

Alana Caldwell  
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Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

8<sup>th</sup> November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I write to submit my feedback to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

Based on my research, I believe that the Bermuda Better Energy Plan (BBEP) submitted by BE Solar is the only way forward for our island and our energy future. The BBEP supports the purposes of the Electricity Act and adheres to the ministerial directions for the least-cost provision of reliable energy.

Renewable energy resources, solar and wind are natural and unlimited resources to Bermuda and this type of energy generation is being implemented in states and jurisdictions similar in structure to Bermuda. If the island does not start to implement the technology soon, we will fall behind and continue to burn non-renewable fuel and contribute more to environmental change.

The BBEP plan is a clear and concise with extensive research to back up their proposal. It offers local, reliable, affordable and renewable energy that is fair to everyone.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,  
Alana Caldwell

Alexander Lavery  
Chequers Croft, 15 Middleton Lane  
Paget  
PG03  
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441.300.7736  
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Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

16 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- *Reduces the ongoing reliance on overseas sources of fuel, keeping this money in the Bermudian economy*
- *Encourages the establishment of a well-trained local workforce, further enriching the lives of the Bermudian population.*

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Alexander R. Lavery

*Allison Settle-Smith  
Lily Cottage 45 Cut Road  
St. George's  
GE04  
Bermuda  
707-6050  
allisonsettle@gmail.com*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*15 November, 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

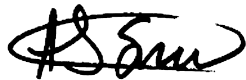
I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



*Allison Settle-Smith*

Ambrose Gosling  
21 Harrington Sound Road  
Smiths, FL07  
Bermuda

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

November 6, 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan as this plan provides a unique opportunity to shift the power and economics associated with power generation from the privileged few that own Belco to everyday Bermudians. Investing in distributed solar would provide a mechanism for Bermudians to build equity and even generate income. The fact that Government has allowed Belco to place quotas and restrictions that limit the viability of such investments is deplorable. Government should be doing everything in its power to enable and encourage Bermudians to invest in and benefit from owning their own energy.

The Bermuda Better Plan would make Bermuda a leader in sustainable energy production. As a small island nation, we have a lot to lose from climate change and should be doing everything we can to combat this. The Bermuda Better Energy Plan would provide Bermuda with a platform to tell the world "do as we say and as we do." Additionally this plan would help differentiate Bermuda from other island destinations and international jurisdictions as we seek to attract new visitors and investment given sustainability is continually becoming a more important issue for millennials.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



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**André J. Labonté**

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Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

15 November 2018

**RE: A response to the Consultation Document**

Dear Ms Lister,

My name is André Labonté and I'm writing this letter in response to the Bermuda Regulatory Authority's request for individuals and groups to consult and give guidance on IRP Bulk Generation Proposals put forth and how Bermuda should move forward regarding its renewable energy decisions in the 21<sup>st</sup> century. I have an electronics technology degree and a master's degree in Leading Innovation and Change, so my focus on forward looking assumptions is of I believe pertinence.

After going through the submitted proposals I would like to add my support for the **Bermuda Better Energy Plan** (BBEP) submitted by BE Solar and their team of international design consultants. It is quite evident a lot of time and energy has gone into making this the most comprehensive study of our needs and capabilities taking into account the maturing of the renewable energy sector and its coupling with improved battery storage technology. Their plan has a number facets which make it the ideal antidote to our current energy problems....

- 1. Renewable energy infrastructure prices continue to fall and are forecast to fall further making wind and solar technologies in particular not only economically viable but environmentally solid choices as well.**
- 2. Some competitive islands like Cayman plan to be 75% renewable energy within the next 20 years, we risk being left behind if we do embrace the LNG proposal.**
- 3. The (BBEP) Is the most consistent plan when referenced to the stated purposes of the Electricity Act and ministerial directions for a plan having the provision for providing the least-cost versus continuity of reliable electric source. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.**
- 4. This is mature technology in place in thousands of sites worldwide. It is commercially scalable and would provide for easy upgradeability.**

5. *The BBEP has been developed using detailed and transparent assumptions and methodologies.*
6. *As a concerned citizen of Bermuda, my wife and I have taken the step of buying our first electric car. I believe it's important to leave our country in a better place than we received it...for our children and theirs and the decisions we make today will undoubtedly affect that..*

I appreciate you reviewing my response. Should you have any questions regarding it I look forward to hearing from you.

As the rest of the world moves forward we dare not hold still or dare go backward.

Thank you for your time, kind regards

André J. Labonté,

*André J Labonté*

**MA Lic**

Anthony Coleman

21, Hinson Island

Paget PG 01

Bermuda

236-5900

[tcollection@northrock.bm](mailto:tcollection@northrock.bm)

Monique Lister

Regulatory Authority

1<sup>st</sup> Floor, Craig Appin House

8 Wesley Street

Hamilton, Bermuda

4 November 2018

Response to Consultation Document: Comments on IRP Bulk Generation Proposals

Dear Ms. Lester,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I do support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least cost provision of reliable electricity.

The plan can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.

Uses technology that is in commercial use Worldwide.

It has been developed using proven advantages to the environment, the most cost-effective electricity per KWH for all, added to that, with

net metering, the Power Company effectively, receives KWHs free of costs. No cost for oil, no generator maintenance costs.

A credit, that costs the Power Company nothing, as the customer has already produced those KWHs

Net metering also encourages more solar installations due to more acceptable returns on their investment.

Thank you for your time in reviewing my response, I look forward positively in learning your decisions that meet the requirements of the Electricity Act, and address the concerns expressed in these personal submissions.

Yours sincerely,

Anthony Coleman



*Your name*  
*House/apt number and street*  
*Town, Parish/County*  
*Postcode*  
*Country*  
*Telephone*  
*E-mail*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*13 November 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Bermuda is long overdue on improving its energy plan and its global foot print, and this is a plan they should implement.
- I love the idea of a wind and sun power plant that will be making a better Bermuda for our children and for the future.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

*Barbara Chasty*

**John B Brewer**  
**66 Harbour Road. Warwick. WK06. Bermuda**  
**441 533 4733 Barry.brewer@ngl.bml**

**Monique Lister**  
**Regulatory Authority**  
**1st Floor, Craig Appin House**  
**8 Wesley Street**  
**Hamilton, Bermuda**

**November 8th 2018**

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

**Dear Ms. Lister,**

**I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.**

**In the early 90s I was involved in proposing the installation of 4 wind turbines on the airport finger project. I am also a past President of KBB. I am also the CEO of Bermuda's largest shipping company and our new vessel is both MGO and LNG ready. Our company has also worked with multiple parties to help solve to fuel delivery and plant upgrade challenges facing our Island. In addition I am aware of the constraints faced by BELCO, as my father served on the Board for many years and my father in law was a past Chairman of the board. As such I believe that I have a rounded understanding of what is possible and what is not.**

**I offer the following for principles and beliefs for consideration:**

- 1) For Bermuda to compete globally it must have reliable and cost effective energy.**
- 2) In the short term all businesses and homes must be aggressively encouraged to reduce fossil fuel energy consumption and encouraged to use renewables sources.**
- 3) Longer term (5 years time) harnessing the sun and wind investment must be mandated by the government. In China gas motorcycles were outlawed. All are now electric. The government must lead.**
- 4) Operationally when the sun does not shine and the wind does not blow the energy producer(s) must still deliver enough capacity to service all customers. These days this contingent capacity cost can be managed through available energy storage solutions.**
- 5) Substantial solar or wind energy storage capability is the best way for required diesel or LNG plant capital investment to be reduced.**
- 6) During the transition to renewable energy standby barge based portable generators are available globally.**
- 7) Private public bond issuance is the way to fund the needed investment and shift in consumption from fossil fuels.**

**As such I support the principles of the Bermuda Better Energy Plan submitted by BE Solar:**

It is consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan also provides evidence that renewable energy will deliver a substantial reduction in carbon emissions while stabilizing energy costs through clean renewable energy. It also encourages technology that is in commercial use and well proven in other jurisdictions.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "John B Brewer", with a long, sweeping horizontal line extending to the right.

John B Brewer

Good day,

I am writing to you as a part of the public consultation for the Integrated Resource Proposal. I want to share with you my opinion that the Regulatory Authority should choose one of the plans offering renewable energy. Renewable energy has many advantages:

- Renewable energy is cleaner and emits fewer toxic pollutants. Fossil fuels are never perfectly pure and many of the other chemicals that are released into the environment are toxic to humans, plants, and animals. I am concerned that adding more fossil fuel pollution to Bermuda's atmosphere could have detrimental effects on both the people and the living environment.
- Renewables do not emit carbon dioxide into the atmosphere. Carbon dioxide is the most common greenhouse gas and directly contributes to climate change. Climate change is an accelerating crisis and we need to minimise the carbon dioxide in the atmosphere if we want to avoid the worst consequences. Climate change is an issue that will not only affect us, but also our children and grandchildren. I urge you in the strongest terms possible to read and review the recent IPCC report that says we have only 12 years to limit the most catastrophic consequences of climate change.
- There is a tourism incentive to renewable energy. In this new age of conscientious consumerism, if Bermuda is able to advertise that it has a lot of renewable energy then that may attract tourists who care about environmental issues. Additionally, I think that wind farms and solar farms are more visually appealing than traditional gas turbines, which also spew gross smog and smoke into our skies. The exhaust can sometimes be seen all along North Shore, and I cannot help but think that adding further fossil fuel generators would make the problem worse and potentially tarnish Bermuda's international reputation as a clean and naturally beautiful place.

I hope that you will consider these advantages when making your final decision, and I hope that when the final decision has been made that you will have chosen one of the plans with significant renewable energy capacity such as Bermuda General Agency's wave energy park or the Optimum Renewables plan by BE Solar.

Thank you for your time,  
Beverley Barton

Brodie Smith  
21 St Johns Hill  
Pembroke  
HM02  
Bermuda  
4413321379  
brodiederrick@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

8 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk  
Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Evokes an alternative approach for all Bermudians and will create the opportunity for Bermuda to become a world leader in the renewable energy sector.
- Because I am concerned about the changing climate and the latest IPCC reports.  
<http://www.ipcc.ch/report/sr15/>
- Will open multiple job opportunities across several sectors.
- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Brodie Smith

Cameron Madeiros  
10 Nantuclet Lane  
Smiths  
FL05  
Bermuda  
335-2266  
Cam.madeiros@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

10 October 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- *It is the way of the future*
- 

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Cameron Madeiros

*Cheri Smith*  
*3 Harmony Gardens*  
*92 Middle Road*  
*Paget PGo3*  
[cherismithbda@gmail.com](mailto:cherismithbda@gmail.com)

504-4271

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

14 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Christine Flack-Doughty  
Blue Pool, 26 Trimmingham Hill Road  
Paget PG 05, Bermuda  
Tel: +1 441 232 0199  
Email: [doughty.christine@gmail.com](mailto:doughty.christine@gmail.com)

29 October, 2018

Ms Monique Lister  
Regulatory Authority  
Craig Appin House  
81 Wesley Street  
Hamilton

**RE: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

This is a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I provide my support for the Bermuda Better Energy Plan (BBEP), submitted by BE Solar, for the following key and valid reasons:

- BBEP meets the prime purpose of the 2016 Electricity Act, providing sustainability, conservation and cleaner energy solutions, non-discriminatory distribution, making energy more affordable for end-users;
- BBEP takes full advantage of solar and wind technologies using industry best practices which are successfully used in nations around the world;
- BBEP have provided clear calculations, assumptions and forecasts evidencing that solar and wind technologies offer a more affordable sustainable cost, as opposed to the ever increasing fossil fuel costs;
- BBEP recognizes the excellent potential solar and wind resources the Bermuda climate offers, promoting use and investment in the local economy.

I appreciate your review and positive consideration of this response.

Respectfully submitted,

  
Christine D Flack-Doughty



Claire A Smith *With name*  
#19 HInsons Island *House/apt number and street*  
Paget PG05 *Town, Parish/County*  
Bermuda *Postcode*  
2367854 *Country*  
clara@ibl.bm *Telephone*  
*E-mail*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

10 October 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



*Please sign or print your name here*

Bradley Cole Capuano  
24 Cobbs Hill Road  
Warwick  
PG01  
Bermuda  
333-2319  
colecapuano1@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

15 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Is a huge step in the right direction towards making Bermuda a more sustainable country.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Bradley Cole Capuano

Daniel Fiddick  
24 Cobbs Hill Road – Lower Apt  
Warwick  
PG01  
Bermuda  
532 9058  
Danielfiddick@hotmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

15 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Puts Bermuda on a path that allows it to capitalize on its size, reputation, and current infrastructure to be a model for cleaner, more sustainable western cities.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Daniel Fiddick

## **L. Nigel Burgess**

---

**From:** Debbie Jackson <deborahlj@northrock.bm>  
**Sent:** Friday, November 9, 2018 4:45 PM  
**To:** Electricity  
**Subject:** Resident's Concern - Better Energy Plan for Bermuda

To Whom it may concern,

This is a submission to oppose the proposal by BELCO to rely on LNG for Bermuda's future energy requirements. This is a short-sighted and anachronistic solution. The world has moved beyond this outdated energy source for many well-documented reasons. We would be supporting the erosion of land and the pollution of our planet, when we know better and can make much smarter decisions for our island community.

**Please take this note as confirmation of my support for the greener technology outlined in the BE proposal. We are far better served by wind and sun.**

I beg you to be open to the reality that we have to change, update and upgrade our energy sector, which is no longer well-served by an antiquated infrastructure both organizational and technical.

It is our shared responsibility to make smart choices for our future energy requirements and the health of our environment and our society.

Submitted respectfully by,

Deborah L. Jackson  
Southampton  
Bermuda

Derrick Simons  
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Southampton  
SN01  
Bermuda  
336-5560  
derricksimons@hotmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

15 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,


I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Encourages Bermuda to move toward a more robust infrastructure, whereby energy needs can be sourced in part from multiple local renewable sources, thus reducing a dependency on fuel importation, as proposed by the U.S. Environmental Protection Agency to improve operational efficiency and economic performance of state-based assets [p.1-4, *The Multiple Benefits of Energy Efficiency and Renewable Energy*, (2018)].
- Provides for potential local employment opportunities associated with the scalable expansion of the Bermudian energy industry through indirect economic effects [p.1-15, *The Multiple Benefits of Energy Efficiency and Renewable Energy*, (2018)], while simultaneously providing ecological benefit to Bermuda, through divestment of fossil fuels, in line with the IPCC's recommendations from the 'Sustainable development and a 1.5 C warmer world' report [p.11, *Global Warming of 1.5 C*, (2018)]
- Places Bermuda in a much more favourable position to be able to bootstrap future technological development in energy generation and supply, at a time where development of renewable energies is reaching a new height in global interest and innovation.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

  
Derrick Simons

*DeShae DeShields Grant  
1 Rockaway Drive Unit 8 Springs  
Southampton  
SB02  
Bermuda  
441-705-7555*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*11 November 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

  
DeShae Deshields

Diana Li  
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Paget, PG03  
Bermuda  
441-518-5261  
DianaLi8787@gmail.com

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

November 9<sup>th</sup>, 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions (by 62%) while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Provides us with efficient energy sources that are cleaner, more environmental friendly, and a detailed plan on how we can accomplish this movement and change on the island in a realistic manner
- Demonstrates a significant opportunity and benefit of diversifying our energy sources, incorporating offshore wind and distributed solar, reducing imported fossil fuels, and by also switching to LPG instead
- Provide renewable energy foundation for our future and our children and future generations

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

**Dr. Diana Li**

# Integrated Resource Plan Consultation Submission

Submitted by Mark Guishard to the Regulatory Authority

November 14, 2018

**Caveats:** The opinions expressed here mine alone, and should not be taken as those of BIOS (my employer), an independent and non-partisan science organization. My expertise is not in the generation, transmission, distribution or sale of electricity, but more to do with Bermuda's weather and climate.

## Introduction

I endorse the BBEP as an appropriate approach to Bermuda's energy future. I believe that consideration can be given to aspects of other alternative plans submitted, but that as a whole, the BBEP:

- conforms to the [Bulk Generation Proposal Guidelines](#);
- is consistent with the purposes of the Electricity Act 2016 (EA);
- provides a framework for the development of a more sustainable, reliable and cost-effective mix of generation capacity and energy supply for the next 2 decades, and;
- allows for the evolution of infrastructure and technologies to enable better adaptation to energy needs and supply beyond the next 2 decades.

From a financial perspective, I fully recognize and expect that the critical infrastructure needed for electricity generation for Bermuda is in dire need of an upgrade in the near term. I also note that the costs for this will be borne somehow by the general public, either as taxpayers or rate-payers. One way or another there will be a significant capital expenditure required to ensure the ongoing supply to meet the demand of electricity. In principle, I would rather pay rates or taxes that were in support of building infrastructure that allowed a cleaner, more reliable and cost-effective energy supply in the future; and that doesn't rely entirely on imports of fuel (and consequently exports of money from Bermuda's economy).

It is clear from the analysis in the BBEP report that we cannot expect to fully rely on renewable energy, and that fossil fuels will still play a part in the mix of Bermuda's electricity generation needs. However, fully investing in an entirely fossil fuel-based infrastructure seems short-sighted, based on the volatility of costs associated with importation of petroleum-based fuels vs. the free resources of energy that we as a jurisdiction still don't access in bulk. In light of what we know about climate change and the impact that more greenhouse gas emissions will play in the future (see the most recent [IPCC report](#)), it would also be irresponsible in my opinion to ignore the opportunity to develop more clean energy infrastructure.

In my view, there is a strategic economic motivation for moving towards more renewable energy as part of Bermuda's electricity generation, rather than solely a climate change mitigation argument (however, both are important factors).



