



November 15, 2019

Aida Camacho-Welch
Secretary
New Jersey Board of Public Utilities
44 S. Clinton Avenue
Trenton, NJ 08625
emp.comments@bpu.nj.gov

Re: Sunrun, Inc.'s Comments on the Integrated Energy Plan

Dear Ms. Camacho-Welch:

Pursuant to the New Jersey Board of Public Utilities' ("BPU" or "Board") October 23 Stakeholder Notice ("Stakeholder Notice") regarding the Board's Integrated Energy Plan ("IEP") developed by Rocky Mountain Institute ("RMI"), Sunrun, Inc. ("Sunrun") respectfully submits these comments. Sunrun appreciates the opportunity to provide feedback on the findings of the IEP presented by the Energy Master Plan ("EMP") Committee, RMI and Evolved Energy Research. Sunrun attended the IEP webinar on November 1, 2019. It is our understanding that the findings of the IEP will directly inform the EMP by modeling least-cost pathways that meet the energy needs of New Jersey's growing economy and the state's emissions reduction targets. Presenters during the webinar indicated that the IEP process was limited to assessing select scenarios for consideration in the EMP to achieve New Jersey's clean energy goals and that recommendations for implementation went beyond the scope of the IEP. After attending the webinar and reviewing the slides, Sunrun believes that the IEP presents useful information regarding various low-cost pathways to achieving the requirements of Global Warming Response Act and Governor Murphy's Executive Order establishing a goal of 100% clean energy by 2050. However, as discussed below, the IEP appears to be incomplete and would benefit from the analysis of additional scenarios relevant to New Jersey consumers.

We are pleased that the IEP study shows that, by 2050, the majority of New Jersey's energy portfolio can be comprised of solar and wind. It is encouraging that the analysis found the cost of achieving these renewable energy levels in the state would be negligible compared to the business-as-usual scenario. While the findings indicate an increase to \$34.7 billion in 2050 compared to \$32.6 billion with the business-as-usual scenario – an increase from 3.5% to 3.7% –the "[c]osts to meet NJ emissions targets are small compared to total energy system spending and *offset by clean air benefits.*"¹

Overall, based on the presentation of the webinar, it is apparent that the road to a 100% clean energy future, where resources such as in-state solar and offshore wind are predominant in the fuel mix, is affordable and achievable for New Jersey consumers. This is particularly the case

¹ New Jersey Integrated Energy Plan, Public Webinar, Nov. 1, 2019, at 16 (emphasis added).

given the ongoing, rapid reduction in costs of solar, wind and other companion clean energy technologies such as storage. However, while these findings are informative and a step in the right direction, we believe the IEP framing and findings do not reflect a full picture of cost-effective pathways to 100% clean energy. The IEP findings could be more complete and reflect urgent socio-economic realities and current renewable energy trends with the following components. These components clarify how local, community-based clean energy and a more decentralized grid will be fundamental to rapid decarbonization.

Environmental Justice

First, the IEP fails to meaningfully incorporate environmental justice factors into the analysis. For example, the IEP should include findings related to more intentional emissions reduction in environmental justice communities by 2030. This equity lens should be central to the IEP study, particularly given Governor Murphy's Executive Order 23 which calls for all agencies within the executive branch to consider environmental justice in the implementation of the statutory and regulatory responsibilities. Since the IEP will inform the EMP, we should be able to model and assess what an equity-centered approach to clean energy deployment looks like in the state of New Jersey. For example, customer-sited solar and battery storage in communities *that need these resources the most* will yield abundant overall energy savings to New Jersey, in addition to producing numerous economic and public health benefits. Incorporating modeling scenarios for customer adoption of customer-sited resources would provide a more complete picture of how these resources can both contribute to clean energy goals and meeting environmental justice considerations, as directed by Executive Order 23.

Further, the current findings of the IEP do not address issues of ownership. Community and third-party-owned local clean energy assets represent an overlooked but important factor to consider in assessing rapid decarbonization pathways. We recommend that either this IEP study be amended to include such factors or a separate supplemental study centered on an environmental justice-centric pathway to 100% clean energy be conducted by the NJBPU. This perspective is also critical given that the current IEP findings indicate the use of natural gas through 2045. It has been well-documented that both the combustion of fossil fuels and the siting of conventional gas infrastructure disproportionately impact communities of color.² As it stands now, the preliminary findings of the IEP could be construed as maintaining these status quo impacts.

Natural Gas

Sunrun is concerned that the IEP's findings may not ultimately be cost-effective under scenarios that depend on continued reliance on natural gas for New Jersey's electricity needs in the near term. While the IEP's findings do not indicate a need for immediate investment in new natural gas plants or pipelines, several scenarios in the IEP appear to open the door to the possibility of such investments *after* 2030. RMI's own recent reports, released in September 2019 - *The Growing Market for Clean Energy Portfolios and Prospects for Gas Pipelines in the Era of*

² See, e.g., NAACP & Clean Air Task Force, *Fumes Across the Fence Line: The Health Impacts of Air Pollution from Oil & Gas Facilities in African-American Communities*, Nov. 2017, available at: http://www.catf.us/wp-content/uploads/2017/11/CATF_Pub_FumesAcrossTheFenceLine.pdf

*Clean Energy*³ – highlight solar, wind, energy efficiency and storage are less expensive than most proposed gas plants and will substantially undercut the operating costs of existing natural gas plants *in the next decade*. Sunrun notes that under several scenarios in the IEP study, there is a reduction and, in fact, phasing out of natural gas consumption by 2050. However, the pace of this reduction appears to be out of step with RMI’s recent research and reports by numerous other institutions. Plainly, it would be too little too late. Given the inevitably substantial stranded costs of gas infrastructure juxtaposed with the numerous benefits that in-state solar and battery storage can provide, we would encourage additional analysis incorporating these factors in the cost-benefit calculations.

