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# GOVERNMENT OF PUERTO RICO PUBLIC SERVICE REGULATORY BOARD PUERTO RICO ENERGY BUREAU

IN RE: OPTIMIZATION PROCEEDING OF MINIGRID TRANSMISSION AND DISTRIBUTION INVESTMENTS **CASE NO.** NEPR-MI-2020-0016

**SUBJECT: INITIAL COMMENT** 

### INITIAL COMMENTS ON OPTIMIZATION OF RESILIENCE INVESTMENTS IN THE SAN JUAN \_- BAYAMÓN AREA

### TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COME NOW, Comité Diálogo Ambiental, Inc., El Puente de Williamsburg, Inc. - Enlace Latino de Acción Climática, Alianza Comunitaria Ambientalista del Sureste, Inc., Sierra Club and its Puerto Rico chapter, Coalición de Organizaciones Anti-Incineración, Inc., Amigos del Río Guaynabo, Inc., CAMBIO PR, (collectively, "Petitioners"), to file this public comment.

We write as interested stakeholders to comment on Appendices A and C of the Bureau's December 22, 2020 Order initiating the Resilience Optimization Proceeding, Case No. NEPR-MI-2020-0016. We request that PREB grant a 90-day extension of the comment period to address the specific questions posed in Appendix C, and provide notice of the comment period to residents within the San Juan – Bayamón area, community organizations, environmental justice advocates, and other

PREB Dkt. No. NEPR-MI-2020-0016, http://energia.pr.gov/en/dockets/?docket=nepr-mir-2020-0016

stakeholders. The extension and the public notice would ensure robust public participation in the Bureau's workshops.

The Bureau's December 2020 Order explained that the purpose of the proceeding is to compare and optimize between transmission and distribution system hardening versus distributed energy resources (site-specific or microgrid) as alternative and complementary ways to enhance resiliency.<sup>2</sup> Given the economic crisis in Puerto Rico, available resources, such as the funds that PREPA has sought from FEMA, should be invested in distributed solar + storage resources. This will save lives, promote local economic development, and change the trajectory of sending billions of dollars per year out of Puerto Rico's economy to pay to import fossil fuels to maintain a harmful and unreliable system.

The funds present a once-in-a-lifetime opportunity to address electric system vulnerability with onsite/rooftop solar plus storage and provide a lifeline to Puerto Rico residents. Earmarking federal funds for the localized solar + storage through the public utility to carry out a transparent procedure for large scale deployment of rooftop solar + storage serves three paramount purposes:

1) providing access to energy resiliency to the lowest income sectors of the population who would otherwise not be able to access loans, rebates or leases for solar + storage;

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<sup>&</sup>lt;sup>2</sup> PREB Order and Resolution, pp. 1-2, Dkt. No. NEPR-MI-2020-0016 (Dec. 22, 2020) <a href="https://energia.pr.gov/wp-content/uploads/sites/7/2020/12/20201222-MI20200016-Resolution-and-Order.pdf">https://energia.pr.gov/wp-content/uploads/sites/7/2020/12/20201222-MI20200016-Resolution-and-Order.pdf</a>.

- 2) providing a uniform procedure through the public utility that would hasten the implementation of rooftop or onsite solar and storage installations; and
- 3) breaking the disaster cycle of repeated destruction and costly reconstruction of the vulnerable, long-distance transmission system that so often interrupts life-saving electric service.

As a threshold matter, we urge the Bureau to allow parties and members of the public to participate or intervene in this proceeding, and to make confidential documents available to parties who sign a non-disclosure agreement. Already, PREPA has filed information in this docket under claims of confidentiality pertaining to its 10-Year Infrastructure Plan ("10-Year Plan"). This document, as the Bureau has noted, is highly relevant to this proceeding because—in blatant disregard for the Energy Bureau's Final IRP Order—it proposes to lock PREPA into the path of hardening centralized grid infrastructure and building new fossil fuel plants with federal funding. PREPA has submitted a 90-day Plan accompanying the 10-Year Plan, which is not publicly available in the docket. Further, PREPA states that the 10-Year Plan is supported by a number of other documents which are not publicly available, including:

