

New Jersey Energy Master Plan
Sustainable and Resilient Infrastructure Stakeholder Meeting Discussion Points

Written Comments of
Vote Solar
Earthjustice
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Via electronic submission to emp.comments@bpu.nj.gov

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Vote Solar, Earthjustice, Environment New Jersey, GRID Alternatives, and Solar United Neighbors of New Jersey (“Commenting Parties”) appreciate the opportunity to comment on the New Jersey’s 2019 Energy Master Plan and commend Governor Murphy for his bold leadership in setting New Jersey on a path to 100% clean energy by 2050.

The Commenting Parties are a diverse group of organizations that support measures to increase access to clean energy opportunities for energy consumers in New Jersey. We strongly support the goals laid out by the Energy Master Plan Committee which are:

- Putting New Jersey on a path to achieve 100 percent clean energy by 2050
- Growing New Jersey’s clean energy economy
- Ensuring choice, reliability, and affordability for all customers
- Reducing the state’s carbon footprint
- Advancing new clean energy technologies for all New Jersey residents

We note that our comments below address mainly the New Jersey power sector. We recognize that transition to cleaner fuels in the transportation sector is equally critical in making significant progress toward greenhouse gas reductions and healthier air, particularly for communities of color.¹ Electrification of the transportation sector will necessitate that the power sector move

¹ See, e.g., Emily Badger, Pollution is segregated, too, Washington Post (April 15, 2014) (discussing study findings that reveal a disproportionate impact on minority communities from nitrogen dioxide pollution, a major transportation emission linked to asthma and heart disease), *available at*

toward zero emissions sources as swiftly as possible. This will require coordination and optimization across many sectors - transportation, energy efficiency, distributed generation, and storage. We trust our industry and clean transportation allies will address the transportation sector in their comments.

We highlight at various points the need for New Jersey's pathway to 100% clean energy to focus on emissions reductions in environmental justice communities. These communities have borne the brunt of pollution for decades, so priority should be given to ensuring the deployment of clean energy is done in a manner that reduces actual greenhouse gas emissions and pollution in these communities while providing access to the other benefits clean energy provides.

The new Energy Master Plan should not only ensure increased deployment of clean energy technologies but also ensure that all New Jersey residents benefit from this, both in terms of clean energy access as well as access to jobs and economic development opportunities. In our comments below, we especially recommend that special provisions be established for low-income households, environmental justice communities, and communities of color.

We aim to address our priorities through the discussion points provided.

General

1. For the purposes of the Energy Master Plan (EMP) and reaching Governor Murphy's goal of 100% clean energy usage in New Jersey by 2050, how should clean energy be defined?

We recommend the Energy Master Plan Committee define clean energy as an energy source that is renewable and results in zero emissions, such as solar, wind, and small or run-of-the-river hydro. We support energy sources that are clean and abundant, have zero fuel cost, are cost-competitive, capable of improving health, resilience, and well-being in communities and more importantly are easily accessible by all New Jersey residents, thereby allowing consumers to decide how they want to power themselves.

We especially advocate for solar energy because it is increasingly cost-competitive, scalable, and plentiful. It can be made easily available and accessible by everyone. Solar provides siting flexibility - solar arrays can be small or large-scale, depending on the needs. More importantly, solar is already at a price point that can scale in much of the country, and we are seeing numerous examples of solar competing with other energy sources without state subsidies in the Southwest and other regions. With the right policies in place, solar will continue to become

https://www.washingtonpost.com/news/wonk/wp/2014/04/15/pollution-is-substantially-worse-in-minority-neighborhoods-across-the-u-s/?utm_term=.1d664d96b025.

cheaper and more affordable. Solar also facilitates energy democracy and empowers local communities and individuals to make their own energy decisions.

One particularly important consideration regarding Governor Murphy's goal of 100% clean energy in New Jersey is to ensure that the Administration's definition of clean energy exclude waste incineration. Though energy from so called "waste-to-energy" or "resource recovery" facilities currently qualify for Class II Renewable Energy Credits, burning waste is neither a clean nor renewable way to produce energy. Per unit of energy produced, these facilities are some of the most polluting energy sources, both in terms of greenhouse gases and air toxics like mercury and carbon monoxide.² Incinerators endanger the health of New Jersey's most vulnerable communities and are uneconomic energy sources, often bringing financial calamity to municipalities that support them. Waste-to-energy must have no part in New Jersey's clean energy future. As Food and Water Watch notes, incinerating trash produces toxic air emissions like mercury which disproportionately harm communities of color. For example, the Newark Covanta garbage incinerator, the largest in the state, has predominantly polluted a lower-income community of color in Newark for decades.