The cost of battery storage has declined rapidly, supporting the rapid growth in demand for energy storage by consumers. Solar and batteries deliver a broad range of benefits including family-sustaining jobs, cleaner air, lower energy costs and reliable power for communities and businesses. “Building clean energy locally eliminates the need for expensive transmission lines to move power into the city and can help strengthen an aging distribution grid - preventing blackouts and providing emergency backup power if outages do occur.”⁴

Sunrun has been actively engaged in initiatives across the country where aggregated solar and battery storage, or virtual power plants (“VPPs”) are being integrated, at both the distribution and transmission levels, to displace fossil fuel-based energy. For example, in June 2019, Sunrun was awarded a landmark contract by East Bay Community Energy (“EBCE”) to help replace the retiring jet-fuel Oakland Power Plant in Oakland, California with home solar and battery systems on low-income housing in West Oakland and Alameda County. Sunrun’s project with EBCE represents a leading example in the United States of home solar and battery systems directly contributing to the replacement of a retiring fossil fuel-fired power plant in communities that have historically been disproportionately and negatively impacted by traditional fossil fuel based electric generation infrastructure. Through this project, Sunrun will bundle solar energy stored in home battery systems and send it back to the electricity grid, forming a VPP to power the surrounding area.⁵ Additionally, earlier this year, Sunrun won a bid to deliver aggregated residential solar and batteries as a source of energy capacity to the Independent System Operator of New England (ISO-NE), the grid operator for one of the largest electricity markets in the United States. Sunrun will provide 20 MW of energy capacity from Sunrun’s Brightbox residential solar and battery systems to ISO New England beginning in 2022, which represents approximately 5,000

³ Both reports, *The Growing Market for Clean Energy Portfolios and Prospects for Gas Pipelines in the Era of Clean Energy* available at: <https://rmi.org/press-release/announced-investment-in-us-natural-gas-infrastructure-could-lead-to-over-100-billion-in-stranded-costs-as-clean-energy-prices-fall/>

⁴ See, Sunrun whitepaper, *Repowering Clean: Gigawatt-Scale Potential for Residential Solar and Batteries in Los Angeles*, at 2, April 2019, available at: <https://www.sunrun.com/sites/default/files/repowering-clean-sunrun.pdf>.

⁵ See, Spector, Julian, *Sunrun Wins Another Capacity Contract for Aggregated Home Storage*, Utility Dive, July 18, 2019, available at: <https://www.greentechmedia.com/articles/read/east-bay-power-purchaser-signs-distributed-capacity-contract-with-sunrun>.

New England customers.⁶ We highlight these of clean energy pathways currently available through innovative business models and community partnerships to underscore the importance of incorporating certain assumptions about the availability of customer-sited resources to deliver substantial clean energy benefits.

Distributed Energy Resources for Resiliency

Sunrun recommends that the IEP fully consider the fact that power outages resulting from aging infrastructure and severe weather events will only increase, and not decrease, in New Jersey in coming years. These power outages will be costly and disruptive to New Jersey communities and businesses. The high costs of maintaining, repairing and upgrading New Jersey’s conventional power grid can be substantially offset and avoided by rooftop solar and battery storage. Rooftop solar with battery storage provide energy resiliency and continuity during grid outages and natural disasters such as storms and wildfires. This value should be reflected in the IEP findings. Sunrun incorporates by reference herein, *The Role of Distributed Energy Resources in New Jersey’s Clean Energy Transition*, authored by the GridWorks, GridLab and the Center for Renewables Integration.

Sunrun encourages full consideration of the benefits of distributed energy resources that can drive down the costs of achieving New Jersey’s 100% clean energy goals, as these resources are a central pillar to achieving a least cost pathway. Therefore, we recommend that the BPU fully explore enabling policies that can facilitate achieving the state’s objectives, such as Sunrun’s “Bring Your Own Device” (“BYOD”) model. Sunrun has spearheaded this innovative policy model that galvanizes customer participation in peak reduction and other grid service programs by leveraging the benefits of aggregating non-utility owned, customer-sited distributed energy resources. The BYOD model is essentially a tariff structure that enable customers to enroll their batteries in utility programs and receive monthly bill credits or payments for the grid service provided. Customers can install battery storage at their homes and businesses and work partner with storage aggregators who coordinate multiple customer-sited assets to deliver grid services in response to utility called-events to drive down costs for all ratepayers. This approach makes customers true partners with the utility in the effort to reduce costs, shift and lower peak consumption, facilitate greater grid resiliency and reduce consumption of fossil fuel-generated energy.

We are mindful that the IEP is a modeling exercise. However, we also fully understand that the IEP’s findings will directly influence policies adopted by the BPU and related state agencies through the EMP. We encourage the final IEP to explore the additional avenues outlined herein to ensure that the IEP modeling—that will ultimately be used inform implementation policies to achieve New Jersey’s 100% clean energy future—incorporate existing policy frameworks, such as environmental justice considerations, that will necessarily inform clean energy implementation policies.

⁶ See, Gheorghiu, Lulia, *Residential solar+storage breaks new ground as Sunrun wins ISO-NE capacity contract*, Utility Dive, Feb. 8, 2019, available at: <https://www.utilitydive.com/news/residential-solarstorage-breaks-new-ground-as-sunrun-wins-iso-ne-capacity/547966/>.

Thank you for considering Sunrun's comments herein. Please do not hesitate to contact us if you would like further information regarding our input.

Sincerely,

Nicole W. Sitaraman

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