Comments to the Puerto Rico Energy Bureau

Comments from Wheeling Technical Conference on February 23rd 2023

THE PHOEBUS FUND PR, LLC

A Puerto Rico Limited Liability Corporation

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Contents

1  Executive Summary ................................................................. 3

2  Stated Goals of Puerto Rico’s Energy Sector ........................................ 6
   A.  Puerto Rico Energy Bureau Goals .............................................. 6
   Exhibit 1: PREB Procurement Tranches ........................................ 6
   Exhibit 2: Eligible PV Critical Projects ......................................... 7
   B.  Puerto Rico Legislative Goals .................................................... 7

3  Load and Generation Curve Analysis ............................................. 8

4  Wheeling Ecosystem ......................................................................... 9
   A.  Annual Imbalance Cap ............................................................. 9
   B.  Implementation & Operating Costs ........................................... 9
   C.  Ancillary Services, Standby Power, and PoLR Capacity Carrying Costs ......................................................... 9

5  Oregon Program Comparison .......................................................... 10

6  Provider of Last Resort ................................................................... 11

7  Excess Capacity Increasing Cost to Non-Wheeling Customers ............... 11

8  Generation Asset Protection .............................................................. 11

9  Phasing Proposal ............................................................................ 12

10 LUMA Non-Compliance with PREB Board Orders .............................. 12

11 Conclusion ...................................................................................... 14
1 Executive Summary

The Phoebus Fund PR, LLC ("Phoebus") is excited about the rollout of the Wheeling Program soon as there has been significant interest in obtaining solar energy generated wheeling program participation. As such, Phoebus participated in the February 23rd Wheeling Technical Conference as outlined in Case NEPR-MI-2023-0001. This technical conference was an informative presentation from LUMA which drew heavily on the Oregon Wheeling program.

Generally, Phoebus’ comments surround the wheeling programs need to maximize customer benefit, minimize impact on non-wheeling customers, while providing direct incentives for developers to implement and build new generation within Puerto Rico using Wheeling Retail Service Agreement with private customers. Phoebus’ opinion is that the Wheeling program can be leveraged to expedite Puerto Rico’s transition to a 100% clean electricity generation system, as outlined in Puerto Rico Energy Public Policy Act (Act 17). The implementation of this transition is behind its schedule of 40% by 2025, with limited ability to accelerate under current RFP processes. Phoebus’ view is that the Wheeling Program can rapidly accelerate this transition due to the ability of using private balance sheets and credit to fund projects within Puerto Rico and provide renewable energy generation throughout Puerto Rico.

The Wheeling Program should enable a stable and secure system for operations, providing protections to private investors installing renewable energy projects, specifically solar energy. Investors require a stable environment and limited uncertainty in the utility industry to invest in generating capacity, without this stability attracting capital is extremely limited and expensive. Creating a stable environment for the Wheeling program is key in providing the lowest cost of capital and thus the lowest rates of energy provided to the people of Puerto Rico.

As such, Phoebus is submitting these direct comments on the Technical Conference from February 23rd in the interest of bringing the private solar industry’s prospective on the Wheeling program and the potential difficulties created by the recommendations of LUMA. Additionally, these difficulties create unneeded complications to the wheeling program, especially given LUMA’s own admission that these programs take “approximately 39 months to commence” and PREB is now in its 39th month from the passage of Regulation 9138 initiating the wheeling program process.

Below is a summary of the comments made throughout the remainder of this document.