Likewise, natural gas and biogas should have no place in New Jersey's clean energy future. While cleaner in terms of carbon dioxide emissions, natural gas and biogas produce methane which is a significant greenhouse gas and more harmful in causing global warming.

Another vital consideration is that New Jersey's 100% clean energy goal must consider *all* energy generation within New Jersey, including energy plants that serve exclusively out-of-state customers. In other words, New Jersey must not be allowed to ignore in-state, non-renewable plants when calculating its energy makeup, merely because energy from those plants is exported out of state. New Jersey cannot reach 100% clean energy if it allows certain communities to be saddled with dirty energy pollution for the benefit of out-of-state customers.

2. Should the definition of clean energy contain flexibility between now and 2050 to allow for transitional fuels to be used and phased out over time? What intervening steps should be taken to complete the transition?

While we support implementation flexibility in transitioning to a 100% clean energy economy, we recommend the Energy Master Plan Committee establish clearly laid-out pathways to transition to a future powered by clean energy sources like wind and solar. We do not support flexibility in terms of allowing non-renewable energy sources such as natural gas, waste-to-energy, or biogas as bridge energy sources to get us to a 100% clean energy future.

² See Comments of the New York State Department of Environmental Conservation Regarding the Verified Petition of Covanta Energy Corporation. August 19, 2011. <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BDEEA097E-A9A6-4E53-898C-0BC2F4C60CC4%7D>.

Vote Solar recently updated its Strategic Plan³ and notes that to get to a 100% clean energy future, solar deployment should be at least 2000 GWs by 2050, accounting for over 50% of total forecasted electricity. This would require an annual build rate of about 60 GW per year, equivalent to powering about 5 million additional homes with solar power annually.

Additionally, there are numerous reports produced by leading organizations such as The Solutions Project⁴ and NRDC⁵ that have laid out pathways to a future powered by 100% or near 100% clean energy by 2050.

New Jersey has seen tremendous growth in the solar market primarily from on-site distributed generation. In 2017, non-residential systems made up over 50% of New Jersey's cumulative installed solar capacity with residential systems adding another 27%.⁶

As immediate next steps, Vote Solar recommends that a well thought-out and timely SREC replacement program is introduced to replace the current SREC program. This is crucial to ensure continued deployment of solar energy in New Jersey. Solar Energy Industries Association (SEIA) analysis shows that New Jersey will reach its solar RPS objectives in 2020. Because of this, discussions around the new solar incentive program should begin immediately. The new program should be transparent and easy to understand and should include special provisions for low-income and underserved customers such as the use of factors or multipliers that would incentivize projects to serve low-income residential customers, low-income service organizations, and affordable housing facilities. The SREC replacement program should also have minimal cost burden on ratepayers compared to the existing program.

As advocates of solar energy, we believe all types of solar -- residential, community solar, and utility-scale solar need to be deployed. In our community solar efforts in the state, we are proposing 450 MWs of community solar deployment in the next three years for the pilot program and an uncapped permanent program. Community solar has the potential to increase access to clean energy for many New Jersey residents, and can empower residents to organize community solar projects on their own.

GTM Research produced a report for Vote Solar entitled, *The Vision for U.S. Community Solar: A Roadmap to 2030* that lays out the market potential for community solar in New Jersey by 2030.⁷ According to the report, New Jersey could realize 4.5% of its total electricity from

³ Vote Solar Strategic Plan: 2018-2022. Sept 13, 2018

⁴ <http://thesolutionsproject.org/why-clean-energy/#/map/countries/>

⁵ See America's Clean Energy Frontier: The Pathway to a Safer Climate Future <https://www.nrdc.org/sites/default/files/americas-clean-energy-frontier-report.pdf>

⁶ Id, *The Vision for U.S. Community Solar: A Roadmap to 2030* www.votesolar.org/csvision

⁷ See *The Vision for U.S. Community Solar: A Roadmap to 2030* www.votesolar.org/csvision

community solar by 2030. Based on the analysis, this translates to a total potential deployment of community solar anywhere from 2.3 GW to 3.3 GW by 2030 and providing an opportunity to serve 219,000 to 410,000 customers and 119,000 to 255,000 low-and moderate-income households.