## Reliability and sustainability

### Solar and wind resource

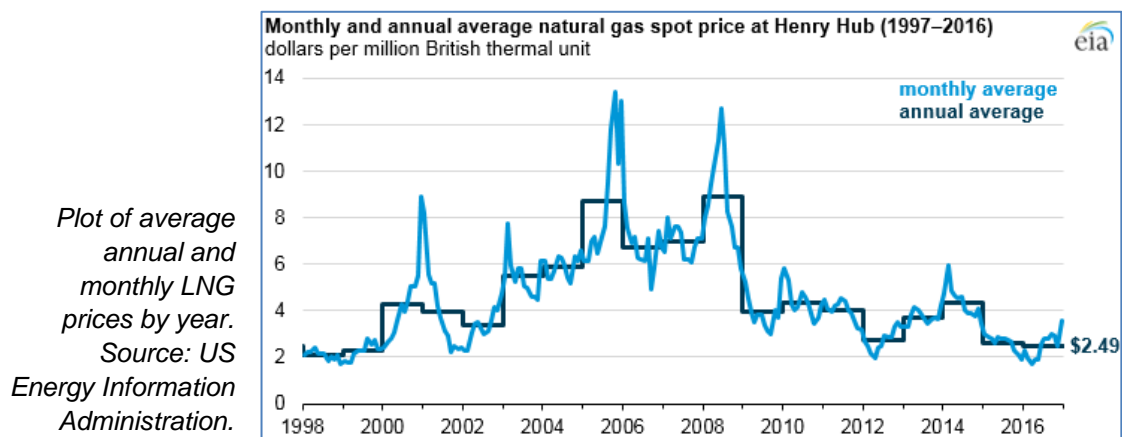
With specific reference to the sustainability and reliability of energy supply, what could be more reliable than the sun rising each day and the wind blowing?

It is likely that no one in Bermuda needs a primer on sunshine – a cursory survey of the number of sunshine hours will reveal that even in December there are days when the sun shines 9 hours a day, and in June it is more like 13 hours a day. There are several days per year when the solar irradiance exceeds  $1,000 \text{ W/m}^2$  (2014-16 instantaneous measurements from Bermuda Weather Service). Site reports (Appendix 1) for Bermuda generated from the World Bank's Global Solar Atlas (<https://globalsolaratlas.info/>) indicate a potential production of the order of 4 MWh per day (>1400 MWh per year) for a large ground-mounted (1 MWp – megawatt peak) photovoltaic system. Solar energy is a clear and obvious resource that is widely untapped in Bermuda.

Should wind energy (as proposed in the BBEP) be an approved pathway for generation, there are several studies underpinning the viability of Bermuda's wind resource. I point to a recent independent project published by the [University of California, Santa Barbara \(UCSB\)](#) in 2014. In fact a recent study at BIOS indicates that the wind in Bermuda has been strengthening on the order of 0.042 m/s (0.09 mph or 0.15kph) per year - over the last few decades that amounts to wind speed increases of over 1-1½ mph (4-5 kph - [Bates, 2017](#)).

### Volatility of LNG prices

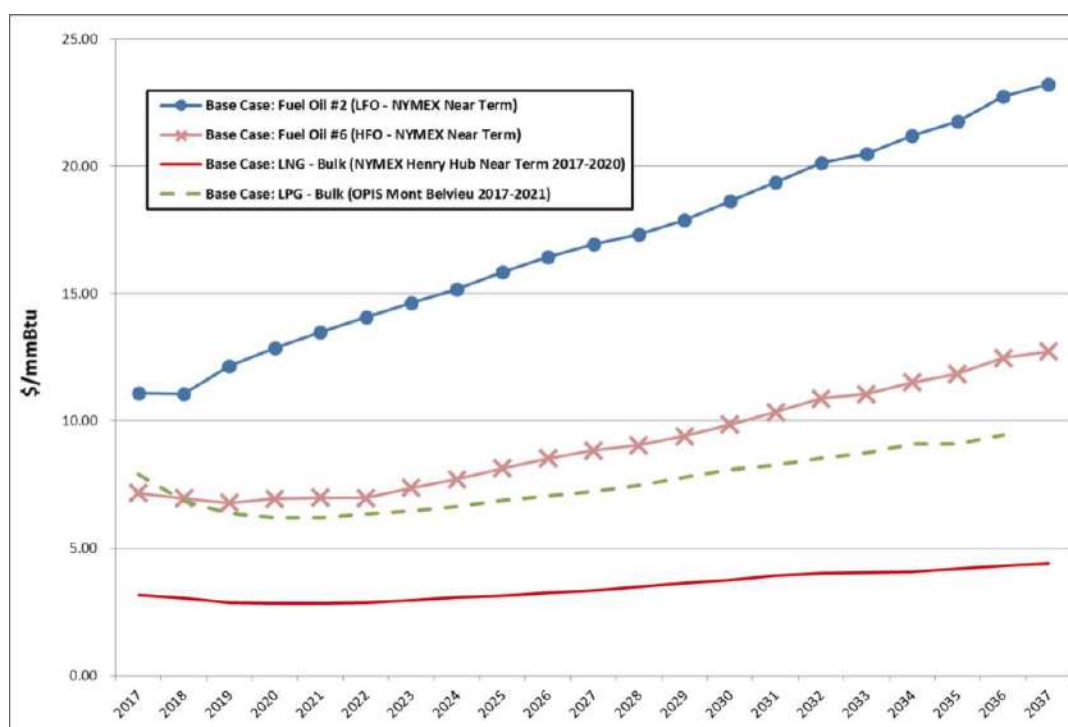
Contrast the ready availability of renewable energy resources against the volatility of natural gas prices (heavy future reliance on LNG is the mainstay of the BELCO IRP submission). Note these excerpts from the US Energy Information Administration blog [report](#) in 2017:



“Warmer-than-normal temperatures for most of the year and changing natural gas demand were the main drivers of natural gas prices in 2016.” In the graphic from the same report (inset above), we see annual LNG prices at the Henry Hub pipeline in Louisiana, with some years' annual averages exceeding \$8 per million British Thermal unit (BTU). Also note the sharp drop in 2008-9, coincident with the global financial crisis. This is just one example to show that the price of LNG,

even in a well-established marketplace, is predicated on supply and demand regimes that are entirely beyond Bermuda's sphere of influence.

Even further to this point, I would expect that climate change will have an impact on these prices, given its influence on dropping global demand for heating in the winter, but rising demand in the summer – what is the balance? Will LNG prices to export markets (like Bermuda) change in response in order to offset/boost prices in large markets? These are questions for an energy finance expert, but a cursory internet search reveals differences in volatility between BELCO's IRP base cost of LNG at the same Henry Hub pipeline (below – red solid line, with annual averages below \$5/mill BTU), and the real historical volatility over the last 20 years, exhibited by the EIA report (with prices ranging from approximately \$2 to \$9/mill BTU in the last 20 years).



Base Commodity Prices forecast through 2037, from the [BELCO IRP Proposal](#) (their Figure 1.3) – note the red solid line indicates a prediction of LNG prices at Henry Hub.

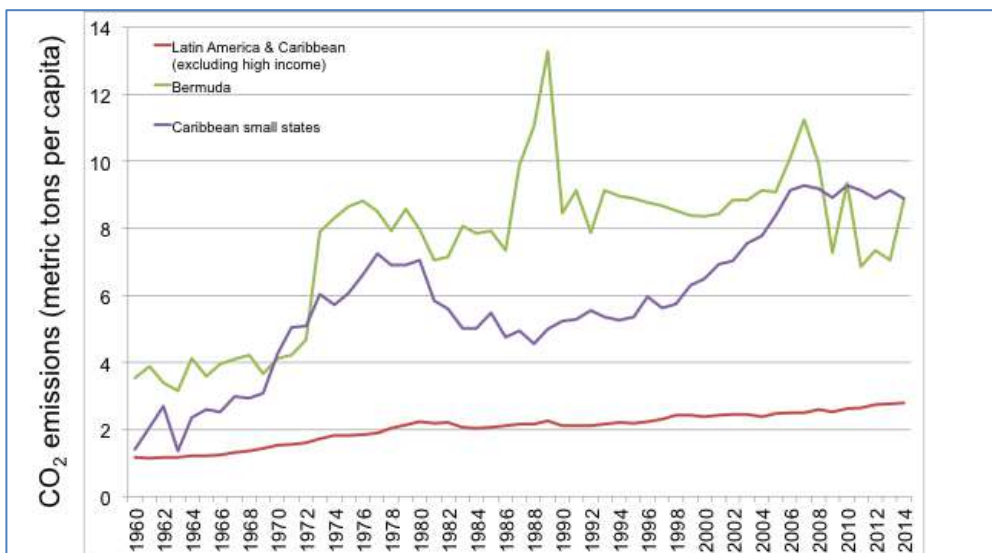
With this in mind, I believe that the Better Bermuda Energy Plan is the submission that is more consistent with the purposes of the EA than the BELCO plan, in the specific clauses:

- (a) to ensure the adequacy, safety, sustainability and reliability of electricity supply in Bermuda so that Bermuda continues to be well positioned to compete in the international business and global tourism markets [and];
- (c) to promote the use of cleaner energy sources and technologies, including alternative energy sources and renewable energy sources.

## Climate Change and Emissions

There is much rhetoric surrounding climate change, its impacts globally and locally, and the extent to which renewable energy will help. With regards to Bermuda, it should be noted that reductions in gross emissions from fossil fuel combustion will have a negligible impact on global atmospheric carbon concentrations, and likewise on local impacts from climate change. A stronger (economic) argument can be made for the improvement of energy security and retaining revenue in Bermuda's economy by reducing reliance on the purchased imports of fossil fuels. However, the economic argument is not the only valid one – there are environmental, health, public safety, moral, and other perspectives that should also be considered in any examination of climate change, beyond the scope of this submission.

Having said that, from a moral perspective, we should strongly consider setting a better example on emissions, and not fall behind what is becoming a widely accepted regional norm - moving in the direction of more renewable energy. Bermuda's per capita carbon emissions were 8.84 metric tons per capita in 2014 (data from the World Bank), compared against the regional average for Latin America and the Caribbean of 3.06 metric tons per capita (graph below).



*CO<sub>2</sub> emissions by year for Bermuda (green), and averages for small island Caribbean states (purple) and Latin America & Caribbean (red) World Bank.*

It is worth noting that we fairly closely match the average for Caribbean small island states, so comparatively perhaps we are in line with jurisdictions with similar emissions challenges. Having said this, targets for renewable energy are as ambitious as 90% by 2030 for some of those same small Caribbean islands ([Council on Hemispheric Affairs, 2017](#)), and from a reputational and competitive standpoint (as a jurisdiction that needs to attract visitors and international business) we should be following suit. The TD&R Licensee's IRP plan does little to address this, leaving us with the lowest renewable targets in the region; whereas the BBEP clearly shows a benefit in the reduction of carbon emissions, bringing us more in line with our neighboring competitors.

I should add that I believe that whatever plan is approved, improved resilience to future hazards related to climate change (e.g. sea level rise, changes in the frequency and intensity of storms) should also be incorporated into the framework for infrastructure development, in the interest of energy security.

### **Other aspects of the BBEP submission**

The treatment in the BBEP report of the rise in electric vehicles (EV) is a sensible one, in my view. Anecdotally, having purchased an EV recently with my family, we notice more and more of 'our' car on the road, just in a matter of months. I suspect that EVs are showing an uptick in sales locally, so it seems sensible to include and estimate of additional demand in the analysis.

Likewise, accounting for the market- and technology-driven increases in efficiency that would be expected during the natural turnover of appliances seems a reasonable approach, resulting in a plausible reduction of the overall energy demand through the projected timeframe in the study period.

### **Other IRP submissions and Stakeholders**

I note that the BBEP has been commissioned by BESolar, and has been endorsed by Greenrock, the Bermuda Environmental Sustainability Taskforce, the Bermuda Solar Energy Association. BESolar has stated that they have no vested financial interest in the success or failure of the recommendations laid forth in the BBEP, in that they are not in the business of developing bulk generation capacity. In fact it is reasonable to expect that, should more renewable energy infrastructure be required (as opposed to primarily LNG infrastructure) BELCO would likely still be asked to develop that capital project. So, while on the face of it, the BBEP may be seen as being posed as competition to BELCO, it is probably more of an alternative pathway for the TD&R licensee itself to follow.

I have read the Oxera "Review of the IRP Proposal's compliance with guidelines" report on the TD&R licensee's proposal. While the Oxera report points to concerns (such as a qualitative vs. quantitative assessment of four planning scenarios), it recommends that the IRP could be accepted for public consultation.

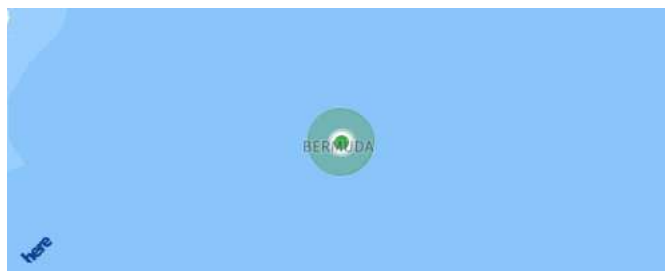
I have also read the Ricardo Energy and Environment overview report on the IRP Alternative Proposals. As a process, it would have been good to see an apples-to-apples comparison of BELCO's IRP vs. the Alternative IRP Proposals, conducted by the same agency. Nonetheless, of the five (5) alternative proposals that met Ricardo's stated requirements, (BBEP, Bermuda Environment Energy Solutions Group Consortium, Enviva and Albioma, Offshore Utilities, and Sol), only BBEP involves a plan that does not entirely rely on importing a fuel product (high long-term cost) that will be burned in the generation of electricity (ongoing high emission impact).

## ***Appendix 1 – Global Solar Atlas Report (follows)***

## SITE INFO



Site name: **Hamilton, Devonshire, Bermuda**  
Latitude: 32.302804°  
Longitude: -64.764862°  
Altitude: 29 m a.s.l.



## SOLAR RESOURCE AND AIR TEMPERATURE



Long-term yearly and daily averages

Global horizontal irradiation [kWh/sq m]:	1718 per year (4.707 per day)
Direct normal irradiation [kWh/sq m]:	1603 per year (4.392 per day)
Diffuse horizontal irradiation [kWh/sq m]:	698 per year (1.912 per day)
Global tilted irradiation [kWh/sq m]:	1877 per year (5.142 per day), for surface tilted at 26° facing 180°
Air temperature [°C]:	21.9

## PHOTOVOLTAIC POWER OUTPUT



Photovoltaic system of size 1 MWp with modules facing 180° tilted at 20°, long-term yearly and daily averages

Photovoltaic electricity [MWh]:	<b>1464 per year (4.011 per day)</b>
Global tilted irradiation [kWh/sq m]:	1866 per year (5.112 per day)

## ABOUT



This pdf report ("Work") is automatically generated from the input parameters selected by you. It provides the estimated solar resource, air temperature data and PV power output for the selected location.

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Solar database and PV software © 2016 Solargis

*Dr. Reid Robinson  
10 Brimstone Hill  
Devonshire, DV 07  
Bermuda  
704-7343*

[bdadoc@hotmail.com](mailto:bdadoc@hotmail.com)

Ms. Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

October 26<sup>th</sup>, 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms. Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity.
- The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs.
- Uses technology that is in successful commercial use in many other jurisdictions.
- Better addresses the concerns raised by the IPCC Special Report <http://www.ipcc.ch/> on global warming.
- Utilizes transparent procedures.
- Helps in the delivery of our tourism product by;
  - attracting other energy producers to experience and potentially model their energy generation after Bermuda's.
  - promoting electric vehicles making the roads more enjoyable and "unique" to tourists (and residents).
  - may lead to completely replacing internal combustion engine transport thereby increasing the energy demand, utilization and potential profits for Belco shareholders.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Dr. Reid Robinson

Dudley Thomas  
The Knightsbridge  
142 Harbour Road  
Paget PG05

Monique Lister

**Regulatory Authority**

1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*1 November 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am write to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support enthusiastically the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Lessens reliance on fossil fuels
- Brings Bermuda in line with progressive countries that have embraced broad based renewable energy production

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Dudley Thomas





Dueane Stephen Dill  
Forecasters Cottage  
#2 Fort George Drive  
St Georges, GE02  
Tel: 441-531-1539  
E-Mail: dilldueane@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

14 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Reliance on fossil fuels is not sustainable and moreover is detrimental to Bermuda and the Planet. In order to secure a Bermuda and a Planet for our children and grand-children, we need to do things differently. What we are doing now is broken and destroying our planet.
- The Monopoly of the Energy providers is economically unhealthy, where a few dictate and benefit from providing a necessary product.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Dueane S. Dill

1<sup>st</sup> November 2018

Ms. Monique Lister  
Regulatory Authority  
1<sup>st</sup> Floor, Craig Appin House  
8 Wesley Street,  
Hamilton

**Subject: Response to Consultation Comments on IRP Bulk Generation Proposals**

Dear Ms. Lister:

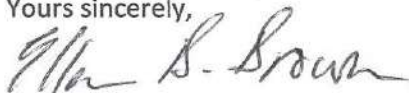
I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of the reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilizing energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies
- Allows for small businesses to employ Bermudians in jobs and services locally.

Thank you for your time in reviewing my response. I look forward to learning the final outcome of the IRP consultation process.

