



**Comments of Sunrun, Inc.  
on  
Draft 2019 New Jersey Energy Master Plan  
Policy Vision to 2050**

**Submitted by:**

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## **I. INTRODUCTION**

Pursuant to the request of the New Jersey Board of Public Utilities (“NJBPU”) for public comment on the Draft 2019 New Jersey Energy Master Plan (“Draft EMP”), Sunrun, Inc. (“Sunrun”) respectfully submits the following input on the Draft EMP. Sunrun appreciates the opportunity to provide our perspective on this historic and visionary document that will guide New Jersey’s clean energy transition and steer the state’s climate policy for years to come. Sunrun commends Governor Murphy’s leadership and commitment to achieving 100% clean energy by 2050.

New Jersey’s energy future is at a critical inflection point. Governor Murphy’s clean energy agenda marks a new era of energy leadership in New Jersey. Setting a path to 100% clean energy by 2050 requires a steadfast commitment to dynamic and sustainable clean energy marketplace that advances customer choice, promotes competition, and leverages the expertise of private market participants to reduce costs and foster innovation. Sunrun looks forward to continuing our ongoing engagement with New Jersey energy stakeholders to ensure that New Jersey’s clean energy future is customer-centric, equitable and powered by the people.

## **II. ABOUT SUNRUN**

Sunrun is the largest residential solar, storage, and energy services company in the country, with more than 233,000 customers in 22 states, the District of Columbia and Puerto Rico. We pioneered the “solar-as-a-service” model over 12 years ago to make solar energy more accessible. Sunrun has operated throughout the state of New Jersey for many years. Sunrun believes there is a better, less expensive, and cleaner way for families to power their homes. With Sunrun’s residential rooftop solar, storage, and energy services, homeowners are saving money, dramatically reducing their carbon footprint, and becoming energy management partners capable of delivering grid benefits and lowering system costs for all New Jersey ratepayers. Nationally, Sunrun’s systems have prevented greenhouse gas emissions totaling 3.7 million metric tons of carbon dioxide equivalent, an amount comparable to eliminating more than 9 billion passenger vehicle miles.

As a national leader in residential solar plus storage deployment, Sunrun has great interest in policy initiatives that facilitate customer-sited solar and energy storage for the benefit of individual consumers, all ratepayers and the electricity grid. With the right vision and framework, Sunrun believes that New Jersey can become a national leader in solar plus storage deployment.

## **III. COMMENTS ON SELECT DRAFT OVERARCHING STRATEGIES GUIDING THE ENERGY MASTER PLAN**

Sunrun is pleased to have participated in the New Jersey Energy Master Plan stakeholder process since 2018 with written and oral comments. Sunrun supports the general direction of the Draft EMP. However, we recommend that the Final EMP provide more details and acknowledge rooftop solar’s bedrock role in achieving New Jersey’s clean energy future. Indeed, the way that

consumers individually and collectively generate, consume, store and manage clean energy through solar and battery storage will increasingly have transformative and beneficial impacts on climate, communities and the electric grid. In no uncertain terms, *power by the people* is fundamental to a sustainable energy future in New Jersey.

The Draft EMP includes the importance of distributed energy resources (“DERs”) in its overall vision and would benefit from more specific guideposts for how we can accelerate the integration of DERs in New Jersey. As such, Sunrun’s comments herein will focus on a few select sections of the Draft EMP: a) Accelerate Deployment of Renewable Energy and Distributed Energy Resources; b) Maximize Energy Efficiency and Conservation and Reduce Peak Demand; c) Modernize the Grid and Utility Infrastructure and d) Support Community Energy Planning and Action in Low- and Moderate-Income and Environmental Justice Communities.

#### A. Accelerate Deployment of Renewable Energy and Distributed Energy Resources

Sunrun supports the goals outlined in this section to accelerate deployment of renewable energy and distributed energy resources. Rapidly growing the use of renewable energy for New Jersey’s energy needs will expand the economy, create jobs, cut greenhouse gas emissions and facilitate a more resilient grid. It is well-documented how solar has been a significant job creator in New Jersey. Currently the state has 6,410 solar workers. Distributed solar has played a major role in the industry’s workforce development in the state. Moreover, we agree with the Draft EMP’s acknowledgment that:

“advancing renewable energy and DERs also drives innovation and technological development and can be sited throughout the state, including in dense, urban environments. Further, locally produced energy generation creates ancillary economic benefits such as reducing production costs, reducing electricity demand and prices on the distribution grid, and deferring grid and capacity upgrades.”<sup>1</sup>

Given such multi-faceted benefits that reach each and every consumer in New Jersey, it is imperative that policymakers and stakeholders advance initiatives that preserve and grow distributed solar’s presence and contribution to New Jersey’s economy.