- Sargent & Lundy (S&L) Renewable Energy Integration Study (see
   PREPA Motion in Compliance with Ordered Entered on December 20, 2020, at 5-6),
- 2. S&L T&D Roadmap (10-Year Plan at 7, 27),
- 3. S&L Independent Engineer's Reports (10-Year Plan at 7),

- 4. FEMA's Damage Assessment Reports (10-Year Plan at 22-23),
- 5. S&L New Thermal Generation Justification report (10-Year Plan at 26),
- 6. "FEMA workplan previously developed by PREPA's Disaster Funding

  Management Office (DFMO)" (10-Year Plan at 27), and
- 7. "Other feasibility studies" (10-Year Plan at 22).

All parties must have access to these documents in order to meaningfully participate in this proceeding. For example: the Renewable Energy Integration Study apparently identifies limitations on the amount of inverter-based resources that can be integrated into the current grid and therefore has a strong bearing on this proceeding's attempt to optimize spending and activity between transmission hardening versus (inverter-based) distributed energy resources. It is impossible for parties to adequately address PREPA's concerns around integration of inverter-based resources without access to this study.

# The provisions for gas-fired generation in PREPA's Ten-Year Infrastructure Plan and PREPA's FEMA Funding Requests violate the approved Integrated Resource Plan.

PREPA's proposed Integrated Resource Plan, submitted in July 2019, included a massive gas buildout with several gas-fired CCGTs and hundreds of MW of gas-fired peakers. This was largely based on an incorrect assumption by PREPA's previous consultant, Siemens, that only thermal generation could power critical loads in the hours immediately after a storm. In rebuttal testimony an at the IRP hearing,

Siemens representatives acknowledged that this assumption was wrong.<sup>3</sup> PREPA and Siemens acknowledged that renewables could be certified to withstand major events, and therefore should have been considered to supply critical loads.<sup>4</sup> In December 2019, the Energy Bureau's Energy Storage Study confirmed that "thermal resources are not required to prevent loss of critical loads." In January 2020, the island's renewable resources continued to operate through earthquakes, while its gasfired resources were heavily damaged. In the approved IRP, PREB rejected PREPA's rush to gas, and severely limited gas-fired additions:

- Para. 653: "The Energy Bureau FINDS that PREPA has not supported inclusion of a new CC at Palo Seco by 2025 in a least cost plan."
- Paras. 654-655: limited PREPA to spending \$5M on preliminary siting, permitting, and planning for Palo Seco. PREB retained the authority to cut off that spending once it became clear that the CCGT was unnecessary to maintain reliability, and that renewables + storage costs were in line with forecasts.
- Para. 873: "The Energy Bureau REJECTS PREPA's plans for retirement of all eighteen (18) of the existing gas turbine peaking units located at Daguao, Yabucoa, Jobos, Vega Baja, Palo Seco, Aguirre, and Costa Sur and replacement with a new set of GTs."
- Paras. 873, 885: PREB allowed PREPA to consider "some limited thermal peaker replacement" for the very worst-performing units. In Para. 885, PREB explained that it would only allow 81 MW of new gas-fired peaker capacity.
- Para. 878: PREB denied PREPA's proposal to convert the 200 MW Mayaguez peaker to burn gas.

<sup>&</sup>lt;sup>3</sup> In addition, Siemens did not take distributed storage into consideration. PREPA Response to the Third Discovery Request to PREPA from Local Environmental Organizations, ROI 3.56, p. 36 (Oct. 25, 2019).

<sup>&</sup>lt;sup>4</sup> See PREPA's Mot. to Submit Corrected Rebuttal Test., Direct Test. of Nelson Bacalao, PH.D. at 7, Dkt. No. CEPR-AP-2018-0001, (Jan. 20, 2020), <a href="https://energia.pr.gov/wp-content/uploads/sites/7/2020/01/Corrected-Rebuttal-Testimony-of-Nelson-Bacalao-PH.-D.-in-Support-of-PREPAs-Draft-Integrated-Resource-Plan-CEPR-AP-2018-0001.pdf">https://energia.pr.gov/wp-content/uploads/sites/7/2020/01/Corrected-Rebuttal-Testimony-of-Nelson-Bacalao-PH.-D.-in-Support-of-PREPAs-Draft-Integrated-Resource-Plan-CEPR-AP-2018-0001.pdf</a>.