Yours sincerely,



Ms. Ellen Burton Brown

Ms. Ellen B Brown  
Knaption Knoll Cottage  
8 Ocean Crescent  
Smith's Parish HS 01  
Telephone: 293-2628  
[ellen.brown@link.bm](mailto:ellen.brown@link.bm)

**From:** [heather nova](#)  
**To:** [Electricity](#)  
**Subject:** Response to Consultation Document: Comments on IRP Bulk Generation Proposals  
**Date:** Wednesday, October 24, 2018 10:22:12 PM

---

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I would love to see Bermuda become less reliant on fossil fuels by harnessing our own readily available resources.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan :

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Would make Bermuda a shining example to the rest of the world by choosing alternative energy and making the world a greener, cleaner place

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Heather Nova

PO Box SN428  
Southampton

Please be so kind as to confirm receipt of this response. Thank you.

Heidi L. Smith  
47A Apartment  
St. Anne's road  
Southampton, SN 02  
heidilsmith@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

14 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- *We need to save this gorgeous island and this planet!!!....*

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

  
Heidi L. Smith

Irena Ashton  
9 Richmond Rd  
Pembroke, HM08

505 9973  
irena.ashton@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

14, November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Irena Ashton

A handwritten signature in black ink, appearing to read 'Irena Ashton', with a long, sweeping flourish extending upwards and to the right.

Jack Durner  
7 Richmond Road  
Pembroke HM 08  
Bermuda  
292 1477  
[jmdurner@northrock.bm](mailto:jmdurner@northrock.bm)

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

5 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I absolutely support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Is based on a proven track record that clearly demonstrates the benefits of harnessing solar power to provide clean energy.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

*Jack Durner*

Janice & Bill Bucci  
60 Middle Road  
Smith's FL06  
Tel: 293-6733  
e-mail: janice.bucci@gmail.com

November 12, 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I attended the meeting held by BE Solar regarding their Bermuda Better Energy Plan and wish to submit my response to the IRP Bulk Generation Proposals. I fully support the Bermuda Better Energy Plan (BBEP) as it:

- Means less dependence on sources that Bermuda cannot control, particularly fuels and their cost. Bermuda will always be at the mercy of world-wide fuel supply and pricing. Also, money leaves Bermuda to pay for fuel whereas other energy sources, such as solar and wind, can be produced locally, so far less money would be leaving our shores.
- Highlights that the price of electricity would be stable using renewable energy and not be subject to LNG price fluctuations.
- Demonstrates that using renewable energy sources will result in a substantial reduction in carbon emissions which is obviously much better for our environment.
- Shows that other countries, and indeed other islands, are already putting renewable energy sources to commercial use.

It seems clear to me, as well as my husband who I relayed the content of the meeting to, that moving much further away from fuel, as a source of energy, to renewables, makes much better sense than the 10%-15% target of renewable sources that Belco's plan indicates.

We truly hope that the Better Energy Plan is the plan that you embrace and implement for the betterment of the island and its people.

Yours sincerely,



Janice Bucci

JAY W. KEMPE  
29 Devon Point Lane  
Devonshire FLo5  
Bermuda  
504 5365  
jaykempe@logic.bm

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

23rd October, 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- **Is clearly the sensible way forward and Bermuda must grasp this opportunity NOW because if the BELCO plan is adopted we will put back genuine progress for 2 – 3 generations of Bermudians.**

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



JAY W. KEMPE



Jennifer Robinson  
10 Brimstone Hill  
Devonshire, DV 07  
Bermuda  
532-9049

[jennifer.robinson@validusre.bm](mailto:jennifer.robinson@validusre.bm)

Ms. Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

October 26<sup>th</sup>, 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms. Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity.
- The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs.
- Uses technology that is in successful commercial use in many other jurisdictions.
- Better addresses the concerns raised by the IPCC Special Report <http://www.ipcc.ch/> on global warming.
- Utilizes transparent procedures.
- Helps in the delivery of our tourism product by;
  - attracting other energy producers to experience and potentially model their energy generation after Bermuda's.
  - promoting electric vehicles making the roads more enjoyable and "unique" to tourists (and residents).
  - may lead to completely replacing internal combustion engine transport thereby increasing the energy demand, utilization and potential profits for Belco shareholders.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Jen Robinson

Jennifer Soares  
14 St Anne's Rd  
Southampton  
SN 01  
Bermuda  
441-536-6385  
jensoaresbda@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

13 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- We have the privilege of living on one of the most beautiful islands in the world. Climate change is a very real issue that will affect the entire world and impact our beautiful island home. We owe it to our children and the generations of future Bermudians, to do all we can NOW toward diminishing the devastating affects of climate change. Let us be an example for the world, for what changes a country can accomplish working toward a common goal. The time

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Jennifer Soares

## Additional information on the prospects of wind power in Bermuda

In case the Regulatory Authority is not aware, here are the weblinks to a report and other materials summarizing work done in 2013-14 by a team of masters students from the Bren School of the Environment at UC Santa Barbara. The 'real world' model that UCSB employs for work at this level resulted in a very professional report that was developed with extensive local consultation and guidance from a variety of experts in the field. It demonstrates the viability of wind power for Bermuda, suggests approaches, and recommends potential turbine locations. Any investigation of wind power in Bermuda should refer to this work.

### Report

[https://www.bren.ucsb.edu/research/2014Group\\_Projects/documents/BermudaWind\\_Final\\_Report\\_2014-05-07.pdf](https://www.bren.ucsb.edu/research/2014Group_Projects/documents/BermudaWind_Final_Report_2014-05-07.pdf)

### Poster

[https://www.bren.ucsb.edu/research/2014Group\\_Projects/documents/BermudaWindFinalPosterPrint\\_000.pdf](https://www.bren.ucsb.edu/research/2014Group_Projects/documents/BermudaWindFinalPosterPrint_000.pdf)

### Summary outreach document

[https://www.bren.ucsb.edu/research/2014Group\\_Projects/documents/BermudaWindFinalBriefPrint\\_000.pdf](https://www.bren.ucsb.edu/research/2014Group_Projects/documents/BermudaWindFinalBriefPrint_000.pdf)

John Frith A.B. B.Arch  
P.O. Box WK 89  
Warwick WKBX Bermuda

Tel 441-534-8396  
[moonman@northrock.bm](mailto:moonman@northrock.bm)

10 November, 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am a Bermudian registered architect and a retired environmental design consultant, having investigated and advised on a broad range of planning solutions in Canada and the Caribbean as well as Bermuda. These have necessarily included the evaluation of energy source options as may be deemed appropriate in differing situations.

There has for many years been no doubt in my mind that the BELCO model for bulk generation, with its reliance on fossil fuels, is a dinosaur barely surviving in our times. Bermuda now—and Bermuda in the rapidly unfolding future—can do better than that. I have seen smaller and less sophisticated jurisdictions do better than that.

I have given close attention to the Bermuda Better Energy Plan. It was well and thoroughly researched; it promises cheap and reliable electricity—and we have yet to imagine a better form of energy to drive the needs of life than electricity. The Plan is not science fiction: it is science fact. It makes sense. If there is to be a choice it must be in favour of the sensible.

I should also add that my personal experience with BE Solar is such that my endorsement of their Better Energy Plan goes well beyond the recognition that they have the right formula for Bermuda's next Bulk Generation requirements. Their personnel have advised and assisted me (among other projects) in providing "off-the-grid" solar power for my cottage on a remote island, and have left me in no doubt of their technical abilities and their commitment to providing the necessary energy at the right price.

Thanks for reading this. I hope the Authority will give some thought to my suggestions in favour of the Better Energy Plan.

Sincerely,

A. John Frith

John Hindess  
3B Ord Road  
Warwick  
WK09  
441 532 1211  
John.hindess@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

23 October 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- I truly believe is the best plan for Bermuda going forward.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



John Hindess

**From:** [John Parsons](#)  
**To:** [Electricity](#)  
**Subject:** Consultation Document  
**Date:** Wednesday, October 24, 2018 2:31:34 PM  
**Attachments:** [Screenshot 2018-10-24 at 2.13.13 PM.png](#)  
[Screenshot 2018-10-24 at 2.13.48 PM.png](#)  
[Ceto wave pump.png](#)

---

Dear Monique Lister,  
These are my comments on the IRP Bulk Generation Proposals Consultation.

#### ALTERNATIVE ENERGY.

##### 1) SOLAR.

Solar PV (photo voltaic) panels for the production of electrical power, are still somewhat costly for the average home, even if one considers the basic system of supplying the grid during the day and buying back from the grid at night, which could end up with a minimum BELCO bill.

The drawback of the above is that with a major power outage (Hurricane, Blackout etc), one would be without any sort of electrical power for a while.

If this system was supplemented with a Passive Water Heating Solar Panel (Bermuda Engineering - Travis Burland), then it is possible that BELCO could be paying back more to the individual household. However the passive system or any other Solar water heating system still requires electrical power for water pressure.

If one added Batteries to the above Solar PV system then there would be electrical power whenever it was required. However batteries would be an additional large cost, added to which they would require maintenance and the cost of that.

Tesla and others, now produce a battery unit suitable for households with possibly no maintenance costs.

PV cells are becoming more efficient and of course need to be mounted facing Southerly and at a suitable angle to benefit from both Summer and Winter sun, approximately 47° to the horizontal for Bermuda, (Bermuda Degrees latitude 32 + 15).

I would suggest baby steps in that all households, with Governments help (No duty), should be encouraged to install a passive water heating system.

I installed one of the above systems myself some 8 years ago at a total cost of about \$5000.00, doing all the plumbing myself and with a suitable Timer, resulted in my saving about 30% of my BELCO bill. I also found out recently when my existing water heater sprung a leak, that by coupling the incoming Hot water pipe from the Solar panel to the house hot water Tempering valve pipe, that I could still have hot water for a shower and in the kitchen to wash dishes.

This made me consider doing away with the electrical heater, but decide that come Winter I might still require the electrical heater, connected via a timer, to help out.

The Passive Water Heating Solar Panel does NOT like some water heating panels, require a loop of piped liquid to be continually pumped round the loop using a small Solar powered pump and also a special water heater. Something else that could fail and require repair costs.

The Passive system uses the household water pressure to deliver cold water up to the Solar panel and the heated water is diverted into the Cold water Inlet of the existing water heater. Hot water is delivered to the house via a Tempering valve, this valve is to ensure that scalding Hot water is Not delivered to the various Hot taps within the house.

Of course any Solar panel, PV or Water Heating, do not necessarily need to be roof mounted, which could reduce installation costs.

##### 2) WIND TURBINES.

These are a good clean way of producing electrical energy and are in successful use in many Countries.

My personal misgivings for Bermuda are with the electrical cable connection and the route of these cables to shore. Maintenance and repair to the electrical cables would not be easy in this salty environment and a suitable route would need to be trenched with obvious damage to the existing reefs.

It would seem that the favoured positioning of this Wind Farm would be out by North Rock with an approximate 20 mile route through the reefs to the closest shore landing.

### 3) WAVE PUMP.

An alternative to the above is the CETO Wave Pump by Carnegie wave energy.

I seem to recall that BELCO actually looked into this system and CETO engineers came out to assess the possibilities. These tests could possibly have already been carried out.

I have no idea what the outcome was as I retired from BELCO in 1996.

This system relies on below surface buoys connected to high pressure water pumps on the sea bed which through wave action, pump high pressure seawater through a pipe on the seabed to an onshore Hydro Power Generator (Pelton Wheel).

The high pressure seawater can also be used to supply a Reverse Osmosis desalination plant for fresh water. Test would need to be carried out as to the most favourable site for these and suspect that South shore would be best with shorter pipe runs to land than North shore.

Provided the wave activity is sufficient throughout the year, this is probably the way forward for bulk electrical power supply.

-----

My comments on IRP Bulk Generation Proposals Consultation are as follows:

A) I am of the opinion that Bermuda should not consider any sort of combustion engines, save for a small bank of Gas Turbines for emergency use for essential services, like the Hospital.

So none of the proposals for HFO, LFO, LNG, LPG should even be considered.

B) Bermuda Engineering Company Ltd (BE Solar)

See (2) above.

C) Bermuda General Agency Ltd.

See (3) above.

The CETO system by Carnegie wave energy, is what I am referring to in (3) above and see below on page 3.

D) Enviva and Albioma

Although I do like the Boiler with Steam Turbine plant, but think the wood pellets would become an excessive cost over time, as we are trying to save our forests.

E) Offshore Utilities.

Don't think this viable ..... would be a disaster in a hurricane.

D) Brad Sorensen and Arphion Inc.

Exciting stuff and what benefits, fresh water and salt. However, no details as to how the "Water Rocket" works or production of Hydrogen from salt water, presumably electrically. If so what percentage of overall MW production will it require. All he shows is a large box that does the magic conversion!!!.

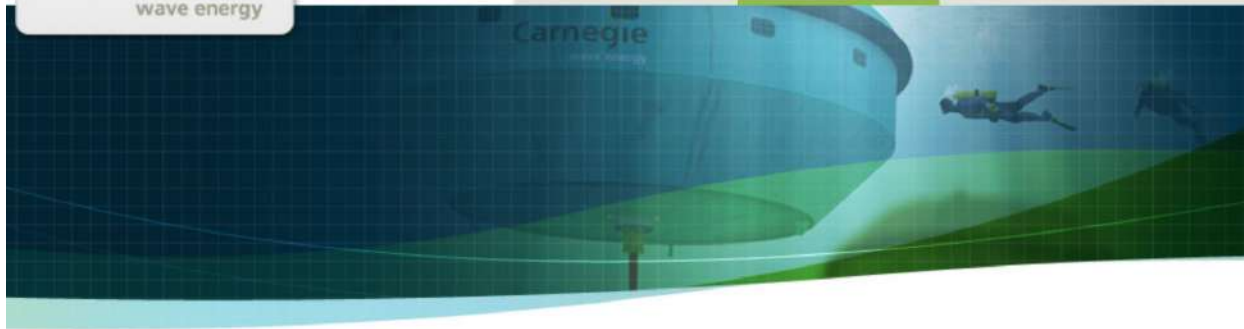
Also a new underground cable network. As far as I know the existing underground Transmission network should be good for a while yet.

I trust that my comments will be of assistance in coming to a decision as to which direction Bermuda should commit to, for a clean and reliable electrical power supply that we can be proud of.

Yours sincerely,

John Parsons.





## What is CETO

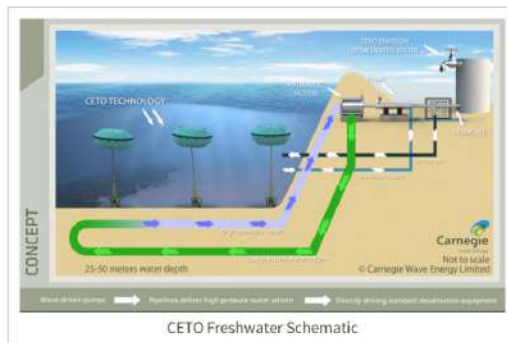
font size  [Print](#) [Email](#)

**Named after a Greek sea goddess, CETO offers the potential to revolutionise power and water production globally. CETO harnesses the enormous renewable energy present in our ocean's waves and converts it into two of the most valuable commodities underpinning the sustainable growth of the planet; zero-emission electricity and zero-emission desalinated water.**

The CETO system is different from other wave energy devices as it operates under water where it is safer from large storms and invisible from the shore. Power can be generated either offshore or onshore. The fully submerged buoys can drive seabed pump units to deliver high pressure fluid onshore via a subsea pipe to standard hydroelectric turbines, generating zero-emission electricity. The high-pressure water can also be used to supply a reverse osmosis desalination plant, replacing or reducing reliance on greenhouse gas-emitting, electrically-driven pumps usually required for such plants. Alternatively, the movement of the buoys can drive pumps and generators that are contained offshore, within the buoy itself, with power delivered back to shore through subsea cables.

CETO Technology characteristics include:

- ▶ Converts ocean wave energy into zero-emission electricity and desalinated water.
- ▶ Environmentally friendly, has minimal visual impact and attracts marine life.
- ▶ Fully-submerged in deep water, away from breaking waves and beachgoers, and unaffected by storms.



John Steele  
"Endsmeet House"  
172, Middle Road  
Devonshire FL02  
Bermuda  
(441) 525-5282  
steelej@me.com

21<sup>st</sup> October 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House 8 Wesley Street  
Hamilton, Bermuda

Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "John Steele", with a long horizontal flourish extending to the right.

John Weale  
4, Littleholme Lane  
Southampton SN 02  
Bermuda

Tel. +1 441 236 1553 (H)  
E-mail: jrw001@hotmail.com

5 November, 2018

Ms. Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton HM

**Re: Response to Consultation Document: Comments on IRP Bulk  
Generation Proposals**

Dear Ms Lister,

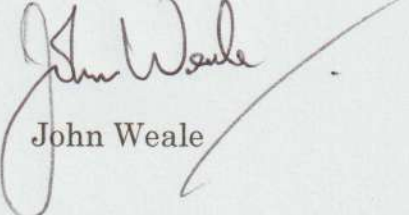
I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in many other jurisdictions.
- Uses the least-cost sources of energy, several of which Bermuda has pretty much unlimited resources (solar & wind).
- Uses resources that would help keep millions of dollars per year in the local economy.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response. I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

  
John Weale



**Jonathan W. Gray**

***Phone: 441 236 7115***

***Office 296 3324***

**P.O. Box WK 534 Warwick WK BX Bermuda**

***e-mail jwgray@grayco.bm***

22 October 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I am intimately aware of the operations at the current generation facility and I think it's one of the best kept secrets in Bermuda. That being the sheer magnitude of waste and potentially harmful by-products of the current fossil fuel burning operations. Therefore I recognize something needs to change. However I cannot fathom the thinking of continually relying 100% on burning fossil fuel, LNG or other without significant and meaningful applications of alternative sources of energy and efficiencies. The greater the efficiency and use of locally produced alternative energy sources will also stem the flow of valuable dollars exiting our economy every day buying fuel from overseas companies. I also believe the more we rely on local renewable energy sources the less exposure we will have to future fuel prices that historically have been volatile and always continue a long term steep increase in cost. Therefore I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jonathan W. Gray', with a stylized, cursive script.