A robust community solar pilot program and permanent program are also critical to providing solar access to approximately 700,000 tenant paid affordable housing properties with individually metered units and the 3.6 million customers in New Jersey's Total Addressable Market.⁸ GTM Research also shows in the Community Solar Vision Study that community solar could serve between 25% and 35% of all master-metered affordable housing units in New Jersey by 2030.

Following action on the solar incentives program and community solar pilot program, we encourage the Energy Master Plan Committee to undertake an inclusive visioning process that is specific to New Jersey. This will indicate commitment, inform stakeholders, and establish a baseline to begin measuring progress toward this transition. We urge New Jersey to commit to such a process that is encompassing of all viewpoints and deliberately seeks input from underserved communities. Government processes can be challenging and often the time and resources needed to participate are out of reach for many groups. We support an Energy Master Plan process that includes elements like recurring LMI/environmental justice stakeholder meetings to make it simpler to receive input from our partners representing low-income communities, communities of color, and environmental justice communities regarding their needs and requirements relating to energy solutions. Moreover, the stakeholder process should be iterative and ongoing, and not limited to the production of the Energy Master Plan document. The Energy Master Plan should include a process to modify goals and approaches in response to ongoing stakeholder input and to address challenges as they arise.

3. What is the most significant obstacle to getting to 100% clean energy by 2050? How can the state address it?

At the outset, scaling clean energy deployment and ensuring reliability is critical to getting to 100% clean energy by 2050. The PJM Renewable Integration Study, conducted by GE Energy Consulting in 2014⁹ shows that with additional transmission and reserves, the grid could handle renewable energy penetration levels of up to 30%. We currently have the technology to set us on the path to 100% clean energy by 2050. Where we lack is in the regulatory and institutional

⁸ Id, The Vision for U.S. Community Solar: A Roadmap to 2030

⁹ See PJM Renewable Intergrations Study Report <https://www.pjm.com/committees-and-groups/subcommittees/irs/pris.aspx>

space where old business models restrict efficient planning and deployment of clean energy sources.

Below we lay out some of the most pressing challenges to getting to 100% clean energy by 2050 and ways they can be addressed.

Regulatory Challenges

- ***Utility Business Models***

Historically, regulated utilities have planned for load and load growth, built generation and infrastructure to satisfy that demand, and earned a rate of return on those investments. More recently, at least in some states and deregulated markets, utilities don't necessarily own the generation assets and the cost of energy is more or less a pass-through, but the same basic central station generation, one-directional grid is still the norm. Moving to a 100% clean energy system by 2050 presents a significant challenge to this model and requires that these models be updated. In the long-run, transition to clean energy could ultimately deliver more resilience, lower costs, clean air and strong economic stimulus.

- ***Utility Asset Ownership***

Additionally, as noted, utilities most often earn a rate of return on the investments in hard grid assets and resource adequacy contracts. What happens when many of the generation assets, and even the ancillary services are being provided through a distributed model with customers themselves providing the capital? To be sure, there will still need to be transmission and distribution assets, and additional smart meter and public infrastructure, like make-ready EV charging platforms. But utility business model reform will have to address a new performance-based view of how a utility is compensated. Risk will be allocated differently, non-wire alternatives will become commonplace, both third-party and self-generation units will be deployed on the grid, as well as micro-grids, and the ideal "pipes and wires" utility will have a viable pathway to return value to their shareholders in this environment. BPU will need to come up with transitional plans to encourage the utilities to facilitate the deployment of both utility and customer owned DERs.

- ***Bi-directional Power Flows***

A 100% clean energy future will require a massive deployment of renewable energy like solar and wind. The most effective way to take advantage of the flexibility of these resources is to build for a mix of distributed and central station resources. Behind-the-meter installations, community solar, and other distributed generation (DG), combined with demand response, distributed storage and other distributed energy resources (DERs) will create a complex planning and operations environment, with two-way power flows and a diminished utility visibility and control over supply and demand. The use of integrated resource planning (IRP) and distribution

resource planning (DRP) processes are a necessary and appropriate response to this complexity, but BPU will have to enable and foster robust use of these tools which have not been used extensively by the utility sector.