<sup>&</sup>lt;sup>5</sup> Puerto Rico Energy Bureau, Energy Storage Study For a Renewable and Resilient Island Grid for Puerto Rico at Section 6.1, Dkt. No. NEPR-MI-2020-0002, (Dec. 19, 2019), <a href="https://energia.pr.gov/wp-content/uploads/sites/7/2020/01/NEPR-MI-2020-0002-Estudio-Sistemas-de-Almacenamiento-de-Energi%CC%81a.pdf">https://energia.pr.gov/wp-content/uploads/sites/7/2020/01/NEPR-MI-2020-0002-Estudio-Sistemas-de-Almacenamiento-de-Energi%CC%81a.pdf</a>.

Yet, PREPA's 10-Year Plan and its FEMA funding requests call for spending \$853M on a 400 MW Palo Seco gas plant and 330 MW of gas-fired peakers, in violation of these provisions of the approved Integrated Resource Plan. During the January 11th technical conference, representatives from PREPA and its new consultant, Sargent & Lundy, acknowledged that their gas proposals violate the approved IRP. This raises serious concerns about whether Sargent & Lundy has even read or understood the approved IRP. During the call, Sargent & Lundy repeated the same arguments in support of gas-fired resources that we already heard from Siemens during the IRP planning proceeding. Local Environmental Organizations and other intervenors thoroughly debunked these claims in the IRP process, and PREB rejected them in the approved IRP. The time for reconsideration of the approved IRP is long past, so PREPA cannot relitigate its rejected gas proposals in this docket. During the technical conference, Commissioners Avilés, Rivera and Mateo reiterated that the FEMA funding requests must be modified to comply with the approved IRP. To enforce that requirement, PREB could order PREPA to strike the offending portions of the 10-Year Plan and the FEMA funding requests, under the authority of Regulation 8543 Article X, Section 10.01(A)(1).

Gas-Fired Resources Relying on PREPA's Transmission System Will Not Increase

Resiliency.

Two vital issues require clarification: 1) the relationship of the proposed investments to the existing electric grid, and 2) the sequence, timing, or order of these investments in new generation projects, especially onsite or single site solar + storage and transmission investments. On the first issue, Hurricanes Irma and María demonstrated that the transmission lines that carry power from large, centralized power plants—especially from the plants in Southern Puerto Rico to the North—are a key vulnerability of the Puerto Rico electric system. Moreover, even outside hurricane season, the South-to-North transmission system is vulnerable to other weather events, earthquakes, vegetation growth, wildlife impacts, lack of investment in maintenance, difficult access to servitudes and easements, among other hazards.

The centralized configuration and heavy dependence on South-to-North transmission in the path of hurricanes that usually make landfall in Eastern Puerto Rico and cut across the Island from east to west increases the risks of power outages. After previous hurricanes, like Hugo in 1989, Hortensia in 1996, and George in 1998—when the network was presumably stronger and the required maintenance was current—electricity outages nonetheless lasted months because a failure in one part of the centralized grid triggered interruptions in other parts of the system and sometimes complete outages. As a matter of basic physics, the transmission system's interconnected vertical structures, will likely succumb in the next hurricane(s) even if "hardened." Therefore, it is crucial to determine to what extent the proposed minigrids will continue to depend on North-to-South transmission and whether the minigrids will function primarily connected to the existing grid configuration.