Wheeling Cost Structure – Uncertainty of Savings to Customers

On the slide entitled “Wheeling Rate: Summary of Key Charges,” LUMA laid out five charges outlined for the use of the PR Electrical Grid by Wheeling Providers. These are: Ancillary Services, Annual Imbalance Cap, Standby Power, Provider of Last Resort Capacity Carrying Costs, and Implementation & Operating Costs. Of these five charges proposed, only two are permitted by PREB board order (link to board order) which are the Annual Imbalance Cap and the Implementation & Operating Costs. We agree that an annual imbalance cap of 105% (as suggested by LUMA) is appropriate to best tie the wheeling program to customer loads. We also agree that an implementation & operating charge is appropriate as LUMA does need to set up new accounting, billing, and metering to provide grid service to the wheeling customers (although this should be limited due to the automation possible from the new meters being installed).
The remaining charges of **Ancillary Services, Standby Power, and Provider of Last Resort Capacity Carrying Costs** are already being recovered from the rate payors of Puerto Rico through the capacity charges and transmission & distribution charges, which are not offset by the wheeling program. Additionally, on the slide entitled “Standby Power Charges” LUMA estimates that the cost of **system capacity charges** should be approximately $94,000/year. This rate for a 1 MW solar facility, generating 1,600,000 kWhs annually would be $0.05875/kWh instantly pricing out wheeling from providing savings to customers. This was only the Standby Power Cost. The ancillary services costs in the slide entitled “Wheeling Rate: Ancillary Services Charge” was estimated at 3-7% of the sum of the FCA and PPCA charge, which would generate a cost of approximately $0.006-0.014/kWh. The Provider of Last Resort Capacity Carrying Cost charge was not estimated in the presentation, however just the two charges that were estimated would add $0.06475-$0.07275 per kWh. These additional charges destroy the ability of large power users in Puerto Rico from obtaining savings from the Wheeling Program, further these charges are already being billed through the non-FCA/PPCA charges on the LUMA bill.

**Complete Dispatch Control of System – Instability of Cash Flows**

LUMA has recommended that the Wheeling Services Agreement include a provision that provides LUMA the sole ability to determine dispatching of Wheeling Generators with no regard to Wheeling provider’s need for known generation and cash flows. LUMA’s ability to simply determine which generators operate on which days creates a potential risk of corruption within the wheeling environment due to stable cashflows/generation being a requirement to obtain financing for projects. LUMA does need the ability to decrease production or discontinue dispatch of electrical generation in the event the electrical grid of Puerto Rico is in danger of failing. As such, this clause should be treated more as a force majeure event to protect the grid from catastrophic failure and not the full control that could create at worst a corrupt environment and at best uncertainty surrounding cash flows. With renewables being the cheapest possible power, it would make sense to require LUMA to use renewable generation.

**Energy Schedule Deviation Resulting in Immediate Termination**

LUMA presented a term within the wheeling services agreement that Oregon has which would allow LUMA to immediately terminate a wheeling service providers’ contract if they failed to meet scheduled power deliveries. This makes sense in the Oregon market due to Oregon having tremendous access to the California/Washington generating capacity and the ability of energy providers to back up their schedule with purchased power from these other markets. Puerto Rico is an isolated grid which does not have this ability, as such any challenges with delivery of renewable would represent a threat to any wheeling providers’ ability to operate, as LUMA would be able to immediately cancel a provider’s contract. A degree of flexibility is required here as delivery of power must be scheduled; however, the future wheeling providers of Puerto Rico do not have the ability to augment their generating capacity with external grids.

**Imbalance Charge Calculations**

PREB has ordered LUMA that the FCA & PPCA charges are to be the wheeling credit and that other grid operation charges were still being paid by the wheeling customer on their existing tariffs. As such, PREB has already contemplated the potential additional costs the program through the hourly imbalance charge structure. Effectively, overproduction during the day from solar will only be credited at 95% of the FCA & PPCA rate (i.e., the grid of Puerto Rico’s cost of generating electrons) allowing LUMA to have a
5% profit margin on this over production. The under production from solar not generating at night would be paid by the wheeling provider at 100% of the FCA & PPCA Charge, fully reimbursing LUMA for the cost of generating electricity to satisfy the nighttime imbalance. This creates an environment of LUMA obtaining 5% lower cost energy during the day and continuing to deliver these electrons to their customers who are paying 100% of the FCA and PPCA charges, while at night LUMA is still obtaining full reimbursement from the wheeling provider on any imbalance. In other words, the hourly imbalance charge is already creating a profit center for LUMA to account for the cost of spinning reserve and non-spinning reserves, while LUMA continues to be paid for all the traditional services provided by the grid operator (i.e., grid stability charges, grid capacity charges, etc). Effectively, the Wheeling structure, as it stands currently, provides LUMA with the potential to tremendously increase generating capacity on the grid, through the Solar MTR requirements create a huge increase in grid battery storage, while not costing any capital from LUMA, maintaining LUMAs current profit generation from transmission, capacity, and distribution charges to the customer, and creating a new 5% profit center from the imbalance charge assessment.