- ***Grid-defection***

The cost of renewables, particularly the cost of solar plus storage, will continue to decline as volumes go up and technology improves, an expected by-product of the move towards a 100% clean energy system. This leads to the threat of grid-defection when customers can cost-effectively go off-grid or create microgrids to meet their own energy needs. Utilities have not faced this level of competition and will have to work hard to provide an appropriate value-proposition for renewable DG-customers to remain on the grid while still sharing in the cost of building and maintaining the asset. Widespread grid-defection leaves a smaller pool of customers to spread costs over, leading to higher bills and outsized impacts on low- and middle-income customers lacking the ability to respond to higher energy bills. Utilities have yet to devise a sustainable approach to this dilemma, choosing instead to penalize solar customers with fixed charges and poor compensation schemes, which only exacerbates the problem. BPU will serve its goals well by encouraging a balancing of interests between utilities, ratepayers and "customer-generators". A fair and transparent net-metering or net-billing arrangement is a good place to start. The continuation of a robust net-metering arrangement will ensure that the investment of solar customers, who are generators of clean, local, and affordable power distributed all across the grid, is fair and cost-effective.

Apart from ensuring reliability and financing to support the transition to clean energy, we also recommend that BPU work with utilities to ensure that the regulatory framework and the associated policies reflect the changing energy landscape. Planning around areas such as new utility business models, addressing emerging distribution and transmission needs and distributed energy resource planning will be critical.

Financing and Funding Challenges

- **Funding low- and moderate-income participation**

One of the biggest reasons for New Jersey's thriving solar market has been due to its generous SREC program and customer friendly net-metering policies. As the BPU considers a replacement program for the current SREC program, it is important that New Jersey continue to offer strong incentives to ensure continued deployment of clean energy. Without this, clean energy investments are likely to dry up.

We would especially like to emphasize funding for low-income customers, environmental justice communities, communities of color, and historically underserved communities. If New Jersey is committed to transitioning *all* New Jersey residents to the clean energy future - which is

necessary to get to 100% clean energy by 2050 - significant funding and support will need to be deployed. The SREC successor program should drive access, ownership, and job opportunities for these communities.

We encourage BPU to follow the lead of states such as Massachusetts and Illinois, which provide financial support for LMI solar projects and customers that go beyond incentives available for non-LMI solar projects. The Massachusetts SREC II program offered a REC premium price for projects serving affordable housing, resulting in close to 100 projects by early 2018. Likewise, the BPU may wish to look to Illinois' approach to incentivize low-income solar projects. Like Massachusetts, Illinois will offer a higher incentive for solar projects that serve low-income communities.¹⁰

New Jersey is also primed to follow the lead of California, which has developed a comprehensive suite of low-income solar programs with robust funding and thoughtful administration. In California, funding for the Single-Family Affordable Solar Homes (SASH) program, the Solar on Multifamily Affordable Housing (SOMAH) program, and new programs including community solar targeted to underserved communities, comes from ratepayer surcharges (not collected from low-income ratepayers) and from greenhouse gas emissions allowances.¹¹

BPU should enact and encourage the following funding strategies to ensure that investments in low-income, EJ and communities of color are maximized under the program, through project participation, ownership, jobs and economic benefit:

- *Clean Energy Program Funding:* We recommend BPU to set aside a portion of the Clean Energy Program funds to support participation of low-income customers and other underserved communities in clean energy. This portion could be derived from budgets for renewable energy to address economic justice issues that low-income customers have paid into this fund as ratepayers, yet have not had access to capture direct benefits through incentives, which have predominantly supported solar adoption by higher income customers.
- *RGGI Funding:* We encourage BPU to dedicate RGGI funds from BPU's 20% share of RGGI revenues to provide long-term support for low-income customers to participate in the clean energy programs. Additionally, BPU should work with Economic Development Authority (EDA) to direct a significant portion of EDA's 60% share of RGGI revenues to

¹⁰ Illinois Power Agency, Long-Term Renewable Resources Procurement Plan, 156 et seq. (Dec. 4, 2017), available at <https://www2.illinois.gov/sites/ipa/Documents/2018ProcurementPlan/LTRRPP-Filed-Long-Term-Renewable-Resources-Procurement-Plan.pdf>.

¹¹ See Low-Income Solar Policy Guide, Enabling Long-Term Funding (2018) at <https://www.lowincomesolar.org/toolbox/endabling-long-term-funding/>.

low-income solar, opportunities for environmental justice and communities of color, and workforce development.