Jonathan W. Gray

Joy Young Tucker  
Devon  
2 Devonshire Bay  
Devonshire  
DV07  
236 6503  
joytucker@mac.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

1 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- *For the future of the island and our children must to support the BBEP submitted by BE Solar*

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

*Joy Tucker*

**From:** [Judy Motyer](#)  
**To:** [Electricity](#)  
**Subject:** IRP response  
**Date:** Thursday, November 15, 2018 7:37:22 AM

---

To whom it may concern

I have been to presentations and have also independently reviewed the proposals by BELCO and the Better Energy Plan.

I wish to convey to the Regulatory Authority that the steps suggested by the Better Energy Plan are of far greater benefit to all in Bermuda for the following reasons:

- \* we will much more significantly minimize our exposure to inflationary fossil fuel prices
- \* the cost of electricity will fall
- \* over time we will quite significantly reduce our payments off island and therefore our balance of payments will improve
- \* the diversification of energy sources makes a great amount of sense
- \* our environment and therefore public health will greatly improve from harnessing a greater percentage of energy from renewables

BELCO will pick up in the area of electric vehicles' necessity for charging and managing the grid.

We must take the most progressive steps as we have done nothing thus far. The time has come and we are fortunate to have the insights of the Better Energy Plan to chart our course. Let's not waste time or good advice.

Kindly confirm receipt of this submission and advise me if you require anything additional.

Regards

Judy Motyer

Sent from my iPad

Kate Cooper  
45 Pitts Bay Road  
Pembroke  
HM06  
Bermuda  
295-5757  
kcoop@northrock.bm

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

10 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Will help reduce carbon emissions, which is essential for preserving our planet. Climate Change and Ocean Acidification are two major problems caused by greenhouse gasses. 1/3 of global carbon dioxide emissions are absorbed by our oceans, this causes the increase in  $H^+$  ions causing the seas to become more acidic. This affects calcifying organisms such as corals and crustaceans as it becomes harder for them to grow and survive. It has also been shown to affect sensory reception in multiple different species of fish making it more difficult for them to avoid predators. These are just a few examples, as an island habitat with a diverse



and beautiful marine life we need to reduce our carbon emissions to help all marine organisms.

One effect of climate change is sea temperatures rising globally, as temperatures increase the oxygen holding capacity of our seas decreases. Not only are we causing the seas to become more acidic but we are reducing the amount of oxygen available to marine organisms making survival twice as hard.

Saving our environment will also benefit all Bermudians through eco-tourism, many of our visitors come to visit our pristine waters full of life. If we keep burning fossil fuels at our current unsustainable rate then there will be nothing for them to come see. As a Bermudian I support the Bermuda Better Energy Plan to support change that will benefit all Bermudians and the wildlife that we treasure.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Kate Cooper

*Kathy Cervino, C.P.A.*  
*12B Landmark Drive*  
[\*cervinoinelba@gmail.com\*](mailto:cervinoinelba@gmail.com)

*Southampton, SB04*  
*Bermuda*

---

22 October 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

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- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Considers the "true cost" of energy generation to include collateral damages to the immediate surrounding area of Bermuda:
  - particles in the air, breathing problems, health problems
  - damage to the immediate surrounding area of BELCO in their water tanks, which is the only source of drinking water unique to Bermuda
  - damage to our protective reef system (valued economically at between 4.8 million and \$1.1 billion dollars PER YEAR) and continued acidification of our oceans

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Kathy A. Cervino, C.P.A.

## **L. Nigel Burgess**

---

**From:** Kim Martins  
**Sent:** Monday, October 15, 2018 8:17 AM  
**To:** L. Nigel Burgess  
**Subject:** FW: General Email from RAB Website "I support the Bermuda Better Energy Plan"

-----Original Message-----

From: Kathy Cervino <info@rab.bm>  
Sent: Wednesday, October 10, 2018 7:28 AM  
To: rab.relay@gmail.com  
Subject: General Email from RAB Website "I support the Bermuda Better Energy Plan"

From: Kathy Cervino

Email: cervinoinelba@gmail.com  
Phone No.:

Subject: I support the Bermuda Better Energy Plan

Message: Please, we cannot accept LNG when the world is screaming renewable energy. The majority of Bermudians WANT renewable energy. BELCO must provide renewable energy in the form of wind and solar. It is bad corporate governance NOT to have a plan in place to do so in 2018!

--

This e-mail was sent from the General Information contact form on the Regulatory Authority of Bermuda Website

## L. Nigel Burgess

**From:** Kathy & Scott Cervino <cervinoinelba@gmail.com>  
**Sent:** Thursday, October 18, 2018 10:34 AM  
**To:** info; Energy Coalition Bermuda  
**Subject:** Let us be reminded of the actual IRP process and its purpose...

...and more importantly **Best Practice IRPs** which "integrate environmental and other external costs and benefits".

[https://www.internationalrivers.org/sites/default/files/attached-files/intlivers\\_irp.pdf](https://www.internationalrivers.org/sites/default/files/attached-files/intlivers_irp.pdf)

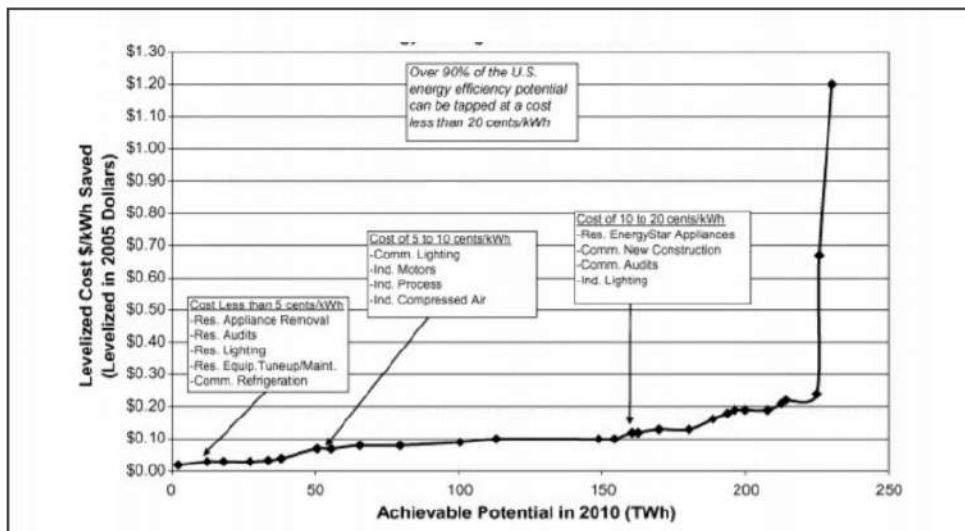
My hope is that the RA is considering every factor, such as costs from environmental damage, cost burdens on our health care system, potential volatility in future energy supply pricing, (i.e. "least cost to whom" and not just "least cost").

As the article points out, the RA should be considering and investigating:

- demand side management measures
- lowest societal cost
- lowest energy security risk
- lowest environmental impact
- lowest social impact
- local economic benefits (job creation, etc)
- lowest foreign exchange costs

As part of the IRP process, could we, the public respectfully request of the RA a "Cost of Saved Energy Curve" diagram similar to the following? *"The best IRPs create levelized cost curves for demand-side resources that are comparable to the levelized cost curves for supply-side resources. ... By developing cost curves for demand-side options, planners allow the model to choose an optimum level of investment. So if demand-side resources can meet customer demand for less cost than supply-side resources, as is frequently the case, this approach may result in more than the minimum investment levels required under other policies."*

Figure 4: Cost of Saved Energy Curve Showing US Energy Efficiency Achievable Potential Energy Savings in 2010 – All Sectors. Source: (Gellings, Wikler, and Debyani 2006).



I don't seem to recall the RA having too many publicly engaging meetings as in the Puget Sound case in this document. It also seems more reasonable that the plan be developed over a year and a half period, as this example suggests, to permit the best alignment of future energy sources, developing energy sector technologies and societal impacts of this decision. I also don't recall seeing much in the way of advertising and educating the public in the IRP process.

Figure 3: Stakeholder process in Puget Sound Energy's IRP. Source: (Puget Sound Energy 2013)

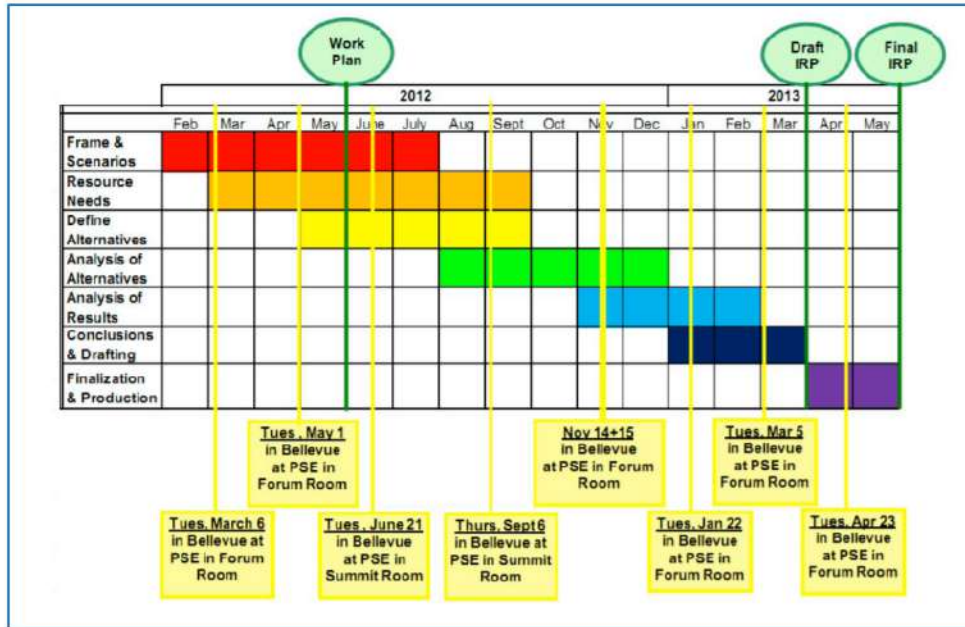


Table 1: Factors considered in conventional "least cost generation expansion" planning vs. IRP

	Conventional "Least-cost" generation expansion planning	IRP
Bottom-up load forecasting	No	Yes
Generation costs	Yes	Yes
Demand-side management options and costs	No	Yes
Transmission and distribution costs	No (typically added after optimization)	Yes
Risks of fuel price volatility, drought, carbon taxes, etc.	Little or no consideration	Yes
Social and environmental "externality" costs	No	Yes
Public involvement throughout process	No	Yes
Scenario and sensitivity analysis to ensure "least-cost" under different cost or demand assumptions	Little or no consideration	Yes

# Conclusion: Aligning Power Plans Towards Environmental and Societal Goals

IRP is a public process in which planners work together with stakeholders to establish scope, investigate options, prepare and evaluate integrated plans, select preferred plans, as well as establish mechanisms to monitor, evaluate, and iterate plans as conditions change. In contrast to the limited choices considered in conventional power development planning processes, IRP considers a full range of power sector investments to meet new demand for electricity, not only in new generation sources, but also in transmission, distribution, and – importantly – demand-side measures such as energy efficiency on an equal basis. IRP plans use long-term (20-30 year) planning horizons and include careful consideration of risk. Best practice IRPs integrate environmental and other external costs and benefits.

When done properly, IRP provides a structure and an opportunity for utility systems and stakeholders to learn and to develop plans in a co-operative atmosphere. Ultimately, better decision-making processes result in power plans more closely aligned with societal goals. Although a comprehensive IRP process requires a substantial commitment of time, IRPs lead to better outcomes: lower cost electricity, lower risk from price volatility, and lower social and environmental impact – through emphasizing services (cooling, heating,

lighting, etc.) rather than kilowatt hours of electricity alone, through evaluation that considers full social and environmental costs rather than narrow consideration of only utility finances, and through choices that lower cost to society under a full spectrum of scenarios. Generally, these better outcomes involve considerably higher investment in energy efficiency and demand-side management than utilities would deploy without an IRP process.

Thanking you in advance for your hard work and dedication in developing the best future energy plan for Bermuda.

Kind regards,

Kathy

## L. Nigel Burgess

---

**From:** Kathy & Scott Cervino <cervinoinelba@gmail.com>  
**Sent:** Monday, October 22, 2018 6:29 AM  
**To:** info  
**Cc:** energy-coalition-bermuda@googlegroups.com  
**Subject:** Cost of burning fossil fuels

To set Bermuda on a huge 20-30 investment towards fossil fuels (namely a new and very costly LNG infrastructure that could become a stranded asset in the future) does not make any sense in light of the full cost to society from burning those fossil fuels.

We must consider the "true cost" of energy generation to include collateral damages to the immediate surrounding area of Bermuda:

- particles in the air, breathing problems, health problems
- damage to the immediate surrounding area of BELCO in their water tanks, which is the only source of drinking water unique to Bermuda
- damage to our protective reef system (valued economically at between 4.8 million and \$1.1 billion dollars PER YEAR) and continued acidification of our oceans

<https://www.pri.org/stories/2015-06-07/imf-true-cost-fossil-fuels-53-trillion-year>

<http://jncc.defra.gov.uk/pdf/Exec%20Summ%20TEV%20FEb10.pdf>

I respectfully request that the RAB takes into account more than just the cost of fuel or generation of energy (cost of fuel). Please include the full total cost to the people of Bermuda. It is vitally important as an investment in LNG would set us on a 20-30 year commitment to those fossil fuels.

Thank you.

Kind regards,

Kathy

## L. Nigel Burgess

---

**From:** Kathy & Scott Cervino <cervinoinelba@gmail.com>  
**Sent:** Wednesday, October 24, 2018 6:31 PM  
**To:** Electricity  
**Cc:** energy-coalition-bermuda@googlegroups.com  
**Subject:** Hurricanes highlight the need for energy reform

Good day,

Please can you read the attached link to an article highlighting the fact that with ever-increasing and more powerful hurricanes predicted with Climate Change, the need for energy reform is now.

Thank you in advance.

Kind regards,

Kathy

<https://eu.usatoday.com/story/opinion/2018/10/14/hurricane-michael-maria-renewable-energy-infrastructure-sustainable-solar-wind-column/1575967002/>



**L. Nigel Burgess**

---

**From:** Kathy & Scott Cervino <cervinoinelba@gmail.com>  
**Sent:** Thursday, October 25, 2018 4:11 PM  
**To:** Electricity  
**Cc:** energy-coalition-bermuda@googlegroups.com  
**Subject:** Benefits of Alternative IRP - Better Bermuda Energy Plan

Good day,

I would like to submit the attached article supporting the benefits of renewable energy over traditional energy created with fossil fuels. The article highlights the following benefits and goes into more depth on each benefit:

<https://www.ucsusa.org/clean-energy/renewable-energy/public-benefits-of-renewable-power#.W9IUE2gzZPY>

- less global warming
- improved public health
- inexhaustible energy
- job creation and other economic benefits
- stable future energy prices
- reliability and resilience

Thank you in advance.

Kind regards,

Kathy Cervino

**From:** [Kathy & Scott Cervino](#)  
**To:** [Electricity](#)  
**Subject:** Fwd: CARICOM C-SERMS  
**Date:** Monday, November 12, 2018 6:45:32 AM  
**Attachments:** [image.png](#)  
[image.png](#)  
[image.png](#)  
[image.png](#)

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<https://caricom.org/projects/detail/caribbean-sustainable-energy-roadmap-and-strategy>

Bermuda is a member state of Caricom. Caricom has set forth recommended renewable energy targets. All 15 Caricom member states adopted these regional targets.

I would like to know what Bermuda is doing to commit to these recommendations or are they simply refusing to participate? I support the Better Bermuda Energy Plan as this would bring our country more in line with the Caricom objectives. Don't we feel obligated to do our part? Who can we hold responsible in the Government for not responding to this real commitment?