##### 1. *Interconnection*

Sunrun specifically acknowledges the urgent importance of goal “2.1.5: Update interconnection processes to address increasing DER.” Sunrun emphatically supports this goal because the development of updated and streamlined interconnection procedures for DERs, state-wide, will be essential to New Jersey achieving its clean energy goals. In fact, streamlined interconnection procedures represent a critical building block to facilitating equitable and cost-effective solar and battery storage. The costs, definitions, application requirements and transparency of interconnection rules can frequently make, break or substantially delay DER projects.

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<sup>1</sup> Draft 2019 New Jersey Energy Master Plan (“Draft EMP”), at 45.

Sunrun has been engaged in various interconnection proceedings across the country and worked collaboratively with organizations such as the Interstate Renewable Energy Council, the Energy Storage Association and the Center for Renewables Integration to advance new consumer-friendly interconnection rules that will open up markets to greater and more cost-effective DER deployment. We highly recommend that the Draft EMP include best practices provided in the *Interstate Renewable Energy Council's Model Interconnection Procedures, 2019 Edition* ("IREC Interconnection Guide") which "synthesize and reflect the evolving best practices for safe and reliable interconnections of distributed energy resources on the electricity grid."<sup>2</sup> The IREC Interconnection Guide was just released last week and is a comprehensive resource that will be very helpful to the NJBPU as proceedings are initiated to update interconnection standards.

## 2. *Solar Permitting*

While we are pleased that interconnection standards are prioritized in the Draft EMP, we recommend that permitting also be added as a priority in the final EMP. Reducing the soft costs of DER is critical to accelerating their deployment. Unfortunately, costly and inconsistent permitting practices across the state could lead to delayed installations, stalling the achievement of New Jersey's clean energy goals. Permitting red tape is such an important issue that a bipartisan bill was just introduced in the U.S. Congress. The American Energy Opportunity Act was introduced on September 9, 2019 and seeks to "provide state and local governments with voluntary tools to expedite and standardize the permitting process for distributed energy technologies, such as rooftop solar and battery storage, while ensuring high-quality and safe installations."<sup>3</sup> Indeed, the bill's sponsor Senator Martin Heinrich noted, "[t]he current patchwork of permitting requirements across local jurisdictions causes delays and increases costs for both local governments and the businesses and homeowners who want to build smaller-scale renewable energy systems."<sup>4</sup>

Standardizing permitting could yield thousands of dollars in savings for consumers and create numerous jobs. Sunrun encourages the various agencies involved in the Energy Master Plan process to add permitting as a priority and a key component of this section on accelerating the deployment of renewable energy and DER in New Jersey.

## 3. *Compensation for DER*

Sunrun appreciates the Draft EMP's emphasis on proper accounting for the full value of DER. Without question, the numerous benefits of DER such as rooftop solar and battery storage should be woven into current and future energy policy in New Jersey. However, we believe that,

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<sup>2</sup> See generally, Interstate Renewable Energy Council, *Model Interconnection Procedures, 2019 Edition*, available at: <https://irecusa.org/2019/09/2019-edition-released-irecs-model-interconnection-procedures/>.

<sup>3</sup> See, Senate Bill 2447, American Energy Opportunity Act of 2019, available at: <https://www.congress.gov/bill/116th-congress/senate-bill/2447>.

<sup>4</sup> See Crowell, Chris, Solar Builder Magazine, *Legislation proposed in U.S. Senate to simplify solar energy permitting at local government level*, available at: <https://solarbuildermag.com/news/legislation-proposed-in-u-s-senate-to-simplify-solar-energy-permitting-at-local-government-level/>

in terms of rate design, compensation of DER should be simple and easy for consumers to understand as more New Jerseyans choose customer-sited energy resources. With this in mind, Sunrun strongly recommends that the NJBPU maintain net metering as a policy.