In the aggregate, BPU and other authorities should work collaboratively to ensure that at least 25% of RGGI revenues are dedicated to provide solar access to low-income customers and maximize benefits for EJ communities and communities of color through project access, ownership, jobs, workforce training and other direct economic benefits. As an example, California dedicates 25% of carbon cap and trade revenues annually to benefit environmentally and economically disadvantaged communities, which has directly supported solar and renewable energy adoption for low-income and other underserved communities across the state.

However, as we discuss below, we urge caution as New Jersey reenters RGGI. Absent thoughtful implementation with a requirement for mandatory emissions reductions in environmental justice communities, RGGI could result in the continuation of harmful power plant pollution in these areas.

We also encourage New Jersey to explore methods for overcoming challenges relating to solar financing, as outlined in the Inclusive Solar Finance Framework research report, which was prepared for Vote Solar by Sustainable Capital Advisors this summer.¹² The Energy Master Plan Committee members should support EDA with the development of a "Green Bank" financing institution, which will assist with financing for LMI solar projects, such as through a loan loss reserve or other affordable financial products, while ensuring strong consumer protection measures for participating low-income customers. Connecticut has created a framework to work with other state agencies to facilitate this conversation.¹³

- **Funding non-energy benefits**

There are many other benefits that can be achieved from solar systems, such as developing them as carports or placing them on brownfields and landfills. However, such applications have higher incremental costs. Just as other states have created incentives, through their REC programs or SREC successors, New Jersey should use the exploration of an SREC successor program to develop incentives for desirable non-energy benefits, such as particular siting locations.

¹² Sustainable Capital Advisors, Inclusive Solar Finance Framework (2018) at <https://votesolar.org/policy/policy-guides/low-income-solar-access/inclusive-solar-finance-framework/>.

¹³ Connecticut: In determining mechanisms to encourage LMI participation in community solar, the DEEP Commissioner "shall consult with the authority, electric distribution companies, stakeholders, the Connecticut Green Bank and the Department of Economic and Community Development and consider the development of financing options, financial incentives, education and outreach programs, program participation goals or requirements to encourage access for the customers described in this subdivision and identification of long-term funding sources to support the successful program adoption by low-income customers." <https://www.cga.ct.gov/2018/FC/pdf/2018SB-00336-R000518-FC.PDF>Section (c)(22).

Siting clean energy projects is an issue of importance to environmental justice communities and communities of color. We encourage the Energy Master Plan Committee to explore ways to support, prioritize, and incentivize projects that are constructed in underserved communities *and incorporate job training and hiring of individuals in these communities* so that the community members benefit from access to jobs and more direct engagement with the projects, in addition to access to new sources of clean energy. We believe tight coordination among agencies like BPU, EDA, and the Department of Community Affairs is required to ensure these benefits are linked to the rollout of more clean energy. New Jersey also should look to Illinois,¹⁴ which allocates 25% of incentive funds in the Illinois Solar for All Program for low-income solar projects to be located in environmental justice communities.

Municipality Barriers

At the municipality level, it is important to ensure that the soft costs that comprise a significant portion of the total installed cost of solar PV are addressed. This includes costs associated with topics such as permitting, siting, financing, as well as lack of information that can significantly expand the time from project initiation to completion. The Energy Master Plan Committee should encourage municipalities and Authorities Having Jurisdictions to support consistent laws or requirements that facilitate the deployment of clean energy technologies necessary to reach the state's clean energy goals. For example, the state could create a model zoning ordinance and permitting process for local governments to create a streamlined approach to solar deployment throughout New Jersey.

By the same token, siting, permitting and zoning around land issues should be well thought-out. Any existing policies that stymie project approvals can drastically delay the timeline for clean energy deployment. We encourage BPU not to impose restrictions on the siting of clean energy projects but rather employ an incentive-based program where projects are encouraged to be developed in underserved communities, in consultation with environmental justice communities, and underutilized lands such as brownfields, grayfields, warehouses etc.

Information Sharing with Environmental Justice Communities and Communities of Color

As noted earlier, to ensure clean energy reaches all population segments of New Jersey, it is important that the voices of environmental justice (EJ) and communities of color are fully integrated in the planning and the decision-making process. This will require significant engagement efforts with the mayor's associations, neighborhood community and economic development organizations, and expert leaders in this space. Without fully hearing and

¹⁴ Illinois Power Agency, Long-Term Renewable Resources Procurement Plan, 172 *et seq.* (Dec. 4, 2017), available at <https://www2.illinois.gov/sites/ipa/Documents/2018ProcurementPlan/LTRRPP-Filed-Long-Term-Renewable-Resources-Procurement-Plan.pdf>.

integrating the needs of these groups in the broad planning process, their participation and benefits from the clean energy future will likely stagnate.