**Limited Roll Out of Solar**

LUMA recommends capping the wheeling roll out to only 25% of the total eligible capacity of wheeling eligible customers. This can be seen on the slide entitled “Phased Approach to Wheeling.” This is entirely counter to the goals and objectives of Puerto Rico and PREB, specifically the goals of the Wheeling Program. The wheeling program goals is to accelerate renewable deployment within Puerto Rico while providing an economic incentive through lower electricity costs to the large commercial and industrial customers of Puerto Rico. Limiting the roll out creates the potential for a corrupt system as LUMA may have the ability to “choose winners.” Additionally, the concern of LUMA associated with the rapid rollout of wheeling is around the interconnection of generating equipment and ramp rates, both of which are contemplated in the interconnection process and Minimum Technical Requirements. Without an interconnection agreement, the generator cannot operate, and the interconnection agreement creates security around LUMA’s ability to service the grid. Finally, LUMA’s assessment is immediately at odds with the findings of the DOE’s PR100 analysis.

**Conclusion**

LUMA should be supportive of the wheeling program with only the imbalance charge and a small ($0.001/kWh) implementation and operating cost charge. Successful deployment of large-scale solar wheeling will provide LUMA additional generating capacity and large utility scale battery storage implementation while still maintaining their existing profit centers and creating a new one. The success of wheeling is beneficial to Puerto Rico, LUMA, the Grid, and the large C&I customers and should be immediately rolled out as originally contemplated by the PREB board orders.

Please contact me with any questions or comments on any of the underlying information.

Thank you,

Andrew Kennedy
The Phoebus Fund, LLC
2 Stated Goals of Puerto Rico’s Energy Sector

Puerto Rico has published its goals for the energy sector through various documents and legislative acts. These various documents and legislative acts will be discussed in this section as they pertain to renewable energy deployment, specifically solar energy, and the organization issuing the guidance or action.

A. Puerto Rico Energy Bureau Goals

The Puerto Rico Energy Bureau (PREB) goals are outlined in several orders and reports. The first being the Integrated Resource Plan 2018-2019 (IRP)\(^1\). The specific recommendations from this plan, which was adopted by PREB, can be found in Part 10 of the report. PREB modified the IRP recommendations with their own, and adopted their modifications, with the key modifications outlined in the IRP Presentation dated February 8\(^{th}\), 2021\(^2\). The report specifically states the following on the use of solar PV generation:

I. Section 10.1.1 Solar Photovoltaics (install 1800 MW)
   a. PREPA plans to install up to 1800 MW of solar PV in the first 5 years of the plan (2019 to 2023). RFPs will be issued for blocks of approximately 250 MW of solar PV, with associated BESS depending on pricing).
      i. Currently the amount of installed solar is significantly behind this targeted goal.
   b. The ESM plan under base load forecast achieved 41% renewable contribution by 2025, meeting the requirements of Act 17-2019 and 68% by 2038, exceeding the 2040 target of 60%. In fact, the plan first exceeds the 60% target in 2033.