Perpetuating continued dependence on transmission from the central station fossil fueled plants would not provide the needed resilience. Continued reliance on large, centralized power plants and long, vulnerable South to North transmission lines would not promote the resilience of the electricity grid to climate related and other disasters. Hurricane María and the seismic events of last year showed the importance of decentralizing the power network. A distributed generation system centered on onsite/rooftop solar + storage will be more resilient and, after an emergency, will allow for prompt restoration of energy services, fulfilling the responsibility of saving lives. These alternatives stand in stark contrast to the use of billions of dollars in federal taxpayer funds to rebuild and "harden" the existing T&D system and add more fossil fuel generation, especially so called "natural" methane gas infrastructure.

The January 2020 seismic events demonstrated and alerted to the vulnerability of large, centralized plants: the Costa Sur and EcoEléctrica plants were both damaged by the earthquakes and aftershocks, while renewable resources stood ready to serve load immediately after the event. Furthermore, the U.S. Geological Survey has determined that the areas where the San Juan and Palo Seco plants are located are at high risk of liquefaction in the event of earthquakes. And PREPA has

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<sup>&</sup>lt;sup>6</sup> Jeffrey L.Bachhuber, James V. Hengesh, & Sean T. Sunderman, Liquefaction Susceptibility of the Bayamón and San Juan Quadrangles, Puerto Rico, at 30, Figure 6, (2008), <a href="https://earthquake.usgs.gov/cfusion/external\_grants/reports/03HQGR0107.pdf">https://earthquake.usgs.gov/cfusion/external\_grants/reports/03HQGR0107.pdf</a> (noting very high susceptibility zones in areas along the Bayamón coastal plain, Bahía de San Juan, and Laguna San José); James V. Hengesh, & Jeffrey L. Bachhuber, Liquefaction susceptibility zonation map of San Juan, Puerto Rico, in Mann, P. (ed.), Active tectonics and seismic hazards of Puerto Rico, the Virgin Islands, and offshore areas: Geological Society of America Special Paper 385, at 249–262 (2005).

acknowledged that the Palo Seco plant, depot and accompanying infrastructure are in a tsunami flood area.<sup>7</sup>

PREPA's proposed Palo Seco plant would be supplied through a 4.2 mile, \$35M pipeline from the New Fortress Energy LNG Terminal at the Port of San Juan.<sup>8</sup> This LNG Terminal already supplies the San Juan Generating Station. New Fortress Energy illegally built that LNG Terminally without the required approval from the Federal Energy Regulatory Commission; in August 2020, FERC issued an Order To Show Cause against New Fortress Energy, asking the company to explain itself.<sup>9</sup> When FERC concludes that New Fortress Energy did in fact build the LNG Terminal illegally, FERC has the authority to seek an injunction to shut down the illegal LNG Terminal and to force New Fortress Energy to disgorge its unjust profits back to PREPA ratepayers.<sup>10</sup> PREPA's resiliency plans cannot rely on a facility in such perilous legal status.

In addition, PREPA's experience with the New Fortress Energy LNG Terminal demonstrates that gas-fired resources suffer from serious reliability and resiliency problems. During times when grid reliability is critical, such as the day if the island's election primaries, PREPA was unable to operate the San Juan Generating Station

<sup>7</sup> Cent. Off. for Recovery, Reconstruction and Resiliency, *The Grid Modernization of Puerto Rico* at 107, Figure 6-6 ("Map of Palo Seco Plant and Depot in Flood Area," listing PREPA as the source of this

<sup>107,</sup> Figure 6-6 ("Map of Palo Seco Plant and Depot in Flood Area," listing PREPA as the source of this information).

<sup>&</sup>lt;sup>8</sup> PREPA's Proposed IRP Section 1.2, 5-14 Section 6.3.4.

<sup>&</sup>lt;sup>9</sup> FERC Docket CP20-466-000.

 $<sup>^{10}</sup>$  15 U.S.C. § 717s(a); FERC's May 2008 Revised Policy Statement on Enforcement, 123 FERC ¶ 61,156 at P. 6. Enf't of Statutes, Regulations & Orders, 123 FERC ¶ 61,156, 62009, at P 62009 (2008).

on gas.<sup>11</sup> In addition, the ocean-going bulk-carrier LNG tankers that supply the LNG Terminal cannot provide service in the periods immediately preceding storms, and must flee the Port of San Juan when such storms approach.<sup>12</sup> At the very moments when PREPA needs fuel and power in the face of a storm, LNG Terminals are unable to deliver.