New Jersey has been a national leader in solar deployment but the state still has a long path to expanded deployment of solar for all. Currently, there are in-depth strategy deliberations among leading community organizations seeking to expand access to solar to low-income and environmental justice communities. Sunrun has supported these community-driven conversations. Disrupting net metering at this juncture would likely inhibit New Jersey's objectives for equitable and inclusive renewable energy deployment. Net metering has been an effective driver of solar adoption. We do not recommend changing this framework at this time.

#### 4. *Achieving Energy Storage Target*

The Draft EMP includes a section discussing the statutory target of 600 MW of 600 MW of energy storage by 2021 and 2,000 MW of energy storage by 2030 under the Clean Energy Act of 2018. However, the section does not provide a roadmap for achieving this goal. As shown in several reports, residential storage deployment is increasing rapidly, outpacing utility-scale storage. Residential consumers are demanding batteries that enable them to have home resiliency during ever-increasing severe weather events caused by climate change.

New Jersey has become all too familiar with the devastating impacts of climate change. Nearly 2.5 million New Jersey households were left without power during Superstorm Sandy alone and the state has suffered from more than 900 power outages over the past decade, impacting nearly 6 million residents. With aging electricity infrastructure at risk of increasingly common extreme weather events, blackouts are forecasted to increase nationwide. Today's electricity grid is also increasingly vulnerable to other causes of outages, as evidenced by the roughly 40,000 people in Union County, New Jersey who were left without power after road salt compromised electrical equipment last year.

Residential battery storage is an important climate and grid reliability solution that is in need of the proper regulatory framework to be rapidly deployed. Sunrun recommends that the EMP include discussion of the creation of a residential battery storage incentive program in the near future. A residential battery storage rebate program would be of interest. New Jersey must take necessary steps to incentivize storage to enable more consumers to utilize the technology and, in turn, provide significant benefits to other ratepayers and the grid.

#### B. Maximize Energy Efficiency and Conservation and Reduce Peak Demand

Sunrun supports the Draft EMP's overall recommendations for maximizing energy efficiency, conservation and reducing peak demand. We offer the following comments on specific items briefly referenced in this section of the document.

### 1. Clean Peak Standard

The Draft EMP notes that “NJBPB should explore the development of a Clean Peak Standard for meeting a percentage of New Jersey’s peak demand needs through clean resources that reduce greenhouse gas emissions.”<sup>5</sup> Sunrun supports this strategy recommendation and encourages further detail be added to the Draft EMP to explain the scope advantages that a clean peak standard would provide for New Jersey’s climate goals. Sunrun has been engaged in policy deliberations regarding the design of a clean peak energy standard in Massachusetts and would welcome involvement in similar stakeholder conversations in New Jersey. A clean peak standard aims to facilitate deployment of resources that are able to increase clean energy deliveries (and reduce load) during peak hours. Distribution-connected resources can serve this purpose to reduce costs and emissions.

Sunrun recommends that any clean peak standard program provide a carve-out requiring a certain amount of resources be interconnected to the distribution system located within the state, or in the alternative, provide a tiered incentive structure to provide greater incentives for in-state resources interconnected to the distribution level to provide clean peak and peak reduction benefits of reduced net imports from the broader PJM footprint. Sunrun encourages further development of this concept in the EMP.

### 2. Battery Storage as an Energy Efficiency Resource

Sunrun supports the Draft EMP’s acknowledgment that DERs are dynamic resources with advanced capabilities that go well beyond traditional energy efficiency measures. Incorporating these resources into New Jersey’s energy efficiency and peak demand reduction programs should be a central pillar to achieving the state’s clean energy goals. Indeed, the ability of advanced DERs to provide host-customer and system benefits is no longer an idea that might be realized at some point in the future. The customer and system-wide benefits that these technologies offer are a reality now and policymakers and utilities in other states are expanding the scope of energy efficiency offerings beyond lighting, weatherization, and other traditional programs to include solar, storage and other customer-centric advanced DER solutions.

