supporting energy producers



seeking to increase production and efficiencies together, how to encourage Bermudians to make proficient use of our current energy supply and seek alternates as they become pragmatically available can be viewed as starters.

It is also the role of an authority to get it right from the beginning. The foundations need to be strong and unquestioned through its initial considerations. It cannot present one edict only to replace it with another and then another within the space of a month or two. It calls into question the whole investigative process and whether or not full consultation had been engaged in which takes into account the entire community, let alone those who have made an in good faith commitment. The decision making process has spoken for itself and raises its own series of questions. While this could be misguided perception, it has the same impact on the deemed authority of the Authority.

There are probably about 400 homes and businesses with solar panels connected into the grid with current billing details. This is not an unworkable number for the Authority to contact. As far as I can tell there has been no attempt to reach out to any of these users to inform, consult or request feedback. If it weren't for the efforts of Mr Madeiros, I doubt if anyone would have been aware of what you are proposing. Please do not consider a lack of communication as being anything other than a lack of transparency on your part and failure to engage in bringing these issues to the fore. Surely your mandate covers all of this stuff.

I appreciate the difficulty it is to engage in public consultation and to communicate with a disparate group of energy users/producers. You have one chance of a making a first impression and it should be right in everyone's eyes. I do not think you have achieved this but you also have a minimal profile, so a re-launch is possible.

If I understand what you are proposing, I do not think it reasonable to consider creating a billing process that ignores the fact that we are seeking alternate forms of sustainable energy and this solar energy is reliant on the sun which in turn determines the workday and energy usage. It is during the workday, in most parts, when electricity usage in Bermuda is at its highest, yet most residences are unoccupied or at their lowest consumption level. The residences' requirements are in the evening when the home is re-occupied and overall energy usage is at its lowest. They are now forced by hap chance to essentially selling whatever they produce during the day, when BELCo's costs are at their highest, at an avoidance cost rate and then purchasing in the evening when their means of energy production is non-existent.

All kilowatts are not equal. Netting out usage and production on a monthly basis removes most of that inequity- and for me, my entire argument.

Commercial usage is different, and I could accept the Authorities suggested rate rebate as commercial usage normally reaches its maximum during working hours, which in turn are normally daylight hours (hours of maximum production). Doing a monthly one for one netting would assist those commercial properties whose operating hours aren't daylight hoursx7 days a week, and where BELCo greatly benefits from exported energy. Again the lack of a public meeting stops me from making a full commitment as I am unaware of credible counter arguments to my supposition which

could arise in such a forum.

To add to the confusion I received a second invoice from BELCo this month to replace an earlier and incorrect one (?). Along with the bill I received two billing scenarios (I assume) giving me my billed charges using DEL Consumption (?) and one using NET. Each one had a separate and unique total, without any explanation as to what it was supposed to represent.

As already stated, I have no problem using the Rating Authorities suggested rebate of approx. 17 cents (even if it takes into account BELCo's infrastructure costs and ignores mine) but only when netted at the end of the month based on overall usage calculated simply by subtracting receiving vs delivery. If I end up being an end consumer at BELCo, at their 1<sup>st</sup> Block Rate for the first 250 kw's after netting, and then the 2<sup>nd</sup> Block after that. This is almost the NET Consumption scenario presented by BELCo.

The other scenario presented by BELCo (DEL Consumption) merely cuts my pre-solar bill by about 2/3rds . All I know is that I produce 3 times as much power as I receive from BELCo and yet it would look as if at the end of the month, I am the one obligated to BELCo. This would end up with my going off grid- the difference between current revenue and potential costs makes this a no-brainer. This does not help in creating a sturdy multi-contributor grid.

Having taken on the commitment of investing in Bermuda's energy future as well as slowing globe's climate change through reducing my carbon footprint, I find it galling that we should be considering a huge step backwards away from achieving resource sustainable goals by encouraging further alternate energy production and engaging in such a manner as to make our contractual obligations more questionable.

Respectfully,

Charles Gosling  
27 Harvest Lane  
Hamilton Parish CR 01

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