PREPA's plans for gas-fired facilities also ignore the public health risks caused by such facilities. Methane gas combustion emits increased Volatile Organic Compounds (VOCs) such as formaldehyde, benzene, toluene, hexane, and styrene. PREPA has also ignored the upstream and downstream impacts of LNG. The most catastrophic environmental impact of all would be the prolonging of the fossil fuel era with huge LNG investments instead of directing those investments to renewable energy resources.

# PREPA's FEMA funding requests should be focused on adding rooftop solar + storage, not gas-fired resources.

We appreciate PREB's invitation for the public to participate in this docket, and we will be providing studies and information concerning resiliency benefits from maximizing deployment of rooftop solar + storage in the San Juan – Bayamón area. Much of this information will come from the work of civil society groups, including

<sup>&</sup>lt;sup>11</sup> Negociado de Energía en vivo, Conferencia Técnica / NEPR-AP-2020-0001, Puerto Rico Energy Bureau Technical Conference at 44:05 – 47:15, Dkt. No. NEPR-AP-2020-0001, YouTube (Aug. 14, 2020) https://www.youtube.com/watch?v=U pSmRkiL4s

<sup>12</sup> See Vesselfinder.com, JS INEOSINDEPENDENCE, https://www.vesselfinder.com/vessels/JSINEOSINDEPENDENCE-IMO-9744960-MMSI-249652000 (last accessed Aug. 21, 2020) (showing that the ocean-going bulk-carrier LNG tanker left San Juan port on August 21, 2020 to flee from Tropical Storm Laura). See also Coast Guard September 26, 2018 Letter of Recommendation Analysis, discussion of Severe Weather Action Plan

community, environmental, labor, professional organizations and academia, who have co-founded and endorse the Queremos Sol Proposal ("We Want Sun", www.queremossolpr.com). The Queremos Sol Proposal promotes the transformation of PREPA to achieve a life-sustaining, renewable energy electric system. Reliable electric service is required to power life-sustaining medical equipment and medications. Studies have documented that the power failure after Hurricane María led to thousands of deaths. Queremos Sol proposes widescale adoption of rooftop solar + storage. Unlike PREPA's 10-Year Plan and FEMA funding requests, the Queremos Sol proposal is largely with the Puerto Rico's legally mandated Renewable Portfolio Standard (RPS) to achieve 20% renewable energy by 2022, 40% by 2025, 60% by 2040 and 100% renewable energy by 2050, and the approved Integrated Resource Plan.

CAMBIO PR (CAMBIO) and the Institute for Energy Economics and Financial Analysis (IEEFA) have been working on a year-long modeling study analyzing scenarios of high penetration of distributed renewable energy resources on the Puerto Rico grid (up to 75% of load), following the Queremos Sol proposal. This study was conducted based on electrical system information provided by PREPA in response to a public records request from CAMBIO and the IEEFA. The study could serve to inform the Bureau on the upgrades needed and strategies to follow to achieve a high penetration of distributed resources. We will file the study in this docket for the Bureau's consideration as soon as it is finalized.

We can also provide other documents relevant to maximizing deployment of rooftop solar + storage in the San Juan – Bayamón area. For example, NREL recently

issued a study and conducted a webinar on new Census Tract level estimates of residential low-to-moderate income (LMI) PV rooftop technical potential as well as solar electric bill savings potential for LMI communities at the municipality level. <sup>13</sup> NREL has determined, among other things, that the island's annual residential solar potential is 24.6 TWh. This is about four times the annual residential electricity consumption. Nearly half of that, 11.87 TWh, is in low- and moderate-income households.