Critical to unlocking the benefits of these resources is enabling third-party providers to engage their customers to enroll their DERs for participation in utility programs. Removing barriers to market entry and creating new market participation pathways for third-party developers and DER aggregators to enroll solar and energy storage customers in utility energy efficiency, peak demand reduction, demand response, and other dynamic load management programs reduces ratepayers’ costs, furthers clean energy goals and enables a more modern, resilient and cost-effective electric system.

### C. Modernize the Grid and Utility Infrastructure

Sunrun supports the Draft EMP’s emphasis on modernizing the grid but believes that this section could be framed differently to clarify the *fundamental* role of DERs. Sunrun believes that customers – and how they manage their energy consumption where they live and work – are

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<sup>5</sup> Draft EMP at 63.

the grid's greatest energy resource. The modern grid will be decentralized – the people's power grid, largely fueled by aggregated DERs in what are known as virtual power plants (“VPPs”). DERs are what define a modern grid.

Without DERs, the grid would be relegated to gold-plated, cost-prohibitive, outdated transmission and distribution infrastructure – paid for by all ratepayers. That is not what consumers want and it certainly will not enable a more reliable, resilient grid. Sunrun endorses the recommendations outlined in the report, *The Role of Distributed Energy Resources in New Jersey's Clean Energy Transition*, authored by the GridWorks, GridLab and the Center for Renewables Integration<sup>6</sup>. We further recommend that the NJBPU refer to the Regulatory Assistance Project's recent publication, *Capturing More Value from Combinations of PV and other Distributed Energy Resources*<sup>7</sup>. These publications are effective resources that catalogue the benefits of DERs and the regulatory mechanisms that can be implemented to bring more DERs onto the energy delivery system.

From Sunrun's perspective, aggregated, customer-sited solar plus storage installations, or VPPs, can provide tremendous benefits to customers, the electric distribution system and the wholesale marketplace. These include distribution and transmission deferral, distribution and transmission cost reductions, energy and wholesale market cost reductions, increased renewable energy integration, resource adequacy, peak reduction, and ancillary services. Maximizing the benefits that solar plus storage can provide requires the stacking of value streams at the customer, distribution, and bulk system or wholesale level – coordination of multiple-use applications of customer-sited solar-plus-storage. Customer-sited energy storage presents the *most* potential value to ratepayers because it allows benefits to be created within all three domains.

Sunrun has successfully engaged in various proceedings across the country launching VPP programs across the country. Only two weeks ago, Sunrun secured a VPP to provide aggregated residential solar plus battery storage in Hawaii. Beginning in 2020 and continuing through at least 2024, Sunrun and Open Access Technology International will send the energy generated by rooftop solar panels and stored in approximately 1,000 home batteries on O'ahu to the electric grid during times of high electricity demand when called upon by Hawaiian Electric Company. Sunrun's Brightbox battery systems will also send stored solar energy to the grid when there is high energy demand or high-risk of power outages, safeguarding against blackouts and providing reliable, stable power to O'ahu residents.<sup>8</sup>

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<sup>6</sup> See generally, GridWorks, GridLab and the Center for Renewables Integration, *The Role of Distributed Energy Resources in New Jersey's Clean Energy Transition*, available at: <https://www.center4ri.org/new-jersey-der>

<sup>7</sup> See generally, Shenot, John, Carl Linvill, Max Dupuy, Donna Brutkoski, *Capturing More Value from Combinations of PV and other Distributed Energy Resources*, Aug. 29, 2019, available at: <https://www.raponline.org/knowledge-center/capturing-more-value-from-combinations-of-pv-and-other-distributed-energy-resources/>.

<sup>8</sup> See, Burger, Andrew, *Hawaiian Island will Create a Virtual Power Plant from 1,000 Solar Homes*. Microgrid Knowledge, Sept. 11, 2019, available at: <https://microgridknowledge.com/virtual-power-plant-residential-hawaiian/>.

In June 2019, Sunrun was awarded a landmark contract by the East Bay Community Energy (EBCE) board of directors 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. 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.<sup>9</sup>

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 New England customers.<sup>10</sup> Further, in Maryland, Sunrun advocated for the inclusion of the VPP model in the energy storage pilot program proposal generated in the Maryland Public Service Commission’s grid modernization proceeding, Public Conference 44.