II. PREB Modification of the IRP
   a. This schedule was modified by PREB to procure contracts for installation to reach at least 3,500 MW new Solar by 2025. The RFP for these resources must be open to all forms of renewable energy, including, but not limited to wind, hydro, solar PV, VPPs, and storage.
      i. These tranche procurements are currently two years delayed.
   b. The Modified IRP laid out an aggressive schedule with procurement to follow the below tranches:

   Exhibit 1: PREB Procurement Tranches

<table>
<thead>
<tr>
<th>Target RFP Release Date</th>
<th>Procurement Tranche</th>
<th>Solar PV or Equivalent Other Energy (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minimum</td>
</tr>
<tr>
<td>Dec-20</td>
<td>1</td>
<td>1000</td>
</tr>
<tr>
<td>Jun-21</td>
<td>2</td>
<td>500</td>
</tr>
<tr>
<td>Dec-21</td>
<td>3</td>
<td>500</td>
</tr>
<tr>
<td>Jun-22</td>
<td>4</td>
<td>500</td>
</tr>
<tr>
<td>Dec-22</td>
<td>5</td>
<td>500</td>
</tr>
<tr>
<td>Jun-23</td>
<td>6</td>
<td>750</td>
</tr>
</tbody>
</table>

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\(^1\) https://aeepr.com/es-pr/QuienesSomos/Ley57/Plan%20Integrado%20de%20Recursos/IRP2019%20-%20Ex%20201.00%20-%20Main%20Report%20-%20REV%202%2006072019.pdf

Currently, PREB announced the RFP for the first 500 MWs in April 2022⁴. The second tranche round of 1,000 MWs was announced in October 2022⁴. Additionally, PREB has determined eligibility as critical projects of 8 solar PV projects in the interest of meeting the Integrated Energy Master Plan⁵. These critical projects are:

Exhibit 2: Eligible PV Critical Projects

<table>
<thead>
<tr>
<th>Project Name</th>
<th>PV Solar System Size (Max MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Beetle III PV Solar Plant</td>
<td>20</td>
</tr>
<tr>
<td>M Solar Generation, LLC</td>
<td>50</td>
</tr>
<tr>
<td>Vega Serena Solar Plant</td>
<td>20</td>
</tr>
<tr>
<td>Vega Baja Solar Project</td>
<td>15</td>
</tr>
<tr>
<td>Morovis Solar</td>
<td>33.5</td>
</tr>
<tr>
<td>Guayama Solar Energy</td>
<td>17.8</td>
</tr>
<tr>
<td>Solar Project San Juan</td>
<td>17.68</td>
</tr>
<tr>
<td>SolarBlue Bemoga</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>193.98</strong></td>
</tr>
</tbody>
</table>

With these critical projects, the first Procurement tranche being 500 MWs and the second procurement tranche being 1,000 MWs, the 2023/24 capacity looks to be approximately 1,693.98 MWs, which is significantly below the amount needed to meet the 40% by 2025 legislation. As such, PREB has the ability to engage the private sector to assist in the deployment of renewable energy through the creation of a stable, secured wheeling program.

**B. Puerto Rico Legislative Goals**

In 2019, Puerto Rico passed Act 17⁶. Act 17 of April 11, 2019, outlines the Electric Power Service Model, which specifically states to “design an electric power grid that takes into account the development and integration of community solar, wheeling, the creation of microgrids, and electric cooperatives or energy cooperatives as alternatives and tools to improve the access to renewable energy and the electric power grid’s resilience to natural disasters.” In addition, the Act focus on renewable energy deployment and lays out its initial objective number 7 as “To reduce and eventually eliminate electric power generation from fossil fuels by integrating orderly and gradually alternative renewable energy while safeguarding the stability of the Electrical System and maximizing renewable energy resources in the short-, medium-, and long-term. For such purpose, a Renewable Portfolio Standard is established in order to achieve a minimum of forty percent (40%) on or before 2025; sixty percent (60%) on or before 2040; and one hundred percent (100%) on or before 2050.” Finally, the act lays out a specific objective number 16 as “To establish the elements necessary for the People of Puerto Rico to attain their goal of having a new Electrical System with rates below twenty cents per kilowatt-hour ($0.20/kWh) and clean, modern, and reliable energy which shall serve as the basis for the Island’s sustainable economic development.” It should be noted that the current rate from LUMA is averaging at ~$0.30/kWh per customer.
3 Load and Generation Curve Analysis