#### 5.2.1 Proposed and Agreed Renewable Electricity Targets

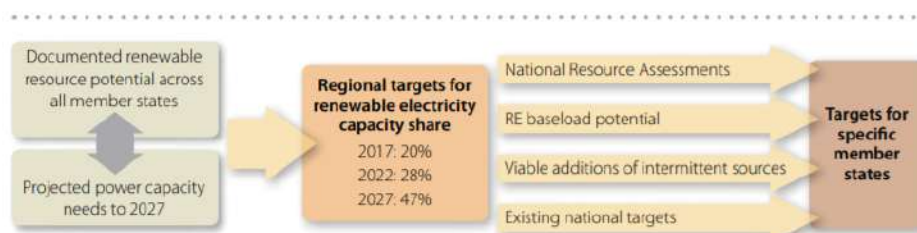
On March 1, 2013, at the 41st Special Meeting of the Council on Trade and Economic Development (COTED) on Energy in Port-of-Spain, Trinidad and Tobago, CARICOM member states took a critical step forward in defining their common vision for renewable energy development. In addition to passing the CARICOM Draft Energy Policy, energy ministers of all 15 CARICOM member states adopted regional targets for the share of renewables in CARICOM's electricity mix by 2017, 2022, and 2027. These regional targets were suggested in an early draft of this report. The methodology of how they were set is

### 5.2 Recommended Renewable Power Targets for CARICOM

Table 17. Examples of Regional/Global Renewable Energy and Energy Efficiency Targets

Organization	Target/Gol	Countries Covered
Sustainable Energy for All (SE4ALL)	<ul style="list-style-type: none"><li>• Universal access to modern energy services</li><li>• Double the global rate of improvement in energy efficiency</li><li>• Double the share of renewables in the global energy mix</li></ul>	Global
SIDS DOCK	<ul style="list-style-type: none"><li>• 50% of power generation from low-carbon sources by 2033</li><li>• 20–30% reduction in petroleum use in transportation by 2033</li><li>• 25% increase in energy efficiency by 2033</li></ul>	30 small-island states
European Union	<ul style="list-style-type: none"><li>• 20% of final energy consumption from renewables by 2020</li><li>• 20% increase in energy efficiency by 2020</li><li>• 10% biofuels in transportation by 2020</li></ul>	EU-27
Economic Community of West African States (ECOWAS)	<p><b>Grid-connected</b></p> <ul style="list-style-type: none"><li>• 10% peak load in capacity (excl. medium/large hydro) by 2020, 19% by 2030</li><li>• 35% peak load in capacity (incl. medium/large hydro) by 2020, 48% by 2030</li><li>• 5% of generation (excl. medium/large hydro) by 2020, 12% by 2030</li><li>• 23% of generation (incl. medium/large hydro) by 2020, 31% by 2030</li></ul> <p><b>Off-grid applications</b></p> <ul style="list-style-type: none"><li>• 22% of rural population served by renewables by 2020, 25% by 2030</li></ul> <p><b>Biofuels</b></p> <ul style="list-style-type: none"><li>• 5% ethanol share in gasoline consumption by 2020, 15% by 2030</li><li>• 5% biodiesel share in diesel and fuel-oil consumption by 2020, 10% by 2030</li></ul>	15 West African member countries

This methodology therefore first sets an overall regional target based on the available documented technical resource potential in all member states.<sup>6</sup> (See Figure 29.) It then works backward to assign individual shares of that regional target to specific member states based on a combination of country-specific resource assessments and already existing renewable energy targets. Based on a cumulative assessment of region-wide renewable energy potential, the analysis concludes that CARICOM may set overall regional goals of 20% renewable power capacity by 2017, 28% by 2022 and 47% by 2027. (See Table 18.)



**FIGURE 29.** Methodology for Recommending Renewable Power Capacity Targets

**Table 18. Proposed Renewable Energy Targets for the CARICOM Region**

Horizon	Target Year	CARICOM Target
(share of renewables in installed generating capacity)		
Short Term (5 years)	2017	20%
Medium Term (10 years)	2022	28%
Long Term (15 years)	2027	47%
Base Year 2012: Share of renewable energy in electricity generation is 7.6%		

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## L. Nigel Burgess

---

**From:** Kathy & Scott Cervino <cervinoinelba@gmail.com>  
**Sent:** Tuesday, November 13, 2018 4:37 AM  
**To:** Electricity  
**Subject:** Submission - IRP in support of Bermuda Better Energy Plan

Good day,

I would like to submit the following article and more specifically, the below highlighted concerns I have related to the importation of LNG as a stop-gap fuel Bermuda which we would be tied to (as an investment) for the next 25-30 years under the "business as usual", fossil fuel based IRP BELCO proposal.

<http://www.dtic.mil/dtic/tr/fulltext/u2/a468225.pdf>

### Physical Hazards of LNG

Natural gas is combustible, so an uncontrolled release of LNG poses a hazard of fire or, in confined spaces, explosion. LNG also poses hazards because it is so cold. The likelihood and severity of catastrophic LNG events have been the subject of controversy. While questions remain about the credible impacts of specific LNG hazards, there appears to be consensus as to what the most serious hazards are.

**Pool Fires.** If LNG spills near an ignition source, the evaporating gas in a combustible gas-air concentration will burn above the LNG pool.<sup>8</sup> The resulting "pool fire" would spread as the LNG pool expanded away from its source and continued evaporating. A pool fire is intense, burning far more hotly and rapidly than oil or gasoline fires.<sup>9</sup> It cannot be extinguished — all the LNG must be consumed before it goes out. Because an LNG pool fire is so hot, its thermal radiation may injure people and damage property a considerable distance from the fire itself. Many

experts agree that a large pool fire, especially on water, is the most serious LNG hazard.<sup>10</sup>

**Other Safety Hazards.** LNG spilled on water could (theoretically) regasify almost instantly in a “flameless explosion,” but an Idaho National Engineering Laboratory report concluded that “transitions caused by mixing of LNG and water are not violent.”<sup>11</sup> LNG vapor clouds are not toxic, but they could cause asphyxiation by displacing breathable air.<sup>12</sup> Such clouds may begin near the ground (or water) when they are still very cold, but rise in air as they warm, diminishing the threat to people on the ground. Extremely cold LNG could injure people or damage equipment through direct contact.<sup>13</sup> The extent of such contact would likely be limited, however, as a major spill would likely result in a more serious fire. The environmental damage associated with an LNG spill would be confined to fire and freezing impacts near the spill since LNG dissipates completely and leaves no residue.<sup>14</sup>

**Terrorism Hazards.** LNG tankers and land-based facilities could be vulnerable to terrorism. Tankers might be physically attacked in a variety of ways to destroy their cargo — or commandeered for use as weapons against coastal targets. LNG terminal facilities might also be physically attacked with explosives or through other means. Some LNG facilities may also be indirectly disrupted by “cyber-attacks” or attacks on regional electricity grids and communications networks which could in turn affect dependent LNG control and safety systems.<sup>15</sup>



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Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

10 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- It creates a more diverse electrical grid and is more consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- It uses technology that is in commercial use in other jurisdictions. Renewables have matured in the last 2 decades to become a reliable source of power in many countries.
- This plan feels far more robust in terms of research than anything else I have read. It has been developed using detailed and transparent assumptions and methodologies from extremely qualified people.
- Climate change is the single biggest threat to the future of humanity. The recent IPCC climate report says we need to make fundamental changes to the way we run our societies in the next decade and electricity is a large part of that. It seems nonsensical to worry about any slight difference in operational costs or aesthetic issues when the result of not tackling the problem of climate change is absolutely detrimental to future generations and will cost us far more financially in the long run.
- Other island jurisdictions have already made pledges to change their energy to renewables. Some have even pledged to be 100% renewable within 20 years.
- This plan makes 64% of the total energy produced from renewables locally. This gives us more control over our energy resources and production. It also keeps us from sending money overseas to buy fossil fuels which we cannot control the pricing of. More money will be kept locally and foster local businesses.



- This plan reduces our carbon footprint by 62%. This is a conservative number as technology will improve over the next decade in terms of energy efficiency and battery storage. With the conservative estimate of 5000 electric vehicles on the island within 20 years, they can also play a key role. Cars usually sit for about 23 hours of the day. Their battery banks will be able to storage energy which can be used when the wind and solar are not available and fed back to the grid via smart meters.
- I have done research online and spoken to several stakeholders and electrical engineers. After these discussions, I feel this Better Plan is far superior to Belco's LNG proposal which is only a slight improvement on what we have now and does very little to counter our negative impact on the environment or stabilise energy prices.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Kelvin Aming

**Kim Simmons**  
**Steppin Stones**  
**10 Stepney Lane Pembroke**

Monique Lister  
Regulatory Authority  
Craig Appin House  
8 Wesley Street  
Hamilton

14 November 2018

**Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Monique,

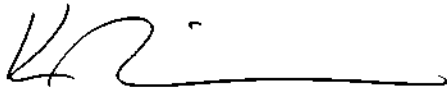
Below is my response to the Regulatory Authority's consultation on IRP Bulk Generation Proposals.

Essentially I support the **Bermuda Better Energy Plan submitted by BE Solar** for many reasons some of which are:

- It is a clear and convincing plan that shows renewable energy can deliver a substantial reduction in carbon emissions while stabilizing energy costs through clean renewable energy
- It is consistent with the intended goals and objectives of the Electricity Act 2016
- It uses technology that is in use in other jurisdictions
- It has been developed using detailed and transparent assumptions and methodologies
- It will move Bermuda away from primarily relying on fossil fuels more so than other plans under review.
- It just makes sense for Bermuda.

I trust this response will be factored into the final outcome of the IRP consultation process.

Sincerely,



Kim O. Simmons



Kristi Dixon  
Rockaway Heights, Unit 10  
7 Rockaway Drive  
Southampton, SB 02  
Bermuda  
705-8130  
kristidixon24@hotmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

16 November, 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Will be very beneficial in the long-term for the future of Bermuda

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Kristi Dixon

*Luca Cervino*  
*12B Landmark Drive*  
[\*cervinoinelba@gmail.com\*](mailto:cervinoinelba@gmail.com)

---

*Southampton, SB04*  
*Bermuda*

22 October 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the **Bermuda Better Energy Plan** submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Considers the "true cost" of energy generation to include collateral damages to the immediate surrounding area of Bermuda:
  - particles in the air, breathing problems, health problems
  - damage to the immediate surrounding area of BELCO in their water tanks, which is the only source of drinking water unique to Bermuda
  - damage to our protective reef system (valued economically at between 4.8 million and \$1.1 billion dollars PER YEAR) and continued acidification of our oceans

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Luca A. Cervino

Lyndsay Faries  
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PG05  
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441-504-0179  
Lynday.faries@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

10 October 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Promotes affordable, clean energy.
- Addresses and mitigates the risks associated with climate change while developing a more sustainable future for Bermuda.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Lyndsay Faries

*Mariya Tsitron  
21 St. Johns Hills  
Spanish Point, Pembroke  
HMO2  
Bermuda  
441-516-0845  
Mariya.tsitron@gmail.com*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*8 November 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- It makes sense from a financial perspective.
- It is the only plan proposed that is forward thinking and environmentally conscious.
- Allows Bermuda to be self-sufficient when it comes to energy power.
- The Bermuda Better Energy Plan uses mature renewable energy technologies such as solar and offshore wind, which already power some of the most successful nations in the world.
- Solar and wind energy combined with energy storage and LPG offer a safe, sustainable and reliable solution
- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity? The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Sincerely,

Mariya Tsitron

**From:** [Mark Thorne](#)  
**To:** [Electricity](#)  
**Subject:** Response to Consultation Document: Comments on IRP Bulk Generation Proposals  
**Date:** Tuesday, November 13, 2018 9:30:09 PM

---

Mark Thorne  
7 Gibbs Hill Road  
Southampton  
SN02  
Bermuda  
5996174  
[mthorne@warwick.bm](mailto:mthorne@warwick.bm)

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda 13 November, 2018

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, or any other that is willing to get away from fossil fuels which are greatly impacting our lives and the lives of our children. This plan:

Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.

Uses technology that is in commercial use in other jurisdictions.

Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process. I also look forward to hearing that this response of mine has been received.

Yours sincerely,

Mark A Thorne

Sent from [Mail](#) for Windows 10

*Matteo Cervino*  
*12B Landmark Drive*  
[\*cervinoinelba@gmail.com\*](mailto:cervinoinelba@gmail.com)

*Southampton, SB04*  
*Bermuda*

---

22 October 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the **Bermuda Better Energy Plan** submitted by BE Solar, as this plan:

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- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Considers the "true cost" of energy generation to include collateral damages to the immediate surrounding area of Bermuda:
  - particles in the air, breathing problems, health problems
  - damage to the immediate surrounding area of BELCO in their water tanks, which is the only source of drinking water unique to Bermuda
  - damage to our protective reef system (valued economically at between 4.8 million and \$1.1 billion dollars PER YEAR) and continued acidification of our oceans

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

*Matteo Cervino*

Matteo A. Cervino

Matthew Watson  
16 Between the Walls  
Pembroke  
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Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

14 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Helps Bermuda move away from using expensive fossil fuels and our reliance on outside parties for our energy
- Will hopefully reduce the cost of energy to the average Bermudian

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,  
Matthew Watson



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Monique Lister  
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8 Wesley Street  
Hamilton, Bermuda

14 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Megan Benedek

15 November 2018

Natalia Isaeva  
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Warwick  
WKO6  
Bermuda  
599-1155  
nisaeva@wq.bm

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- BELCO rates are unreasonable and its monopoly status is harmful for Bermuda.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Natalia Isaeva

## L. Nigel Burgess

---

**From:** Nathalie Rushe <nrushe@nrushe.com>  
**Sent:** Thursday, October 18, 2018 10:21 AM  
**To:** Electricity  
**Subject:** IRP response

Good morning,

Please accept this email as my response to and opinion on Belco's 20 year energy plan which is EXTREMELY short sighted and backwards. I am extremely disappointed that this plan does not address renewable energy or efficiency and feel that this is NOT the way of the future. Additionally, this plan does not address the rising costs of electricity. Bermuda should be focusing on more solar energy, wind power and other renewable resources - this plan is completely backwards and I do not support it! Please let me know what I can do to help move Bermuda forward for the sake of current citizens and those of the future.

Best regards,  
Nathalie

-----  
Nathalie Rushe, CFA  
+1 (441) 599-9999



October 18<sup>th</sup>, 2018

To Whom It May Concern:

I am writing to you today in reference to the RAB's public for the Integrated Resource Proposals (IRP). I was born in Bermuda and I am a Bermudian citizen. I have carefully reviewed each of the proposals available on the RAB's website, and want to urge the RAB to only consider the proposals based on renewable energy. These are, as I understand, Bermuda General Agency Limited's wave energy park, Brad Sorensen's clean water and power plan, and BE Solar's "Optimum Renewables" plan.

As I am sure the RAB understands, there are numerous advantages of renewable energy, and numerous disadvantages of fossil fuel-based plants. Renewable energy plants such as wind, wave, and solar do not emit toxic pollutants, do not contribute to climate change in that they do not release carbon dioxide, are not reliant on the import of fuel, and ultimately will lead to cheaper energy prices for Bermudians (as described in many of the proposals that the RAB has received). Furthermore, as the global response to climate change becomes more urgent, there is no guarantee that there will not be diplomatic and economic pressure exerted on nations that do not take steps to reduce their greenhouse gas emissions. If Bermuda can switch, sooner rather than later, to renewable power generation we can strengthen our moral and international position on the world stage. These reasons will directly and indirectly benefit Bermuda's health and wealth more so than fossil fuel-based plants, and there are numerous other benefits not listed here that argue for adding renewable power generation to the grid.

When considering the costs and capital investment needed to compare the renewable energy plants and the fuel oil and LNG plants, it is vital that the RAB includes the indirect costs and negative externalities so often ignored with fossil fuel-based energy generation. First, the short- and medium-term health problems associated with pollutants and toxic by-products released when burning fossil fuels will directly contribute to Bermuda's rising healthcare costs. Second, the medium- and long-term effects associated with climate change (including but not limited to more powerful and more deadly hurricanes, longer and more common droughts, ecological damage to vulnerable species such as the endemic Cahow, and increased costs of living as the global economic system deals with these changes) will only be exacerbated by further burning of fossil fuels. Third, as the climate crisis worsens and the global economy moves to more difficult to extract sources of fossil fuels, the RAB should consider the possibility of dramatic increases in the prices of fuel. Fourth, importing fuel necessarily means using up the islands foreign exchange reserves – if we did not have to import fuel, we would be able to use our reserves for other purposes including the direct benefit of the general public. Fifth, there is a moral imperative to move away from fossil fuels: fossil fuels are often extracted from lands owned and populated by indigenous people such as Native Americans and extraction often involves the degradation of the land rights, heritage, and culture (an argument that I find especially compelling given Bermuda's

demographics, where the descendants of Bermudian slaves know that the destruction of culture and heritage is especially heinous), and because the consequences of climate change will overwhelmingly be felt by the poor who have not contributed to the problem. These arguments are by no means exhaustive, and there are numerous resources, both text and digital, that can further expand and explain the points listed here.

I hope that the RAB will carefully consider the arguments – which are not exhaustive, as other compelling arguments for renewable energy also exist – presented in this note when they make their final decision. As a young person, I am especially concerned with how our actions now will impact our world 20, 30, 50 years in future and beyond. As someone who is and was very involved in conservationism in Bermuda, I cannot support adding more pollutants to our environment or contributing to global warming. As someone who feels very strongly about the rights and wellbeing of the poor and Indigenous communities worldwide, I do not agree with exacerbating a problem that will disproportionately affect these peoples. Finally, as a working person I feel strongly that the RAB should choose the proposals that, in the long term, will provide the greatest economic benefit to Bermuda. For all of these reasons, and in the strongest terms possible, I urge the RAB to choose clean energy and move forward with one of the renewable energy proposals.

Yours sincerely,

A handwritten signature in black ink that reads "Nicholas Barton". The signature is written in a cursive, flowing style.

Nicholas Barton  
[snicholasbarton@gmail.com](mailto:snicholasbarton@gmail.com)  
17 Cable Hill, Smith's Parish

Tamesis  
3 Undina Watch  
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or PO Box SN667  
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Tel : 236-9407  
Mobile : 526-3332  
njdc@maybes.net

Regulatory Authority of Bermuda  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton HM11

Sunday, 11 November 2018

To the Regulatory Authority of Bermuda:

**Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

This letter is a response to the request for submissions as part of the Regulatory Authority's public consultation on the Integrated Resource Plan (IRP) Proposal.

For the reasons set out below, I strongly advocate support for the Bermuda Better Energy Plan ("BBEP") submitted by BE Solar, as being better for the people of Bermuda, our visitors, the island's future inhabitants and our global community than the IRP submitted by BELCO.