Finally, in a recent proceeding before New Hampshire Public Utilities Commission, Sunrun was instrumental in working with stakeholders and the utility to come to a settlement on an innovative pilot program that will utilize customer-sited energy storage for peak load reduction and deliver savings and other benefits throughout the utility’s service territory. Sunrun submitted expert testimony advocating for the inclusion of a “bring-your-own-device” (“BYOD”) program in addition to the utility’s proposed utility-owned battery program to allow customers to participate in the pilot through third party (non-utility) providers and aggregators.<sup>11</sup> Sunrun’s BYOD model is a simple program design feature that allows customers to enroll non-utility owned eligible devices in a utility’s peak load reduction program and participate in the program directly or through a third-party aggregator.

Incorporating a BYOD construct preserves market competition, leverages the customer engagement and education expertise of DER providers, and spurs innovation in the control, management and dispatch of various types of DERs. This feature also ensures that customers are allowed to participate with non-utility owned DERs, and that competitive market providers, including DER developers that offer aggregation services, are able to work with their customers to manage and dispatch DER devices to achieve program goals. Moreover, the BYOD model utilizes non-utility capital to deploy and manage the participating assets. This means that the risk of non-performance falls on the private market participants, not utility ratepayers. The BYOD

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<sup>9</sup> 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>.

<sup>10</sup> 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/>.

<sup>11</sup> See, New Hampshire Public Utilities Commission, Docket DE-17-189, Liberty Utilities Petition to Approve Battery Storage Pilot Program, Order No 26,209 at 37 (Jan. 17, 2019).



model is grounded in enabling competitive market participants to educate and engage customers, deploy battery storage and other smart technology assets, and optimize the operation of these assets to meet customer needs and the utility's grid management and cost reduction goals.

As Sunrun has submitted in our prior comments in the EMP process, customer-sited solar and battery storage have tremendous benefits for customers, the utility and the grid which have been thoroughly researched by leading think tanks and academic institutions. We strongly encourage the NJBPU to integrate aggregated DER opportunities into its grid modernization plan.

D. Support Community Energy Planning and Action in Low- and Moderate-Income and Environmental Justice Communities

Sunrun believes that every American has the right to clean, affordable, reliable and resilient energy. As such, the deployment of rooftop solar and battery storage in low-income neighborhoods and environmental justice communities should be a top priority. We are passionate about working with partners to advance the conversation around solar access and solar equity for communities of color and low-income families. We believe that solar energy plays a critical role in redressing environmental justice impacts and bringing employment and economic justice to the communities that need them the most.

The Draft EMP indicates support for increasing job opportunities in the renewable energy industry for diverse communities, as well as an interest in collaborative community energy planning. Sunrun celebrates this commitment as well as the advocacy of New Jersey grassroots organizations who have long championed these priorities. However, the Draft EMP would benefit from more details and direction regarding *how* New Jersey will facilitate greater deployment of renewable energy in low-income and environmental justice communities.

For example, Sunrun recommends that the Draft EMP squarely address the issue of funding. New Jersey needs to have an incentive program for low-income solar and battery storage. Stakeholder meetings and collaborative brainstorming will simply not yield the results intended without significant funding for solar and battery storage in urban, environmental justice communities in the state. The investment will undoubtedly yield several times the benefit for these communities through employment opportunities, reduced energy burden and cleaner air. Moreover, empowering environmental justice communities with rooftop solar and storage will make them significant contributors to grid resiliency and reduced carbon emissions for all consumers. Overall, Sunrun is aligned with the comments submitted by Vote Solar and other solar equity advocates regarding the development a much more robust roadmap for equitable deployment of solar and battery storage in the New Jersey.

We further reiterate input provided in our initial preliminary comments during the EMP process. An equitable clean energy future cannot rest solely in the hands of the utilities. As more solar and battery storage is deployed in New Jersey, we must ensure that there is a level playing field for all current and future market participants to compete in the distributed energy resource marketplace. We must facilitate entrepreneurship, innovation and ownership in the clean energy industry for environmental justice communities.

#### **IV. CONCLUSION**

The Draft EMP is a major step in the right direction. Sunrun looks forward to continuing our engagement with energy stakeholders and policymakers as we collaboratively design New Jersey's clean energy future. We respectfully request that the NJBPU and partner state agencies in the EMP process give full consideration to our comments herein.