Transition and Technology

4. How can the State immediately begin to transition to clean energy production and distribution? What intervening steps should be considered to clean existing technology? How should stranded costs be addressed?

As we noted earlier, establishing an SREC replacement program as quickly as possible will ensure there are no gaps in the solar deployment in the state and will speed up the transition to clean energy production and distribution.

Similarly, deployment of community solar pilot program at a robust program size will aid in swift transition to clean energy production. Vote Solar and its coalition partners have been supporting a pilot program to be sized at 450 MW. Recent analysis by Vote Solar and CCSA shows that a program this size would not only result in substantial new jobs but also result in millions of dollars in local economic benefits. The success of the pilot program and the ability for community solar to drive private investment in the state is largely dependent on the result of the current BPU rulemaking process. Vote Solar will continue to advocate for regulations that support a robust pilot program as well as streamlined project application and interconnection processes, among other programmatic elements. A successful pilot program, and subsequent permanent program, will help the State increase near-term clean energy production and distribution.

Any new development of fossil fuel energy that increases the risk of stranded assets should be put on hold, and this includes fossil fuel-based generation resources that are designed to serve consumers out-of-state. We recommend that the Energy Master Plan Committee consider the cost implications of climate change impacts if immediate actions are not taken to wane us off fossil fuel energy sources.

The Energy Master Plan Committee also should carefully consider how RGGI is implemented for New Jersey. The implementation of RGGI must result in targeted emissions reductions for polluting facilities located in environmental justice communities, and for facilities that may not be physically located in these communities but still have adverse impacts. Absent thoughtful RGGI implementation that mandates actual emissions reductions in environmental justice communities, RGGI poses a risk of the continuation of harmful power plant pollution infiltrating

vulnerable communities.¹⁵ The EMP Committee, particularly the DEP, should ensure that loopholes that may allow power plants to escape emissions reductions targets are closed, an equity analysis of RGGI is conducted on a regular basis, and offsets cannot be used to avoid emissions reductions.¹⁶

5. How should the state analyze the construction of additional fossil fuel infrastructure during the transition? How can the state plan to accommodate this infrastructure in both its short-term and long-term clean energy goals? What statutory or regulatory changes will be needed for the state to make and implement these determinations?

We recommend that New Jersey impose a moratorium on any new fossil fuel development until the Energy Master Plan is developed. As an initial step, New Jersey should undertake rigorous analysis on the identification of infrastructure needs, current gaps, and planning needs that would maximize clean energy deployment. New Jersey should also be cautious about supporting any new fossil fuel development because of the risk of creating stranded assets and, critically, the risk of increased pollution in environmental justice communities. So, a well thought out planning process around permitting and approval of new fossil fuel development is needed. This planning process should require a side-by-side comparison of alternative energy assets such as renewable energy, energy efficiency, and storage to assess which option is best for the community. Any proposed fossil fuel project should be evaluated for its potential environmental justice impacts to local communities, and this review should occur at the beginning of and throughout the evaluation rather than towards the end at the permitting/approval process.

6. How should the state invest in and encourage innovative technologies for renewable energy and energy efficiency?

Many states offer financial programs that support and encourage technology research, development, and deployment. These financial programs could be loan or grant based but ensuring that the state's educational institutions have the financial backing to encourage research of new cost-effective technologies is crucial. New Jersey is blessed with top-notch educational institutions and should encourage public-private partnerships that easily take the newly developed technologies to market.

¹⁵ See Nicky Sheats, Achieving Emissions Reductions for Environmental Justice Communities Through Climate Change Mitigation Policy, William and Mary Environmental Law and Policy Review 377 (winter 2017).

¹⁶ See New York City Environmental Justice Alliance, UPROSE, New York Lawyers for the Public Interest, Environmental Advocates of New York, and the New York Working Families Organization, Letter to Andrew J. McKeon, Executive Director, RGGI, Inc. (July 11, 2017), available at https://www.rggi.org/sites/default/files/Uploads/Program-Review/6-27-2017/Comments/Joint_Environmental_Justice_Comments.pdf.

New Jersey already has an existing program, *Edison's Innovation Green Growth Fund* which offers loans to “proof of concept” products. However, it's unclear if this program is currently active. We recommend that this program be infused with new funding.