NREL further highlighted several reasons that the island is well suited for rooftop solar. First, high solar irradiance: the average annual Global Horizontal Irradiance (5.89 kWh/m2/day) in Puerto Rico is 22% greater than the average US GHI. In addition, Puerto Rico has more residential buildings to households; this contributes to higher technical potentials per household electric consumptions. Finally, Puerto Rico has a significantly lower per capita electric consumption compared to U.S. (4,665 kWh vs 12,900 kWh per household annually). Thus, even if Puerto Rico consumed electricity at the rate of the U.S., Puerto Rico would still have nearly 150% the amount of rooftop potential than electric consumption for the entire residential electric sector.

When considering its actual energy consumption, Puerto Rico has 425% more rooftop generation potential for all residential buildings than the electric consumption of those residences. For LMI buildings only, Puerto Rico has 570% more

<sup>&</sup>lt;sup>13</sup> Meghan Mooney, Katy Waechter & Clark Miller, Puerto Rico Solar-for-All: LMI PV Rooftop Technical Potential and Solar Savings Potential. National Renewable Energy Laboratory, (2020) <a href="https://data.nrel.gov/submissions/144">https://data.nrel.gov/submissions/144</a>.

rooftop generation potential than electric consumption. Even under an overly conservative assumption that 50% of the LMI buildings in Puerto Rico are structurally unsuitable for rooftop solar, there would still be over 2.5x the amount of rooftop potential compared to current consumption.

The commercial sector is also well suited to adopt distributed solar + storage, on the island's sprawling malls and other installations with expansive parking lots and rooftops that can be used to site solar arrays to power operations. Department of Energy ("DOE") commissioned studies by faculty at the University of Puerto Rico at Mayaguez ("UPRM"), recommending widespread use of existing structures as the "rooftop resource" to site solar + storage, which also coincides with the major energy demand center in Puerto Rico.

Onsite solar + storage serves as a first line of defense for residents and businesses. Federal funds can be employed to provide these systems to ratepayers who might not otherwise be able to afford a loan or lease to access rooftop solar + storage. Onsite systems should not be exclusive to the more affluent sectors. Reconfiguration and downsizing of the grid can be sequenced after deployment of onsite solar + storage.

Widespread onsite solar installations could subsequently provide the path to rooftop solar communities that operate as microgrids with the ability to connect and disconnect from a newly configured the main grid along with energy demand management and efficiency programs and the other alternatives discussed in these comments.

PREB has recognized that renewables and especially distributed renewables have numerous benefits beyond just electric output, such as ancillary services, <sup>14</sup> resiliency benefits, and reduction of transmission and distribution system losses.<sup>15</sup> PREPA's Status Report in the IRP case also acknowledges that distributed renewables have benefits beyond electric output. 16 Rooftop and/or onsite solar coupled with storage could provide the resiliency that residents and businesses in Puerto Rico need to save lives. As noted in the proposed CDBG-MIT Action Plan:

"The advantage of renewables is that while they—like the existing PREPA grid—would require significant investment upfront, they would not have the exorbitant cost of purchasing and importing fuel for those power systems, year after year. Investment in renewable energy development could create stability not only in terms of reliable energy, but also jobs and environmental factors."17

PREPA must amend its FEMA funding requests to exclude gas-fired resources, and instead support efforts to incentivize PREPA to acquire rooftop solar + storage systems to be installed by its trained workforce in conjunction with local contractors and organized communities.

<sup>&</sup>lt;sup>14</sup> For example, frequency response, operating reserve, and reactive support. See Final Resolution and 862, pp. 268-269, Dkt. No. CEPR-AP-2018-0001, (Aug. https://energia.pr.gov/wp-content/uploads/sites/7/2020/08/AP20180001-IRP-Final-Resolution-and-Order.pdf. [hereinafter, "Final Resolution and Order"]

<sup>&</sup>lt;sup>15</sup> *Id*.

<sup>&</sup>lt;sup>16</sup> PREPA's Status Report in the IRP case, at 6, recognizing "T&D system loss benefits for DG/storage bids" and "potential for additional resiliency benefits." See PREPA's Presentation of Status Report on the Development of PREPA's Draft Procurement Plan at p. 6, Dkt. No. CEPR-AP-2018-0001, (Sept. 23, 2020), https://energia.pr.gov/wp-content/uploads/sites/7/2020/10/20200923-PRESENTATION-OF-STATUS-REPORT.pdf

<sup>&</sup>lt;sup>17</sup> CDBG-MIT Action Plan at 158.