The initial portion of the conference was surrounding LUMA’s analysis of the existing generation fleet and its ability to satisfy the ramp rate expected from a 100% solar response to Wheeling. LUMA indicated that it was “not capable” of meeting the ramp rate should an 100% solar response be used for the Wheeling Program. They also indicated in the call that they did not consider the Minimum Technical Requirement (MTR) for Utility Scale Solar deployment. The MTR requires a significant amount of energy storage to slow ramp rates of solar. This is done through the deployment of batteries which respond to “load shift” the solar array which in turn significantly slows the ramp rate. The general rule of thumb is a 20% of system size for 4 hours to meet the MTR. For a 1 GW deployment of solar, this would equate to 200 MW capacity for a total power capacity of 800 MWhs. This amount of energy storage would significantly slow the ramp rates of the solar capacity. A rough diagram of load-shifting for 6-hours is presented below for clarity.

Secondly, solar is highly predictable with ramp rates, which provides LUMA ample planning time each day for the ramp rates. Given the predictability and the MTR requirement slowing the ramp rates, it is Phoebus’ opinion that LUMA’s system would be capable of responding to ramp rates effectively, though LUMA has significantly more data available. An analysis of 100% solar deployment using Utility Scale MTR requirements should be done to ensure Phoebus’ analysis.

In addition to the physical infrastructure benefits of the MTR and new solar energy deployment, there is an ample time delay in the agreement of wheeling customers to purchase from solar generation and the commissioning of solar generation. For a 1 GW facility, this timing at the most aggressive would take 18 months of construction work to complete and commission, providing ample time for LUMA to prepare for the ramping conditions of large-scale renewable deployment. Additionally, LUMA’s comments from the technical conference go immediately against the conclusions of the Department of Energy’s PR100 analysis, which indicated Puerto Rico’s electrical system has ample ability to meet the next 5-15 years of renewable growth, estimated to be several GWs of capacity.

“In the near term (next 5–15 years), the transmission system can accommodate the projected growth in renewables.”

It would appear there is a significant disconnect between LUMA’s conclusion at the Technical Conference and the reported near term projected growth in renewables by the DOE PR100 study.
4 Wheeling Ecosystem

In Phoebus’ opinion, PREB has crafted an effective wheeling program which LUMA is proposing significant complications to. These complications accomplish two things, significantly increasing uncertainty for the private sector investment into Puerto Rico’s renewable energy systems and increasing LUMA’s revenues at the expense of Wheeling Customers. Phoebus’ understanding of the Wheeling System, as PREB has laid out, is one that protects both Wheeling and Non-Wheeling customers from having increased costs. Some notes from LUMA are appreciated and agreed to, however additional charges provide significant economic challenges to the immediate and rapid rollout of renewable wheeling services throughout Puerto Rico.

A. Annual Imbalance Cap

Phoebus agrees with LUMA that there is a risk of developers utilizing the Wheeling Program to obtain grid connected services as opposed to the load balancing goals of Wheeling. An Annual Imbalance Cap is an appropriate measure to limit the development to only offsetting the wheeling customer’s consumption as opposed to utilizing the program for grid connection. Given renewable deployment will mimic net metering programs with this annual imbalance cap, it is Phoebus’ opinion that a 105% level is an appropriate cap on generation.

B. Implementation & Operating Costs

Phoebus agrees that there should be a monthly charge an initial switching fee for the implementation and operating costs associated with Wheeling, however these should be limited due to the installation of new generating capacity and new hourly meters significantly easing LUMA’s workload through automation. Phoebus understands there will be additional costs of administration of Wheeling, however this cost should be negligible overall, especially given the general “net metering” approach outlined by the Annual Imbalance Cap for renewables.