I shall not repeat the contents, and accompanying references, of the BBEP submission here, but I would point out that it is far more consistent with the purposes of the Electricity Act, and with the instructions given to the Regulatory Authority by the minister, than the BELCO proposal:

- Relying on multiple sources of electricity supply is inherently more reliable and sustainable than relying almost entirely on a single source, particularly a single source subject to increasingly volatile global energy markets.
- While the two proposals are not materially different in cost as estimated under initial base-case assumptions, the BBEP proposal will clearly provide for far more stable electricity prices given the much lesser reliance on imported fossil fuels.
- As a plan which incorporates a range of electricity generation technologies (all of which have proven themselves commercially viable in a range of economies around the world), the BBEP naturally lends itself to the flexibility required to take advantage of evolving technologies and comply with global regulatory standards over time. By contrast, the BELCO plan locks Bermuda into a single technology reliant on imports for 20 years. The rest of the world will move on around us.
- Wind, solar and their supporting energy storage technologies (namely battery banks) are benefitting from huge investment around the world and are consequently becoming significantly cheaper and more efficient on almost a daily basis (a trajectory that we can see in very clear evidence today). That said, these are not unproven technologies – they are already mature enough to be stable, reliable and very well understood. The global commercial markets recognise that these and other renewable technologies are the future of energy production. Even the global

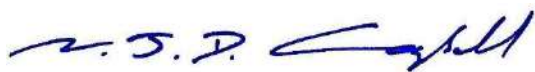
energy companies that have historically made, and still make, the vast majority of their profits from fossil fuels are investing in these technologies. By adopting a plan that incorporates these technologies, we stand to benefit as they improve. By contrast BELCO's plan proposes a fuel source and a technology where future efficiency gains are likely to be marginal at best.

- By relying on multiple generation sources, the BBEP will encourage the development of a robust distribution grid that treats all connected providers on a non-discriminatory basis. BELCO's proposal will naturally favour their own production, as they do now.
- The BBEP incorporates ambitious targets for electricity conservation and efficiency, consistent with the Act's purpose of encouraging electricity conservation and the efficient use of electricity.
- The BBEP self-evidently promotes the use of cleaner energy sources and technologies to a far greater extent than the BELCO proposal, with 64% being provided by sun and wind by 2038. This is an achievable goal, as demonstrated by the development of renewables elsewhere in the world, in places with far less available natural resources than our own. As renewable technologies get cheaper and more efficient, Bermuda could quite likely exceed that 64% target and bring down the average cost of electricity to consumers, even more than shown.
- The BBEP proposal is far more economically beneficial to Bermuda, both directly and indirectly:
  - By developing sources of energy production in Bermuda, any cost and efficiency savings will benefit the island directly, not an international supplier;
  - There will be additional jobs created locally in support of these energy production plants.
  - Bermuda can use its initiatives in this area to promote tourism and showcase its leadership in areas of conservation and sustainability;
  - As mentioned above, Bermuda will be much less vulnerable to volatility in fossil-fuel energy prices and potential supply-chain disruption.
- Looking to Bermuda's longer-term future, towards the end of the lifecycle of these plans, the BBEP will leave in place an infrastructure and a set of technologies that can be enhanced, upgraded or replaced on a sequential basis, allowing for easy incorporation of whatever 2040 or thereafter may hold. The infrastructure and plant required to support a predominantly LNG plan will likely be an increasingly costly white elephant that will require expensive decommissioning prior to a wholesale replacement.

At a time when we in Bermuda are needing to burnish our global image to help support and secure both our tourism and international business standing, it would be a destructive, retrograde step to adopt a plan based almost entirely on a fossil-fuel burning technology. Other jurisdictions stand to gain from Bermuda losing ground in either forum and will use whatever leverage they have available to do so. As more governments and commercial institutions adopt environmental sustainability codes of conduct, Bermuda would be putting itself in harm's way by sticking with or adopting a technology that is vulnerable to increasingly negative publicity.

For these reasons listed above, I submit my response in support of the Bermuda Better Energy Plan.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'N. J. D. Campbell', written in a cursive style.

Nicholas J D Campbell

Nigel Pollard  
24 Hinsons Island  
Paget  
PG 03  
Bermuda  
nigelreef@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

15 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Nigel Pollard



*Patricia Alexander  
1 Windy Bank  
Smith's FL02  
Bermuda  
Email: alexander@northrock.bm  
Tel: 296-2734 or 704-2733*

14 November 2018

Ms. Monique Lister  
Regulatory Authority  
Craig Appin House - 1st Floor  
8 Wesley Street  
Hamilton

Dear Ms. Lister

**Re: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

I am writing to express my concern regarding BELCO's 20 year energy plan which continues to rely heavily on fossil fuels in the form of LNG with very little use of our own resources: sun and wind!

It is so disheartening to see this during a time when solar panels and wind turbines are proven ways of generating power cleanly and efficiently. We have an abundance of these natural resources, why on earth wouldn't we consider utilising these so we are less reliant on the volatility of the oil market and all the political ploys and wars that are caused by that industry.

Isn't it time for us to take control of our destiny not only:

- to reduce the squeeze on our pocket books;
- to use a source of energy that is clean so we're not emitting toxins into the atmosphere that are causing illness;
- to reduce our carbon imprint and reverse the effects of climate change

We would not have to reinvent the wheel. All we need do is look to our sister Islands to our South and see how they are implementing renewable energy. It's shameful to think that if we were to adopt the BELCO plan that we'd only be using 5-10% of renewable energy in 20 years when some Islands: Dominica, Grenada and Montserrat will be 100% powered by renewable energy at that time.

This is a HUGE disservice to our children, grandchildren and future generations. How dare we NOT leave them a legacy of clean energy and even an Island to live on! How dare we even consider causing even more harm to the environment?

My family and I are doing the best that we can to consider the environment and make conscious choices around climate change and have installed solar panels and recently purchased an electric car.

My daughter is so passionate about this it has influenced what she's chosen to study at University. It is a concern to me, however, that this path of study means very little opportunity for her to pursue a career in her own country, based on our current attitude toward environmental concerns.

You - the Regulatory Authority - have the opportunity to change the course of our destiny. Bermuda can be a shining example of innovation and a Global environmental leader. Imagine if everyone in Bermuda had the opportunity to utilise sun and wind energy - how truly powerful that would be.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions
- Has been developed using detailed and transparent assumptions and methodologies.

I appreciate that fossil fuel would still be required to supplement the solar and wind power but for BELCO to not even consider a bigger scale of sustainable energy is shameful. Last I checked they didn't even have a solar panel in sight on their premises.

Please, please, PLEASE consider this issue VERY VERY carefully - the world needs us to make these changes and I look forward to hearing of the final outcome of this consultation process.

Yours sincerely  
*Patricia Alexander.*

## L. Nigel Burgess

---

**From:** peter beckett <beckett@northrock.bm>  
**Sent:** Friday, October 12, 2018 3:51 PM  
**To:** info  
**Subject:** energy production opinions

Sorry I was unable to send this to you on your online page. I came to sending folders and was unable to send this.

I would like to address the Authority with my views on the future of Bermuda's energy production plans.

For years I have had discussions with senior staff at Belco on an unofficial basis on the subject of renewable energy and it seemed not one gave me the impression they were in favour. It seemed that the current method of generation, up to now burning diesel, was efficient and reliable enough for them. I put this down to their early training and the only form of production they understand.

It is my opinion the time has come for the whole world - not just Bermuda - to face the ever growing effects of global warming and take action immediately before it is too late. It is a critical time for our planet - a matter solely at the feet of governments to take concerted action. I was very encouraged to see the word "innovation" on your masthead and trust it will be your watchword for that is just what Bermuda must do - innovate - time is not on our side.

Leading scientists and weather experts meeting in South Korea recently signed an agreement making the strongest argument yet in favour of total reliance on renewable energy allied with moving into electric transportation and the growing of more forests to suck hydrocarbons out of the air. Bermuda can't help with the latter but certainly can with transport but that, presumably, isn't within your purview. I hope their report tops your reading list.

I assume the solar development on the finger at the airport is still in the pipeline and urge you to recommend to government that similar developments could be encouraged on all the island's major water catches and open spaces such as that at the old submarine tracking station near Port Royal golf course.

Another big player in renewable is of course the windmill driven turbine which I understand gives you more power for your buck than solar. These farms are to be found all over the world off the shorelines of countries that are way ahead of many others in this development. Norway's entire power needs are taken care of by hydroelectric but that is thanks to their unique fjords;

I am not familiar with wave=action devices in which Portugal seems to be a leading player but I seem to remember some experts came here and didn't get satisfactory results with water movement. But it may be another field to take a look at. Bear in mind also that there is a constant upgrading process in motion where these devices are being improved on exponentially and with mass production - particularly is the solar and windmill areas - pricing is coming down.

That's production. What about storing what is made and not used? Batteries is another area where strides are being made not least to ensure the electric cars coming off the production line can increase their mileage between charges. Elon Musk of Tesla car fame has a huge factory working on battery development and production. He has produced some massive battery units to cater to the needs of east coast Australia communities.

If some of these devices, including cars, are going to be encouraged then Bermuda Government would do well to promote public input by offering incentives similar to that currently offered home solar arrays. With Gorhams and Lindo's leading the way and many home owners taking a lead I could visualize a situation where people would be taking things into their own hands and Belco would be left out in the cold eventually.

The task ahead is to avoid the prospect of flooding of low lying areas, bigger and more frequent hurricanes and a complete breakdown of weather patterns as we know them. It is a daunting - Armageddon-like scenario which will haunt us if action is not taken.. At my age I have nothing to fear but I feel I owe it to my grandchildren and great grands to try and do something about it on their behalf.

Thank you, Peter Beckett

12, Dolly's Bay Lane,  
St. George's DD01

*Rachael Correia*  
78 Happy Valley Road  
Devonshire, DV 03  
[Rachaelcorreia58@hotmail.com](mailto:Rachaelcorreia58@hotmail.com)  
441-338-7224

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*November 16 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

*Rachael Correia*

Robert Martin Burns  
9 Kent Avenue  
Devonshire, DV 07, Bermuda  
441-505-9627  
[robmburns@icloud.com](mailto:robmburns@icloud.com)

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

8 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilizing energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Supporting a future energy solution that includes renewable forms of energy just make logical sense for an island nation that has so much at stake with the threat of climate change. New technologies such as wind and solar are well advanced and proven technologies and will contribute hugely to reducing Bermuda's carbon emissions. Bermuda needs to be a world leader in investment in alternate energy planning and implementation. We can lead by example showing what small island nations can accomplish. The BELCO plan does not show leadership nor innovation, and it does not attempt to acknowledge the threat of climate change, and very simply, exposes us for the next 20 years to being significantly dependent on fossil fuels and the expected rising costs of this diminishing and environmentally harmful

resource. This should not be acceptable to Bermuda nor Bermudians. We can do better.

- The format of this consultation and deadline for submissions, without far broader education of the Bermuda general public is suspect. I trust that the RA will stand firm and not allow Bermuda's energy future be railroaded by this BELCO Plan to keep us chained to past harmful technologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Robert M. Burns', with a stylized flourish extending from the end.

*Robert M. Burns*

*Please see the attached link on Intergovernmental Panel on Climate Change - [http://report.ipcc.ch/sr15/pdf/sr15\\_ts.pdf](http://report.ipcc.ch/sr15/pdf/sr15_ts.pdf) this supports my personal concerns the Bermuda must be a leader in taking firm action to help combat climate change*

**From:** [Robert Stubbs](#)  
**To:** [Electricity](#)  
**Subject:** IRP Response  
**Date:** Thursday, November 15, 2018 1:39:28 PM

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Dear Sirs,

As a Bermudian, I would like to register my firm support for the Bermuda Better Energy Plan over BELCO's submitted proposal.

Kind Regards,

Robert Stubbs



## L. Nigel Burgess

---

**From:** Robin Blackburne <blackburne@northrock.bm>  
**Sent:** Wednesday, October 24, 2018 8:01 PM  
**To:** Electricity  
**Subject:** Response to Consultation Document: Comments on IRP Bulk Generation Proposals

*Waterways "* *Tel. 292 2670*

*3 Wharf Drive* *Tel. 293 0510*

*Sandys M.H06*

*Bermuda*

**Monique Lister**

*24 October 2018*

Regulatory Authority

1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

Dear Ms. Lister,

I am writing with respect to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I strongly support and endorse the **"Bermuda Better Energy"** Plan submitted by BE Solar for reasons that include:

Seems to be by far the most environmentally friendly plan.

The strong thrust of Wind and Solar energy, supported by deep battery storage to ensure 24/7 electricity delivery to Bermuda homes and businesses, would seem to be the only reasonable and sensible route to take.

The project is positioned to be cost-effective and, given the uncertainty of fossil fuel prices in the future, and the increasing efficiency of wind and solar, it is likely, indeed virtually certain, that electricity can be delivered to the consumer at a lower cost than traditional fossil fuel generation systems .

Although LPG is probably more cost-effective than other forms of gas generation, I believe that, with the undiluted support of Government and Belco, the LPG component of the project might be able to be "leap-frogged" in favour of Wind and Solar. It should be possible to have the whole project pre-funded by one of any number of global companies who, for this project, would probably totally fund the project, possibly along similar or different lines of the New Airport.

Although Bermuda might be able to fund this project, funding might be a challenge. To avoid the burden of funding, a partnership with one of the renewable energy titans should be doable.

I hope you will consider favourably this supporting email when decision-time approaches.

With kind regards

***Robin Blackburne***

ROBIN MAYOR  
5 SCARRINGTON HILL  
PAGET PG 03  
Tel: 232 7863  
robin.mayor@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

29<sup>th</sup> October 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.


I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Bermuda has the opportunity to send a message to the world that it is committed to renewable energy and is taking full advantage of its geographical location to achieve this. Surrounded by ocean we have an obligation to contribute to the race against climate change by cutting our reliance on non-renewable energy sources.
- There are many in our community who are struggling financially, by reducing the cost of electricity, a contribution is being made to assist them in meeting their monthly outgoings.
- The Regulatory Authority of Bermuda in approving this IRP Bulk Generation Proposal will be leading the way for other initiatives in Bermuda to reduce our carbon footprint – such as a ban on single use plastics, requiring those in the food

industry (restaurants, hotels, grocery stores, wholesale importers) to take immediate steps to reduce the amount of plastic that is currently used to wrap all products which are sold.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in blue ink, consisting of a series of loops and a long horizontal stroke.

Robin Mayor

ROBIN MAYOR  
5 SCARRINGTON HILL  
PAGET PG 03  
Tel: 232 7863  
robin.mayor@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

12<sup>th</sup> November 2018

**Subject: Further Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I write further to my letter of 29<sup>th</sup> October in respect of the above matter.

As previously submitted, I support the Bermuda Better Energy Plan submitted by BE Solar (the "BBEP"). The purpose of this follow up letter to add to my previous submission and I would ask that this be considered alongside that earlier letter. For ease of reference a copy of that letter is attached.

The BBEP offers a well-researched, sustainable plan for Bermuda's energy needs for at least the next 20 years. The report that has been submitted in support of it makes it abundantly clear that Bermuda is capable of producing a significant percentage of its energy needs by using our natural resources – which are clean renewable forms of energy.

The cost analysis in the BBEP reflects that the costs of the proposal will be no more, and probably less in the long run due to lower maintenance costs, than the plan submitted which relies on LNG. This will have the result of ensuring that Bermuda's carbon footprint will be reduced significantly – something that we should be aspiring to given the empirical evidence of climate change and how fuels such as LNG are, if not the sole, certainly a significant contributor.

I attended the presentation at St. Paul's AME Church on Thursday 8<sup>th</sup> November. The science was clear – the credentials of Etude professionals are impressive – that by using bulk and distributed solar power, alongside energy generated by wind we in Bermuda can look forward to living in a cleaner and safer environment. This is of particular importance for our children and the generations that follow. Many islands located in the Caribbean/West Indies are turning to renewable energy resources to provide their electricity with realistic goals to move away from carbon emitting fuels. For example:

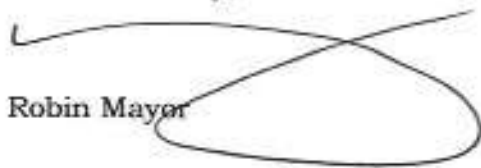
Jamaica is working towards 50% renewables, Grenada is aiming for 100% and the Cayman Islands have set as their goal 70%.

Should the BBEP be adopted, Bermuda would be looking at 64%, reducing the reliance on traditional "dirty" fuel to 36%.

I truly believe that Bermuda should move away from traditional fuels for generating electricity. It is expensive, polluting and subject to market volatility as we have witnessed over the past at least, 10 years. By contrast renewable energy is clean, cheaper and more sustainable in the long term.

Thank you for your time in reviewing my additional submission, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in black ink, consisting of a large, stylized loop that starts with a small 'L' shape on the left and ends with a small 'o' shape on the right.

Robin Mayor

ROBIN MAYOR  
5 SCARRINGTON HILL  
PAGET PG 03  
Tel: 232 7863  
robin.mayor@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

29<sup>th</sup> October 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

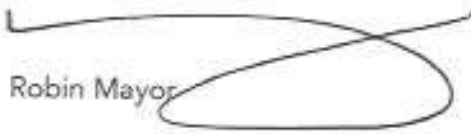
I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Bermuda has the opportunity to send a message to the world that it is committed to renewable energy and is taking full advantage of its geographical location to achieve this. Surrounded by ocean we have an obligation to contribute to the race against climate change by cutting our reliance on non-renewable energy sources.
- There are many in our community who are struggling financially, by reducing the cost of electricity, a contribution is being made to assist them in meeting their monthly outgoings
- The Regulatory Authority of Bermuda in approving this IRP Bulk Generation Proposal will be leading the way for other initiatives in Bermuda to reduce our carbon footprint – such as a ban on single use plastics, requiring those in the food

industry (restaurants, hotels, grocery stores, wholesale importers) to take immediate steps to reduce the amount of plastic that is currently used to wrap all products which are sold.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

  
Robin Mayor



*Robyn Goodwin  
13 Spanish Heights Estate  
Smith's FL 06  
Bermuda  
293-1603  
robyn.abbie@gmail.com*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*16 November 2018*

Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Bermuda needs to keep up with the rest of the world who is putting our environment as a top priority for basic human survival on our only habitat, rather than allowing outdated, inefficient and \*dangerous\* practices to continue.