State Policy

7. Evaluate existing clean energy policies and programs: where are they most/least effective, and are they aligned with the 100% clean energy by 2050 goal? If not, what modifications can be made, if any?

New Jersey consistently ranks among the top ten states for having a strong solar incentive program. The current SREC program has been instrumental in developing the New Jersey solar market, ranking it in the top five solar states. As a result of this program, New Jersey installed more than 2.4 GW of solar, enough to power nearly 400,000 homes. The solar industry has also created more than 7,100 jobs with more than \$10 billion investment in the state. To ensure continuation of this economic success story, discussion around creating a successor SREC replacement program should begin immediately.

On the energy efficiency side, we encourage BPU and the Energy Master Plan Committee to explore how these programs can be strengthened and go beyond “low-hanging fruit” to programs that result in deep-energy savings. Instead of establishing a minimum standard that utilities must achieve, BPU should incentivize utilities to go above and beyond the minimum requirements.

We also recommend that the design and offering of these programs be combined with solar and energy storage solutions to allow residential and commercial customers to fully benefit from the wide suite of available technological options.

Another program, The Energy Resiliency Bank (ERB) is a good way to encourage solar plus storage deployment to increase resiliency. However, it's unclear if this program is still active as the last application window closed in September 2016.

As mentioned previously, we encourage the development of a robust community solar permanent program after the three-year pilot program concludes. Every year, the Pilot program should be reviewed and evaluated, as appropriate, to facilitate the transition to 100% clean energy by 2050.

Lastly, BPU should at the least maintain the integrity of current net-metering policies in New Jersey, with the exception of any net-metering policy that favors non-clean energy sources, such as AB 2204's extension of net-metering to waste incineration facilities. AB 2204's virtual net-metering for “resource recovery” facilities props up otherwise uneconomical, dirty energy sources, and has no place in New Jersey's clean energy future.

8. How should the state integrate low use property, such as brownfields and blighted zones, into new clean energy economy development?

As we stated earlier, utilizing low use property such as brownfields and blighted zones for clean energy can encourage location of projects in or near environmental justice and communities of color and at the same time, it can offer new possibilities for local economic development and community revitalization, job opportunities, and workforce development. However, these projects may involve added costs. After consultation with potentially impacted environmental justice communities and communities of color, incentives should be offered to encourage project development in these sites to address multiple public policy challenges and deploy clean energy. The SREC successor program is an opportunity to create these incentives.

We also support comments offered by CCSA that policy provisions be put in place that minimize risks and liability factors. For example, issuance of comfort letters ahead of No Further Action (NFA) letters will encourage financing needed to develop projects on these sites.

9. How should the state address the baseload needs v. intermittent elements of clean energy generation? What is the role of energy storage in the conversion to 100% clean energy?

We applaud the lawmakers and the Governor for including an energy storage goal of 600 MW by 2021 and 2,000 MW by 2030. Combining clean energy deployment with storage will address the intermittency issues associated with clean energy sources such as wind and solar. We also encourage BPU to review the lessons offered by the solar industry to ensure that the storage industry does not become the victim of the same obstacles and challenges faced by the solar industry during its growth years.

As BPU approves clean energy projects, it should add an evaluation criterion that requires project developers to explore the issues of project reliability and resiliency and if adding a storage component can help improve grid stability as well as if combining storage with clean energy projects result in lower greenhouse gas emissions as opposed to clean energy by itself. BPU should also incentivize the deployment of clean energy technologies with storage such as through an adder to minimize cost impacts and ensure a well-planned clean energy market expansion.

We agree with Energy Storage Association (ESA) that energy storage can support both baseload and intermittent energy sources. Therefore, storage should be treated as a grid asset as it can be deployed as needed to make the grid more resilient and reliable. We also encourage New Jersey to explore supporting residential storage, and perhaps establishing a separate goal for this class.

The state should also explore demand-side management and demand response to address baseload and intermittent elements of clean energy generation. A well-designed demand-side management program can encourage consumers to use less energy during peak hours and help balance the variability associated with renewable energy sources. However, engaging customers to participate in demand-side management does necessitate extensive and easy to understand educational and outreach activities, both by utilities as well as consumer advocates.