C. Ancillary Services, Standby Power, and PoLR Capacity Carrying Costs

Phoebus has significant concerns over the Ancillary Services, Standby Power, and PoLR Capacity Carrying Costs proposed by LUMA. Phoebus believes these charges are already being considered in the Wheeling arrangement through the hourly imbalance charges and due to Customer’s continuing to be charged all tariff charges excluding the FCA and PPCA charges.

These charges which continued to be bill are the Cargo Por Consumo, Cargo Por Consumo Adicional, and Cargo Por Demanda. These charges are commonly called transmission and distribution charges and are used to support a stable grid system. Charging Wheeling Generators & Retail Suppliers additional costs for these same services appears to be double charging customers overall, drastically increasing the cost for Wheeling Customers and creating a disincentive to utilize the wheeling program.

Phoebus has reviewed a customer who is eligible for Wheeling and outlined the before & after billing from LUMA as well as the hourly load balancing impact. Overall, using a straight-line demand curve (which is highly conservative) using just the hourly imbalance charges would result in LUMA receiving a 2.9% additional charge for load balancing services, while still being able to dispatch the renewable energy generated during the day. This analysis was done in the absence of load balancing systems accomplished through MTR adherence and is an extreme example where wheeling renewable developers are heavily impacting the LUMA grid. Given LUMA has indicated that the ancillary costs account for approximately 3-7%, the hourly balancing charge seems appropriate as a ancillary charge.
when renewables utilize the LUMA grid for load balancing. Given customers continue to be charge the Cargo charges, which are directly related to transportation and capacity charges, it seems inappropriate to further charge wheeling providers these same charges.

Finally, the estimated $94,000/MW-year if applied to solar would equate to a charge to wheeling providers of approximately $0.05-0.06/kWh for a 1 MW system depending on system structure (fixed vs tracking). This dramatic increase in annual cost would immediately price solar out of the wheeling program which is counter to Puerto Rico’s Legislative and PREBs stated goals.

### 5 Oregon Program Comparison

Phoebus appreciates LUMA’s use of an existing program as an example however, would caution PREB from utilizing this framework entirely due to the unique grid and financial conditions of Puerto Rico. The primary difference is that Oregon is not an isolated grid and with decreased production, Wheeling providers in Oregon have a large capacity they can draw from in California’s CAISO system and Washington State, this allows wheeling providers in Oregon the ability to load balance themselves through open market methods. Puerto Rico is an entirely isolated grid with no ability to draw upon the continental United States’ ample generation capacity. As such, PREB’s Wheeling Program should
incentivize new generating capacity to be installed rapidly in adherence to minimum technical requirements of interconnection.

Oregon’s program requires 100% load matching, which is simple to accomplish due to the extremely deep generation open market available in the Continental United States, demanding the same 100% load match or immediate termination is short-sighted and would result in all potential wheeling providers pulling out of the Puerto Rican market. The issue here is that perfect generation prediction and load matching is not accomplished currently by LUMA and demanding the same on wheeling providers is inappropriate.

Immediate decertification under the Oregon program occurs if the provider has a “failure to deliver Electricity according to its Electricity Schedule” given LUMA’s current challenges with electrical tripping and imperfect load prediction, this is unreasonable to request. A degree of flexibility would be required here, especially for challenging intermittent generation technologies like solar. The MTR requirement goes a long way in ensuring a degree of certainty in delivery of electricity according to a schedule, but the isolated nature of Puerto Rico’s grid creates too high of a hurdle to attempt perfect predictions.

6 Provider of Last Resort

Phoebus believes LUMA is being amply compensated for the Provider of Last Resort requirements being the monopoly utility of Puerto Rico. The continued Cargo charges on customers provides the revenue required for LUMA to continue to be the Provider of Last Resort and additional charges for this seem inappropriate and double charging for the same service to the customers.