Dozens of PREPA employees are trained to implement net metering and to install and maintain rooftop solar + storage systems. These employees have completed coursework on net metering and design and installation of rooftop solar + storage systems, offered through PREPA's Commercial Operations Training Center ("CAOC") and Electrical System Training Center ("CASE"). 18 Employees trained through this program could install, and maintain rooftop solar + storage systems, work to interconnect the massive backlog of rooftop solar + storage systems in the interconnection queue, and implement *Comunicado Técnico* 19-02, which would allow for automatic interconnection of rooftop systems. 19

PREPA installations could be done in conjunction with local renewable energy contractors and organized community groups. When the next storm strikes Puerto Rico, these efforts would allow rooftop solar + storage systems to power microgrids for hospitals and other critical infrastructure. The advantages of enlisting PREPA to implement a rooftop or onsite solar program is that the utility already has the service relationship with households and businesses such that transaction costs and wait times can be minimized. Through PREPA, residents in the lowest income strata can access onsite renewable energy and storage technologies. Installations by the public

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<sup>&</sup>lt;sup>18</sup> Partnership Committee Report, *Puerto Rico Public-Private Partnership for the Electric Power Transmission and Distribution System*, at 259 (2020). <a href="https://aeepr.com/es-pr/QuienesSomos/Documents/Partnership%20Committee%20Report%20">https://aeepr.com/es-pr/QuienesSomos/Documents/Partnership%20Committee%20Report%20</a>

<sup>&</sup>lt;u>%20Transmission%20and%20Distribution%20System.pdf</u> CASE and CAOC offer hundreds of courses and eleven certifications, including numerous courses on renewables and distributed renewables. For example, CAOC courses teach about net metering. Engineer Javier Chaparro Echevarria, PREPA Mayagüez regional administrator, approved by the State Office of Public Energy Policy (OEPPE) to teach courses on installation of Renewable Electrical Systems and Wind Turbines. One of those courses is CASE 340: Design and Installation of Photovoltaic Systems. Engineer Chaparro has also taught courses with the Colegio de Ingenieros de Puerto Rico (Puerto Rico Engineering Association).

<sup>&</sup>lt;sup>19</sup> As envisioned by the Final Resolution and Order, paras. 78, 83, https://energia.pr.gov/wp-content/uploads/sites/7/2020/08/AP20180001-IRP-Final-Resolution-and-Order.pdf.

utility will allow for mitigation of the most risk for the highest number of beneficiaries possible.

For all of the reasons detailed above, renewables + storage, and especially distributed renewables + storage, would provide more resilience than continued dependence on central station fossil fueled plants and the existing transmission system, even after billions of dollars in hardening.

### Conclusion

We thank the Energy Bureau for its attention to these initial comments. We respectfully request that the Bureau continue to accept public comments for ninety days, and that the Bureau allow parties to participate or intervene in this proceeding, and to obtain the documents that PREPA has filed as confidential.

# Respectfully submitted,

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### CERTIFICATE OF SERVICE

I hereby certify that on January 12, 2021, we have filed this Motion via the Energy Bureau's online filing system, and sent to the Puerto Rico Energy Bureau Clerk and legal counsel to: <a href="mailto:secretaria@energia.pr.gov">secretaria@energia.pr.gov</a>, <a href="mailto:kbolanos@diazvaz.law">kbolanos@diazvaz.law</a>, <a href="mailto:astrid.rodriguez@prepa.com">astrid.rodriguez@prepa.com</a>, <a href="mailto:jorge.ruiz@prepa.com">jorge.ruiz@prepa.com</a>, <a href="mailto:n-vazquez@aeepr.com">n-vazquez@aeepr.com</a>, and <a href="mailto:gauzouzez@aeepr.com">gauzouzez@aeepr.com</a>, and

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