Thank you for your time in reviewing my response.

Please confirm in writing (via e mail) receipt of my response.

I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in black ink that reads "R. Goodwin". The signature is written in a cursive, flowing style.

## **L. Nigel Burgess**

---

**From:** Ron Lucas <rlucas@logic.bm>  
**Sent:** Friday, October 26, 2018 3:28 PM  
**To:** Electricity  
**Cc:** bill & Cindy Jewell  
**Subject:** Integrated Resource Plans & Submissions - Wind Turbines

Dear RAB

### **Blend of Generation Options the best way forward**

I have considered the various proposals put forward for our energy future and believe that a blend of renewables, particularly solar farms and offshore wind, in conjunction with traditional BELCO generation (Diesel with Gas turbine for peaking) is most appropriate and lowest cost although LPG (not LNG anywhere on or near Bermuda because of safety concerns) would be an attractive option worthy of further investigation eg for a satellite site such as Marginal Wharf. The BESolar proposal appears to best reflect this viewpoint.

### **Wind Turbines**

#### **a. Siting**

Since reviewing the proposal for wind off shore energy I have conducted research on siting and discussed with the key scientist of the BREAM project Dr. Thad Murdock who confirms there are many options for siting modern wind turbines in depths of 40 feet or under in areas without reef or major grass beds that do not interfere with the important flight path considerations for the airport.

A quick look at the BREAM maps that accurately show the reefs eg. on the free Bermuda Reef Life HD app for iOS or Android tablets and smartphones show that there are many sites to choose from and I am sure Dr. Murdock would be only too happy to work with any prospective supplier and Government to assist in determining the best possible locations which obviously would not be off the South Shore or in boat channels.

#### **b. Energy efficiency**

There seems to be a misapprehension that modern wind turbines only offer about 20% of capacity which is far from the truth as they offer up to 54% of capacity and a median output of around 43%. Whilst this is lower than say LNG which can provide up to the 90's%, when the cost of fuel (zero), capital cost/depreciation, maintenance and operation is taken into consideration the cost per unit of output is the lowest of all energy producing options, perhaps with the exception of some hydro and geothermal generation which would not be available in Bermuda. Also we are now talking about proven technology, not theoretical projections of unproven technology such as certain wave power turbines which are still in the testing stages.

#### **c. Reliability**

Modern turbines can very easily operate in a range of wind conditions up to about 75 knots and survival rates can easily be as high as 150 knots. They are not easily damaged. They would easily survive all hurricanes we have had over the last 50 years in Bermuda. They do generally require a minimum wind speed of 9 mph to generate electricity but studies jointly conducted by BIOS and BELCO have shown that we have sufficient wind in Bermuda. Note that experience in the N Sea and other stormy locations demonstrate that weather conditions should not be an obstacle to wind generation in Bermuda.

#### **d. Environmental Considerations**

Siting of offshore wind generators is very important because of height and visual impact (typically up to 140 metres high but can be higher). There are many places off Bermuda including Murray's Anchorage that would be very suitable and cause very limited visual impact. However not all persons find the turbines unattractive. For example, I have been to one onshore location in Kodiak Alaska where the turbines are at the end of a now very popular hiking trail and tourists would not miss being taken up to see and photograph them on the hills overlooking the harbour. There is an argument that turbines can kill sea birds at night but provided that the turbines are not located at the east end of the island which would probably not be suitable anyway because of the airport there is unlikely to be danger to the Cahows.

I do hope you will take my observations into consideration in determining the energy future of Bermuda and would appreciate an acknowledgement to this email.

Yours truly

Ron Lucas  
(former BELCO Senior Manager HR now retired)

## **L. Nigel Burgess**

---

**From:** Ron Lucas <rlucas@logic.bm>  
**Sent:** Friday, October 26, 2018 5:18 PM  
**To:** Electricity  
**Cc:** Bill & Cindy Jewell  
**Subject:** Integrated Resource Plans & Submissions - LNG

Dear RAB

### **Blend of Generation Options the best way forward**

I have considered the various proposals put forward for our energy future and believe that a blend of renewables, particularly solar farms and offshore wind, in conjunction with traditional BELCO generation (Diesel with Gas turbine for peaking) is most appropriate and lowest cost although LPG (not LNG anywhere on or near Bermuda because of safety concerns) would be an attractive option worthy of further investigation eg for a satellite site such as Marginal Wharf. The BESolar proposal appears to best reflect this viewpoint.

### **LNG**

At first glance, LNG as proposed by Ascendant and other players, appears to be an attractive energy option for Bermuda going forward as once it is regassified to natural gas the immediate environmental impact appears to be much less than conventional oil fuels and LNG is now readily available for export from the USA. However for the reasons outlined below I am vehemently opposed to this fuel for Bermuda.

#### **1. Capital Cost & Stranded Assets**

The cost of the Pier and Regassification Plant alone which will extend at least a half mile off Bermuda is in the order of up to \$100m in order to provide a minimum exclusion zone of one half mile. This capital could be used to build an LPG power station at Marginal Wharf where fuel could be directly off loaded from ships or alternatively for renewables energy plants such as Wind Power generators which are very viable for Bermuda - (see my earlier email) and solar farms. This investment may well end up becoming a stranded asset because of the rapid developments of alternative forms of energy production that are eminently suited to Bermuda because of the generous amount of wind, solar energy and wave energy we have due to our location.

#### **2. Unsuitability of a Regassification Plant for Bermuda**

In N. America such plants are not allowed to be installed in populated areas and are usually sited in wilderness areas. This is because of the danger of an accident that in a worse case scenario would result in a pressure wave and conflagration that could destroy life, buildings, fauna and flora. For a very serious incident, the proposed half mile exclusion zone would be totally inadequate. Note that a very serious accident of this nature has not happened for over 50 years and is therefore low risk - much like having a nuclear facility - low risk but the consequences are not worth considering for a small highly populated island nation in the middle of the Atlantic.

#### **3. Transportation by specialised small LNG ships**

The regassification plant requires the construction of at least one but more probably two small refrigerated specialised LNG ships which carry the similar safety concerns as the plant itself in the event of a major incident on Bermuda Reefs or indeed during docking, especially during poor weather. It is noted that the architecture of these ships is such that even in the event of

a stranding on a reef the double hull is unlikely to be breached however the possibility still exists. The construction cost perhaps of around \$75m each (and up to double that of a conventional small oil tanker) will either be an added capital cost or built into the landed cost of the LNG itself. Then there is the increased potential cost of damage to the reefs caused by having a higher traffic volume of LNG ships versus say oil tankers.

#### 4. Visual Amenity and environmental impact of LNG site and use.

A. The building of a pier at least a half mile out to sea will detract from Bermuda's visual appeal and will inevitably involve some destruction of reef because piers are built in straight lines and coral growth does not grow in such a manner.

B. Also once built the pier will provide a host site for invasive Lionfish and it is unlikely that culling will be allowed on such a sensitive safety and security site. (they can nearly always be found below the existing small oil dock). It is assumed that security from terrorism is not a major consideration in Bermuda but if it should become such, security costs would rocket.

#### 5. Effect on Marine traffic etc.

The pier will require a minimum of a half mile exclusion zone for other vessels including ships, small craft, ferries etc. all around the regassification plant out to sea and along the coast presumably marked by highly visible bouys. There has been no discussion of this in any publicity that I have seen but there will be major consequences for ferries, tourism, fishing, pleasure boating, residences built along the coastline etc. This is another reason that wilderness areas are chosen versus conventional ports. Security considerations will be a major issue to maintain a high level of safety as the circular exclusion zone will have a diameter of at least one mile - see also B above. There is also a concern that the natural gas will be transported ashore along the same pier or close to the existing pier for oil and petroleum products. Also, I doubt whether Bermuda Gas would wish to share the same facility.

#### 6. Pipeline installation

The Pier/Regassification Plant is only the first step in the process as the plan is for a pipeline to be installed to carry the regassified gas to BELCO. This will mean considerable disruption from construction and requirements for easements etc. The cost of all this will be many added millions of dollars and there will be considerable interruptions to use of the railway trail as this would probably be the preferred route, and any areas crossing roads and waterways.

#### 7. Methane Impact

LNG use would increase Bermuda's impact on global warming as the production of methane during extraction and use is many times worse for global warming than CO2 we would save from burning oil.

I do hope you will take my observations into consideration in determining the energy future of Bermuda and would appreciate an acknowledgement of this email.

Yours truly

Ron Lucas  
(former BELCO Senior Manager HR now retired)

Ronald D. Ross

'Ardmohr'

80 Harrington Sound Road,

Smiths Parish

Bermuda, FL08

10<sup>th</sup> November, 2018

Dear Sirs,

**Submission on proposals relating to the Integrated Resource Power Plan(IRP)**

Having read the proposals regarding the supply of power under the Integrated Resource Power Plan, I submit the following observations and proposals for consideration.

1. Solar power generation should be a favored option and be installed to the equivalent of 25% of the maximum summer grid load. Such installations are land based and have no moving parts. Solar installations have maximum output in the summer when the grid load is greatest.

2. Use of natural gas (LNG) should be encouraged for base load power generation.

a) Natural gas supply using smaller LNG tankers in the range of 10,000 to 40,000 Cubic meters are becoming available on the world market as the use of LNG for power generation for small islands expands.

b) An export LNG terminal able to handle smaller LNG tankers has opened in Jacksonville, Florida (Eagle terminal). This terminal is the most viable supply point for Bermuda.

3. Proposals for the supply of LNG to BELCO proposed the laying of a pipeline from SOL Petroleum Ltd. to the BELCO generating plant in Pembroke following the right- of- way currently used for the 6 inch oil pipeline. *This is an expensive option.*

a) Consideration should be given to laying a buried LPG gas pipeline underwater, following the line of the South Channel or near to it. After landing on the shore in Pembroke near Swan's Bay, the pipeline could be run underground through a bored tunnel following the line of Barclay Road and direct into the new 56 MW BELCO plant.

b) To lay the 9 mile underwater section of the pipeline, a pipe-laying barge could be chartered and mobilized from the US Gulf or US East Coast. These barges are around 400X100 feet and can lay up to 1 mile of pipe per day. The pipe is stowed on a vertical or horizontal reel.(Note: *There are more than 40,000 miles of pipeline laid in the US Gulf.*)

4. In the same timeline as the gas pipeline is being laid on the North Shore consideration could be given to utilizing the pipe-laying barge to lay two buried high voltage underwater power cables, one cable to run from the new BELCO plant to the SOL Petroleum Ltd. facility with a link across Ferry Reach to the airport Finger connecting to the 6MW solar installation and the proposed Ships Wharf facility. One high voltage underwater cable could be laid from BELCO to Dockyard to replace the out of service underwater high voltage cable from Spanish Point to Dockyard.

These two high voltage cables would give diversity to the grid and provide security in the supply of power to each end of the Island as well as providing a tie- in point for the two proposed generation units at the East End. The two cables could access the bored tunnel for the LNG pipeline from the North Shore to BELCO or be placed in a separate tunnel if safety considerations apply. Such tunnels need only to be sized to allow for pipeline or cable to be safely pulled through.

Yours faithfully,

Ronald D. Ross CEng.; CMarEng.; PEng.; FIMarEST.

Rosalind Wingate  
31 St. Michael's Rd  
Paget, PG04  
(441) 799-9443  
rw@warwick.bm

13<sup>th</sup> November, 2018

**Re: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Members of the RAB,

I write to you as a mother of three children and an employee of Warwick Academy where we look out for the future wellbeing of hundreds of young Bermudians.

Given the undeniable evidence of rapidly accelerating climate change and its associated global consequences, along with recent agreement within the global scientific community that we, as a species, have as little as 12 years to change our energy consumption behaviours before it is too late to alter our destiny, I cannot understand why the Authority would be considering any plan that does not do everything humanly possible to reduce our dependence on fossil fuels and invest in a renewable future for Bermuda (and the planet).

With Bermuda's relative financial and political stability, we have the potential to lead by example and make a name for ourselves in the burgeoning field of renewable energy! Instead, the plan that has been proposed by BELCo, and thus far accepted by the Bermuda Government, is an embarrassment with disastrous ramifications for our younger generations!

The only explanation I can think of, for this, would be the selfish interests of a few short-sighted individuals who stand to personally gain in the short-term.

Even the 65% renewable energy plan proposed by BE Bermuda, may fall short of the targets necessary to represent our corner of the planet with sufficient effect to turn things around for the sustainability of life as we know it, but, it is a very realistic and easily attainable goal and, a much more positive step in the right direction than BELCo's.



Why is our Government not leading the charge by ultimately proposing 0% dependence on fossil fuels by 2038, like Grenada? Although Wind and Solar may presently be the most reliable sources of renewable energy and the best places to start, why not also lay the groundwork for scientific research into ways that we can harness the vast stores of energy contained within the ocean around us? Our Government could be funding the education of young Bermudians with an interest in engineering. For example, we are in an ideal location to pilot the development and improvement of new and existing technologies utilizing tidal energy which would not be subject to the same intermittency issues associated with Solar and Wind and could potentially fill in the 'gray areas' of demand not currently met in the Better Energy Plan.

In a world filled with problems, I beg you to reject BELCo's narrow minded energy proposal and choose the Better Energy Plan or, better yet, go one step further and invest heavily in those who can find the **BEST** ENERGY PLAN for our children and grandchildren. Let's leave a positive legacy. If all else fails outside of our jurisdiction, at least we can say that we did ALL that WE could to secure an inhabitable world for future generations.

Yours Sincerely,

Rosalind Wingate

Ryan Sulley  
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Paget PG05  
Bermuda  
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Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

15 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.

Uses technology that is in commercial use in other jurisdictions.

Has been developed using detailed and transparent assumptions and methodologies.

*Provides a more stable cost of energy over the long term.*

*Is the most environmentally sustainable option available and thus protects the environment as much as possible for future generations.*

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Ryan Sulley

Sacha Blackburne  
Birdsaye  
8 Between the Walls  
Pembroke HM 06  
535 5089  
benandsacha@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

14 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I have thoroughly read and support the Bermuda Better Energy Plan submitted by BE Solar.

Our family has already invested in solar panels on our own roof, and my husband is looking into ways to create opportunities for others to do the same. We are waiting for the right electric car and bikes to be imported so that we can upgrade to those. We live a life that is as eco as possible, and make huge efforts to not impact our environment negatively, and are teaching our children to do the same. It is upsetting that our own Government doesn't hold itself to the same high standards by enacting plans that could make Bermuda more sustainable. Bermuda could be the gold standard for the future – the island has so many advantages.

BE Solar's Bermuda Better Energy plan is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. Their plan provides obvious and intelligent evidence that renewable fuel can deliver clear reductions in carbon emissions, while not changing energy costs. Their plan to is a good one – to use technology that is in commercial use and indeed extremely successful in other jurisdictions. This plan has been thoughtfully developed by people who are passionate about Bermuda and its future, using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Sally Crawford  
PO BOX HM2847  
HAMILTON  
HMLX  
BERMUDA  
crawford@northrock.bm

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

12 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Sally Crawford

## Response to Consultation Document: Comments on IRP Bulk Generation Proposals

Sarah Fields  
Stonycroft  
1 Fairylands Road  
Pembroke, HM 04

November 16<sup>th</sup>, 2018

Regulatory Authority of Bermuda  
1st Floor Craig Appin House,  
8 Wesley Street,  
Hamilton HM11,  
Bermuda

Dear Sir or Madam,

I am writing to you as a concerned citizen regarding the twenty-year energy plan recently put forward by BELCO. As the rest of the world moves forward into a future using cleaner and more affordable renewable energy sources I was alarmed to see that BELCO supports twenty more years of the same... only more expensive(!) as we the people of Bermuda will have to ultimately pay for a new BELCO storage system.

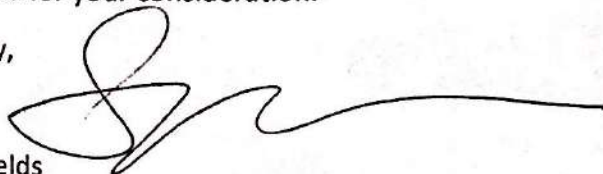
As an island nation I believe we should be motivated by the findings in the 2018 IPCC report on Global Warming of 1.5 degrees C. We are particularly vulnerable to its findings of Climate Change and should be modelling environmentally prudent and conservative action in our energy choices for the next twenty years. On reviewing the Electricity Act 2016 it is disheartening that BELCO does not seem to take much if any of the environmental considerations to heart in their proposal.

Having recently read the Better Bermuda Energy Plan I was impressed to see that it is consistent with the Electricity Act 2016 in many ways including: Sustainability, Safety, Adequacy, Conservation and Efficiency and Affordability.

It is my request that the Regulatory Authority of Bermuda not accept the BELCO plan as a "default" plan for our future, and that more time and creative thought be put into alternatives, including the Better Bermuda Energy Plan before you make this very momentous decision on behalf of your fellow citizens.

Thank you for your consideration.