7 Excess Capacity Increasing Cost to Non-Wheeling Customers

LUMA claims that “If wheeling creates excess capacity for non-wheeling customers, it will contribute to higher costs for non-wheeling customers.” This claim seems inaccurate due to LUMA only paying 95% of the FCA & PPCA charges for the excess power generation. This indicates that LUMA would continue to charge customers 100% of the FCA & PPCA charge while only paying 95%, indicating the potential to lower the cost to the end customers for excess power generation. Considering the Wheeling Program is a credit-based program and not a physical electron-based program, it is clear that excess generation would provide a benefit to the non-wheeling customer with an annual cap of 105% of consumption. This is due to the wheeling generator providing the electron to the overall grid, with LUMA dispatching that electron to the appropriate users (not just Wheeling Customers) and providing a credit to the Generator which is then provided to the Wheeling Customer. Thus, the electron is being used to support both Wheeling and Non-Wheeling customers alike, with excess generation being provided for a 5% discount to LUMA, which is below the FCA & PPCA charge, creating lower costs not greater.

8 Generation Asset Protection

LUMA indicated several times the need to protect the grid and provide grid stability through the Wheeling Program, however they failed to mention any information on protecting generation assets from default or terminations of customers. Given the limited renewable generators on the island, it is not unreasonable to expect any renewable generation for wheeling will be new generation. As such,
there is a need to create a stable environment for investors to provide the capital for new renewable generation, which is needed in Puerto Rico both legislatively and technically. With the current framework presented by LUMA, there is no mechanism to provide generator security in the future. Should a generator see a customer default or terminate their retail supply contract, the generator would potentially liquidate the generating equipment resulting in potentially large losses of generating capacity for the isolated grid of Puerto Rico. This large loss in generating capacity must be avoided as it is important to protect the generating capacity of Puerto Rico.

Various grids in the continental United States can convert generation into “grid supply” systems and obtain a wholesale rate of electricity. This wholesale rate of electricity is key in providing investors assurances that continued electricity production will result in revenue generation, significantly reducing the likelihood of a generation liquidation event. This also becomes a challenge when generators are built to support 105% of a customer’s load, which creates custom-built generation. As such, the ability to create a floor price for generation in the event of termination, default, or non-renewal of customers is required for the Wheeling program to be successful. Phoebus is proposing the greater of 90% of the FCA & PPCA charge or $0.10/kWh for the life of the generating equipment. Implementation of this type of a clause would provide the stability required by private investors. This language also provides wheeling providers incentives to obtain new wheeling customers as the 90% is even lower than the 95% provided for excess production within the existing Wheeling regulations. This language should be grandfathered to any operator of the Grid of Puerto Rico as it is specific to protect generating capacity of Puerto Rico.

9 Phasing Proposal

LUMA’s phasing proposal is counter to the PREB and Puerto Rico Legislature’s goals and stated objectives. Wheeling is an incredibly useful tool to obtain additional private investment into Puerto Rico through private electricity offtake agreements, significantly increasing the rate of renewable adoption in Puerto Rico. Additionally, since renewable generators will need to be constructed, there is a natural phasing due to the availability of skilled labor and materials in Puerto Rico. This naturally restricts adoption to approximately 800 MWs every 12 months. This adoption rate seems appropriately fast given the aggressive renewable energy goals of Puerto Rico, but also provides ample time for LUMA to invest in the Puerto Rican grid. The PR100 analysis indicates that limited upgrades are required to meet the short-term goals, and as such a phased approach on an already limited market for Wheeling is not required. Phoebus believes the businesses of Puerto Rico deserve to obtain wheeling savings as quickly as possible to help provide economic benefits to Puerto Rico. Limiting the speed these businesses are allowed to obtain these economic benefits is counter-intuitive given the current high cost of electricity and need for significant deployment of renewable energy generating capacity.

10 LUMA Non-Compliance with PREB Board Orders

While the technical conference was informative, it is important to note that multiple suggestions from LUMA were counter to specific PREB board orders in the past. Specifically, the board order on the Regulation on Electric Energy Wheeling dated April 20th, 2022 states:

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The Phoebus Fund, LLC
GridCo shall propose, for Energy Bureau review and approval, a standard Wheeling Services Agreement, addressing the requirements and parameters established by order issued by the Energy Bureau. The Standard Wheeling Services Agreement shall cover standard electric industry wheeling terms and conditions and shall explicitly address at least the following:

1) Terms, conditions, and charges for wheeling service.

2) A description of the pricing and settlement process for under- and overdeliveries.

3) Conditions for ensuring that a Retail Electricity Supplier has sufficient generation, either through direct ownership and control or power purchase agreements, prior to transitioning a wheeling customer from the Provider of Last Resort or other retail electricity supplier and onto wheeling service with the new retail electricity supplier.

4) The arrangements for metering, data exchange and billing, and charges, thereof.

5) The process for addressing any default in the provision of energy to a Wheeling Customer; and

6) Any other parameter established by the Energy Bureau through order.

This language specifically states that LUMA can charge for “wheeling services” this does not include the ancillary services, standby power, or provider of last resort capacity. Rather this language is specific towards the administration of the wheeling services due primarily to Gridco continuing to be paid by the retail customers for all traditional services excluding the FCA and PPCA charge (i.e., the cost of generation) which is precisely offset by the new generating capacity. Thus, LUMA’s recommendation to include these charges to the retail service provider goes directly against this board order’s findings.

Further in the Final Resolution and Order Establishing Wheeling Tariffs and Further Process in Case No: NEPR-AP-2018-0004, the board specifically finds that:

The Energy Bureau FINDS there is not sufficient evidence in the record to establish specific charges or credits to wheeling customers for anything related to transmission costs, distribution costs, generation capacity costs, or ancillary services. These costs are all recovered from customers through existing rates, and since wheeling customers will continue to pay according to their existing rate structure, with the exception of a credit for fuel and purchased power, wheeling customers will contribute to these costs in the same manner they do right now.

Again, this language specifically states that GridCo is being compensated for the transmission costs, distribution costs, generation capacity costs, and ancillary services from the retail customers, which is not offset by the wheeling credit. Thus, LUMA’s recommendation to include these charges to the retail service provider goes directly against this board order’s findings.

The Final Resolution and Order Establishing Wheeling Tariffs and Further Process further states that:

The Energy Bureau FINDS that establishing the formula for the wheeling credit as the sum of the full FCA and full PPCA is just and reasonable, and combined with the balancing charges and other provisions described below, will protect ratepayers who do not participate in wheeling from adverse financial impacts.
This finding goes directly against LUMA’s finding that there would be “cost leakage” to the non-wheeling customers resulting in higher costs. LUMA’s finding was already found to be incorrect by the PREB board, as such should be rejected by PREB.

11 Conclusion

Phoebus appreciates the information from LUMA and the insights provided by the Technical Conference. The wheeling initiative has the potential to help meet the goals of Puerto Rico and PREB if implemented properly. LUMA indicated that rollout of wheeling programs on average take approximately 39 months, given that Regulation 9138 was adopted December 11th, 2019, it seems more appropriate that LUMA and PREB keep the wheeling program to its original simple nature in the interest of starting the program in a reasonable time frame. It is now 39 months since the adoption of Regulation 9138 and LUMA is proposing significant complications to the wheeling program, most of which create uncertainty or significant economic hardship on potential wheeling providers. These complications should be rejected in the interest of maintaining a simple program which targets the installation of new renewable generation assets through private sector investment and power sales, helping to meet the PREB and Legislative goals of Puerto Rico, while providing significant savings to the large Commercial and Industrial businesses of Puerto Rico.