Sincerely,



Sarah Fields

Sarah@FlyingColours.bm

441 504-8203

*Scott Cervino, B.S., Med, CELTA*  
*12B Landmark Drive*  
[\*cervinoinelba@gmail.com\*](mailto:cervinoinelba@gmail.com)

*Southampton, SB04*  
*Bermuda*

---

22 October 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the **Bermuda Better Energy Plan** submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Considers the "true cost" of energy generation to include collateral damages to the immediate surrounding area of Bermuda:
  - particles in the air, breathing problems, health problems
  - damage to the immediate surrounding area of BELCO in their water tanks, which is the only source of drinking water unique to Bermuda
  - damage to our protective reef system (valued economically at between 4.8 million and \$1.1 billion dollars PER YEAR) and continued acidification of our oceans

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Scott A. Cervino

Sebastian Brisson  
"Delrosa" 21 A P Owen Rd  
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Bermuda  
4417071354  
Bsf\_sebastian@live.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

14 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk  
Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Serves in the long-term best interest for the people of Bermuda

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'S. Brisson', with a horizontal line extending to the right.

Sebastian Brisson

Shelley Anderson  
3 Privateer Lane  
Warwick, WK10  
Bermuda

November 13, 2018

Monique Lister  
Regulatory Authority  
1<sup>st</sup> Floor, Craig Appin House  
8 Wesley Street  
Hamilton

**RE: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms. Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar because this plan:-

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least cost provision of reliable electricity. The plan provides clear evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilizing energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Makes full use of the solar and wind resources already available in Bermuda and minimizes the amount of imported fuel.
- Will create more local jobs and keep more money in the economy.

Thank you for reviewing my response and look forward to learning of the outcome of the IRP consultation process.

Yours sincerely,



Shelley Anderson  
Email: [Shelley.anderson@artextrisk.bm](mailto:Shelley.anderson@artextrisk.bm)  
Phone: 441 236 5660



## CHELSEA COTTAGE

14 Cobb's Hill Road

Warwick, PG01

Bermuda

Tel : (441)236-3332 Fax : (441)236-7398 Email : [sbmulder@ibl.bm](mailto:sbmulder@ibl.bm)

Mrs. Monique Lister  
Regulatory Authority  
Craig Appin House, 1<sup>st</sup> floor  
8 Wesley Street  
Hamilton HM 11

Warwick, October 29, 2018

Re: *Response to Consultation Document : Comments on IRP Bulk Generation Proposals*

Dear Mrs. Lister,


We welcome your organisation's initiative for public consultation in connection with the final plan for Bermuda's energy future. We hasten to submit our response to the *Regulatory Authority* of Bermuda's consultation of IRP Bulk Generation Proposals.

We, wholeheartedly support the Bermuda Better Energy Plan recently submitted by BE Solar, as this plan, in our opinion :

1. is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The BE Solar plan further identifies and provides clear and convincing evidence that renewable energy will and can deliver substantial reductions in carbon emissions. These functions will be stabilizing energy costs through clean renewable energy.
2. embraces technology that is in commercial use in other - and similar jurisdictions.
3. has been developed using detailed and transparent assumptions and methodologies.

We also are of the opinion that the growth of renewable energy across the isles of Bermuda is creating a new economic phenomenon – exploiting those natural resources for domestic growth. In recent years Bermuda has made some strides in exploiting its incredible, untapped and massive potential for solar resources. Solar can do so much more for Bermuda. It is all around us, we need to capture it, massage it and use it with a great sense of achievement

We, Bermuda, all its citizens and the *Regulatory Authority* should pay due attention and act in concerto to create, promote, and prepare these isles for an energy revolution that will reshape these shores and create and nourish a host of business opportunities. BE Solar is not far from leading the charge.

  
Yours faithfully  
Shirley and Willem Mulder



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"Kent House"  
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441-236-0955  
[somerscooper@gmail.com](mailto:somerscooper@gmail.com)

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

10 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in black ink, appearing to read "P. Somers Cooper", followed by a long horizontal flourish.

With regards to the RAB's public consultation for the construction of a new power plant, I would like to bring several issues to the table that I believe the RAB should consider before moving forward with any of the proposals that include oil or gas in their generation mix. There are many, many problems with oil and gas that I want to highlight and that should weigh heavily in the final decision. My concerns are mostly economic, as I will explain below.

First, the fact that all fuel must be imported is, I believe, a waste of valuable foreign currency that Bermuda could use as for other important imports such as food and medicine. If we can build power plants that do not regularly need imported fuel, then we can save our US reserves for these important causes. Additionally, since many fuel companies are multinational corporations, we lose out on

Second, after reading through the proposals on the website, it seems that the price of electricity for the consumer will be cheaper if the energy generation mix includes solar, wind, or wave energy. This is supported by several of the proposals (most notably the chart on page 5 of the BE Solar Alternative proposal showing that all renewable sources will very likely be cheaper than fuel oil or LNG). I cannot support any actions that would choose a more expensive energy source over a cheaper source. In anticipation of a counter argument about the nature of box-and-whisker plots such as the one I referenced above, I would also point out the following quote on the very same page: "With the cost of solar, wind and storage technologies steadily declining, it is likely that the case for low carbon electricity generation will continue to improve in the future." That the cost of these renewable technologies and storage technology is declining implies that we will probably be closer to the lower end of power prices suggested in the figure.

In any case, regardless of the finer nuances of the actual price of a MWh of power generated, I want to make the point that often regulatory bodies across the world fail to account for negative economic externalities associated with dirty fossil fuel plants. These are costs that are not directly included in the price of electricity sold, but that nonetheless have to be paid either by consumers directly or by governments funded by taxpayers. These external costs include the increased use of healthcare services due to pollution like smog and other toxic chemicals that can be released when burning fossil fuels; the possible consequences that global warming will damage the economic output of Bermuda's waters (fewer fish and lobster to be caught and sold, fewer tourists coming to see corals that will be bleached, etc.); and the added economic benefit of introducing a new sector of renewable energy generation opens up new possibilities of educating, training, and employing Bermudians in a sector that will without doubt grow in importance in the future as more and more countries shift to renewable energy production.

In sum, I think there are a lot of economic reasons why the proposals with renewable energy are the best candidates for adding more power to Bermuda's grid and I hope the RAB recognises the many benefits of renewable energy over fossil fuel energy.

Further to my previous submission and in reaction to the IPCC's newest report released earlier this month, I am submitting the following website URLs in the hopes that the RAB will read them and very seriously consider the long-term human, environmental, and economic consequences of climate change. It is vital that Bermuda does its part in rising to this challenge for the good of not only Bermudians, but also of the global poor and people of colour (those who are and will be affected the most severely).

1. [https://en.wikipedia.org/wiki/Scientific\\_opinion\\_on\\_climate\\_change](https://en.wikipedia.org/wiki/Scientific_opinion_on_climate_change)
  - Note that no major national or international scientific bodies reject the scientific consensus on climate change
2. <https://www.skepticalscience.com/global-warming-scientific-consensus-advanced.htm>
  - Further evidence of the overwhelming body of research backing the scientific consensus on climate change
3. <http://www.ipcc.ch/report/sr15/>
  - The new IPCC report. The RAB should read the Summary for Policymakers.
4. <https://www.nytimes.com/2018/10/07/climate/ipcc-climate-report-2040.html>
  - NYT article describing the new IPCC climate report that urges immediate and significant action to fight the worst consequences of climate change
5. <https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report>
  - An excellent summary of the new IPCC report by one of the most reputable newspapers in Britain
6. <https://350.org/science/>
  - 350.org is an excellent resource on how to limit our climate impact. Most significantly we need to keep fossil fuels in the ground.

Thank you for taking the time to carefully consider both my own opinion and the expert opinion of climate scientists and the IPCC. We are at a critical juncture in history, and I know that we as Bermudians have it in us to rise to the occasion and do the right thing by being vocal and full-throated advocates for renewable energy. The IRP is a huge opportunity for Bermuda to shift a significant amount of our power generation to renewable energy and we must seize it with both hands.

Thank you,



Stephen Nicholas Barton  
[snicholasbarton@gmail.com](mailto:snicholasbarton@gmail.com)  
17 Cable Hill, Smith's

## L. Nigel Burgess

---

**From:** Stuart Kriendler <stuart@besolar.bm>  
**Sent:** Saturday, September 22, 2018 3:57 PM  
**To:** L. Nigel Burgess  
**Cc:** Electricity; Aaron Smith; Monique Lister  
**Subject:** Re: Alternate IRP Proposal Submissions - Next Steps  
**Attachments:** image943715.jpg

Good day Nigel, Aaron, Monique and team,

Thank you for your email confirmation and information.

Below I have answered and asked questions in the body of your original email in blue:

Please note that we are very glad to hear the Authority is considering providing a forum for to present our Alternative Proposal to the public, and we would absolutely be interested in participating in person. Please provide more details on this as soon as convenient.

Can you please also provide clarification on this sentence:

Only technologies included in the IRP may be considered for future bulk generation or DSR when the need arises?

Perhaps a short meeting or phone call next week would assist in making sure I fully understand exactly what this means, much appreciated.

Thanks again and warm regards to all,  
Stuart

On Fri, Sep 21, 2018 at 5:05 PM L. Nigel Burgess <[NBurgess@rab.bm](mailto:NBurgess@rab.bm)> wrote:

Good day,

Thank you for your submission to the Integrated Resource Plan (IRP) Proposal consultation.

The Regulatory Authority (the "Authority") wishes to provide you with an update on the next steps of the process.

1. Eight (8) alternative proposals were received in the public consultation on the IRP Proposal.
2. Each alternative proposal has been reviewed and assessed to determine its compliance to the requirements of the Electricity Act and the IRP proposal guidelines. This assessment, along with each alternative proposal, will be published on the Authority's website in coming weeks.
3. A further period of public consultation will be open, for comments on these alternative proposals. During this time, the Authority may also request additional information from the proponents of the Alternative Proposals in order to analyse the effects of the inclusion of Alternative Proposals in the Draft IRP.
4. All comments on the IRP Proposal and the alternative proposals will be considered in the final IRP document.

Please note that the Authority is considering providing a forum for you to present your Alternative Proposal to the public, if you wish to do so. Please indicate your interest in participating in such a process, either physically in person or via an online format.

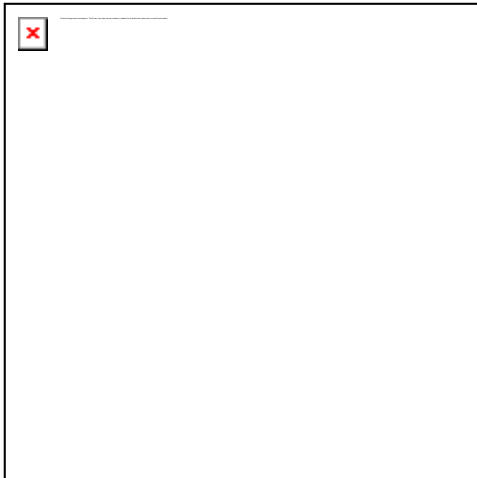
We wish to remind stakeholders that the alternative submission process will identify alternative technology for bulk generation or demand side resources (DSR), to be considered for inclusion in the IRP. Only technologies included in the IRP may be considered for future bulk generation or DSR when the need arises. At such time, a tender process would be initiated for the suggested technology and interested parties will be invited to submit through a Competitive Bidding Procedure, as set by the Authority.

Thank you for your participation in this important process as we design Bermuda's long-term electricity plan.

Kind regards,

Nigel Burgess

**L. Nigel Burgess**



1st Floor, Craig Appin House  
8 Wesley Street, Hamilton, HM11

Email: [NBurgess@RAB.bm](mailto:NBurgess@RAB.bm)  
Web: [www.rab.bm](http://www.rab.bm)

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**Stuart Kriendler**

**| Managing Director**

48 St. Johns Road, Pembroke, HM 07, Bermuda

C: [1.441.599.2105](tel:14415992105) | O:  
[1.441.279.5907](tel:14412795907) | [www.BEsolar.bm](http://www.BEsolar.bm)



**OUR VISION: An efficient Bermuda powered by affordable renewable energy.**

**OUR MISSION: To provide the highest quality energy solutions accessible to all.**

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Susannah Frith  
144 Somerset Road  
Sandys MA06  
Bermuda  
441-331-6449  
zanzcaf@ibl.bm

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

13 November, 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'S Frith', with a long horizontal stroke extending to the left.

Susannah Frith



*Mrs. Tammy Faulkenberry  
16 White Sands Road, Paget, PGo6  
Bermuda  
441-532-9853  
Entfaulkenberry@gmail.com*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*11 November 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms. Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy. Having this opportunity to submit this response gives me hope that as a collective voice, we can still make positive changes for the better care of our local environment here in Bermuda.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Sincerely,

*Tammy Faulkenberry*

*Timothy Fox*  
*9 Mullet Bay Rd*  
*St. Georges*  
*GE01*  
*Bermuda*  
*441 2971755*  
*Timothyfox57@gmail.com*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*10 October 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

*Timothy Fox*

Tina Rego  
Unit 4, 2 Main Royal Drive  
Warwick  
WK 06  
Bermuda  
441 535 7756  
Treego1270@gmail.com

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

11 November 2018

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- This plan offers more choices instead of a continuance of the status quo. There are numerous other Caribbean islands that have already instituted solar and wind as alternative energy sources, we, as a country, aren't even considering it. I feel it is imperative that Bermuda implements this plan and brings itself into line with what other countries are doing. Renewable energy is a less volatile energy source, a cleaner energy source and more sustainable for the future generations of this country.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Tina Rego

Mr. and Mrs. Karl H. Stewart  
Benton  
41 Trimmingham Hill Estate  
Paget PG05  
Bermuda  
234-5625 tina@stewart.bm

11 November 2018

**VIA EMAIL electricity@RAB.bm**

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms. Lister,

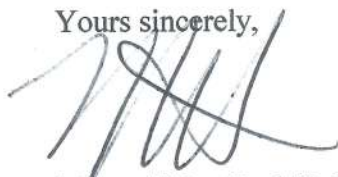
We are writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

We support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

Thank you for your time in reviewing our response, we look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Mr. and Mrs. Karl H. Stewart

**From:** [Tracy Osborne](#)  
**To:** [Electricity](#)  
**Subject:** Response to RA Consultation  
**Date:** Tuesday, November 6, 2018 10:03:08 PM

---

Tracy Osborne  
Unit 12, 7 Etteick Lee Drive  
Warwick  
WK06  
Bermuda

747 8723  
[tracy.osborne@live.com](mailto:tracy.osborne@live.com)

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda 10 October 2018

Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- Please add your own personal reasons for supporting the Bermuda Better Energy Plan here....

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

Tracy Osborne

Sent from my Samsung Galaxy smartphone.

Weldon Carl Wade  
14 Serpentine Road  
Pembroke  
HM 11  
Bermuda  
(441) 338-8058  
Weldon.wade@gmail.com

November 6, 2018

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

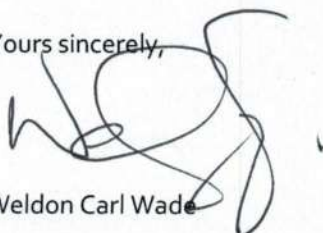
I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.
- It just makes sense.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,



Weldon Carl Wade

*William Thompson  
36 Hinsons Island  
Paget PG 01  
Bermuda*

*Tel: +1 441 599 9670  
E-mail: wcsthompson@gmail.com*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street

20th October 2018

Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals

Dear Ms. Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals. I support the Bermuda Better Energy Plan submitted by BE Solar, for the following reasons:

- 1) I believe this plan is the most consistent with the purposes of the Electricity Act and ministerial directions for the long term least-cost provision of reliable electricity. The plan provides clear evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- 2) This plan utilizes proven technology that is in commercial use in other jurisdictions.
- 3) Has been developed using detailed and transparent assumptions and methodologies.

I would like to further add that the use of a broad array of renewables has the following advantages over fossil fuels for the generation of electricity in Bermuda:

- 1) Projects an image to the world that Bermuda is a forward thinking and dynamic jurisdiction. I believe this will assist the government in meeting its tourism and international business objectives.
- 2) Supports a wide array of badly needed skilled local jobs. These jobs will be in existence during the long term rather than for example, during the construction phase of building new LNG infrastructure.
- 3) Significantly reduces the amount of money spent by the island importing fossil fuels and this money would remain in the local economy.
- 4) Technological advances in electricity generation are rapid and will continue to be so. Generating electricity from a broad array of renewables will allow the island to utilize these advances in that we will not be committed to one source of power generation with very significant upfront capital cost.

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Sincerely,

William Thompson

*Zara Ward  
9 East Point Lane  
Flatts, Hamilton  
FLo4  
Bermuda  
1-441-705-1261  
zward@gmail.com*

Monique Lister  
Regulatory Authority  
1st Floor, Craig Appin House  
8 Wesley Street  
Hamilton, Bermuda

*14 November 2018*

**Subject: Response to Consultation Document: Comments on IRP Bulk Generation Proposals**

Dear Ms Lister,

I am writing to submit a response to the Regulatory Authority of Bermuda's consultation on IRP Bulk Generation Proposals.

I support the Bermuda Better Energy Plan submitted by BE Solar, as this plan:

- Is the most consistent with the purposes of the Electricity Act and ministerial directions for the least-cost provision of reliable electricity. The plan provides clear and convincing evidence that renewable energy can deliver a substantial reduction in carbon emissions while stabilising energy costs through clean renewable energy.
- Uses technology that is in commercial use in other jurisdictions.
- Has been developed using detailed and transparent assumptions and methodologies.

The harvesting, processing and transportation of fossil fuels worldwide is hugely problematic for environmental sustainability and human rights issues. Planning to continue to support the fossil fuels industry – whether through crude oil or LPG – is standing on the wrong side of history. A transition towards renewable energy resources is economically beneficial but is also the most ethical route that we as a country can take and the sooner we get on board the better.

I found this article interesting, and there are many more to be found online:

<http://fore.yale.edu/climate-change/ethics/the-new-paradigm-of-energy-ethics/>

Thank you for your time in reviewing my response, I look forward to learning of the final outcome of the IRP consultation process.

Yours sincerely,