Planning and Zoning

10. How can clean and reliable power support the expansion of clean transportation?

We encourage the development of policies that combine the use of solar and storage with electric vehicles (EV) with a particular emphasis on the electrification of public transit and freight in New Jersey. Deployment of EVs is crucial to wane us from the use of fossil fuels for transportation, but for maximum impact, it is crucial that EVs are powered by clean energy sources as opposed to fossil-fuel based electricity. Building electric vehicle charging stations that are powered by solar is a simple way to combine clean transportation with clean power. Implementing time-of-use rates for EV charging, and ensuring net metering customers have access, may encourage optimal charging habits. We recommend a working group that traverses the clean transportation priorities with clean power, storage, and energy efficiency to ensure that all sectors are able to explore best practices and best path forward towards 100% clean energy by 2050.

Electric vehicle infrastructure developments must not overlook infrastructure to support EV school buses, public transit, and freight vehicles, which have the potential to greatly reduce pollution in some of New Jersey's most vulnerable communities. Converting from diesel to EVs can be a major step towards reducing exposure to dirty diesel pollution among children waiting for their school buses, public transit users, or communities adjacent to Port Newark that contend with 14,000 diesel drayage truck trips per day. And large EV vehicles can be beneficially used as battery storage sources when not in use, such as school buses during the school day or summer months. New Jersey must fully account for all applicable benefits when analyzing EV infrastructure, such as geographically specific pollution-reduction and beneficial storage.

11. Is there a role for communities in local energy planning and, if yes, what should it be? Are there opportunities for public-private partnerships to aide communities undertaking this planning?

Yes, communities do have a significant role to play in local energy planning. As we continue to see an increase in the deployment of clean energy technologies, local permitting and zoning laws need to be updated simultaneously to account for the addition of these new technologies. As

noted previously, soft costs of solar that occur primarily at the local jurisdiction can unnecessary add cost and elongate the project timeline. Additionally, onerous rules and regulations can frustrate potential consumers from pursuing clean energy options. These challenges are best addressed at the local level, therefore involvement of local jurisdictions in energy planning is a must.

Communities can help identify their needs, strengths and challenges. They can also provide feedback on what clean energy sector or technologies best meets their needs. Within the community, collecting feedback from private entities, governmental entities, as well as citizen-based associations and organizations will provide differing but valuable feedback.

It is critical to build collaboration with environmental justice partners and communities of color in New Jersey, to develop a comprehensive energy planning that combines clean energy, energy efficiency, EV deployment and storage, as well as plans for reducing harmful power plant emissions in these communities. New Jersey must undertake thoughtful and respectful consultation with these communities in order to pursue an equitable clean energy future and to minimize the risk of a piecemeal transition. We note that meaningful consultation with these communities involves consultation on a variety of aspects, including logistics such as meeting locations that are convenient, times that do not conflict with work schedules, etc.

12. What portfolio mixtures can the state utilize in achieving its 100% clean energy goal? What can a transition portfolio mixture resemble in 2030 and what portfolio mixtures can the state utilize in 2050?

We recommend that the Energy Master Plan Committee seek assistance of reputable research firms that can help identify the optimal clean energy portfolio mix. However, as a precursor to this research, we highly recommend that the Committee create a list of objectives that are essential to be met by the recommended portfolio mix. These objectives can include increase in clean energy access to all New Jersey residents, economic and job creation opportunities, cost of energy, and reduction in greenhouse gas emissions.

13. Should changes be made to zoning and planning laws and requirements to allow for the development of clean energy generation?

The Energy Master Plan Committee should encourage local jurisdictions to not impose laws or requirements that stymie or slow down the deployment of clean energy technologies. To mitigate skepticism on clean energy, education and outreach especially highlighting best practices that result in clean energy development without negatively impacting other aspects of community landscape is needed.

Often times, outdated zoning and planning laws can unintentionally slow down growth of clean energy. Therefore, periodic review and update of zoning and planning laws should be encouraged. In addition, the State should work with municipalities and Authorities Having Jurisdiction to create model zoning ordinances to facilitate clean energy deployment in a consistent and streamlined manner across New Jersey. NREL provides a useful list of best practices on zoning for solar which can eliminate unnecessary barriers.¹⁷

14. How should the state address the workforce development needs associated with the transformation to 100% clean energy?

Benefits to consumers should not be limited to project participation and ownership, but should also include job creation, workforce development opportunities, and other direct connection to economic opportunities associated with New Jersey's solar and clean energy program investments.

The Energy Master Plan Committee should work with EDA and Department for Community Affairs, and other relevant agencies and organizations to develop workforce training opportunities for low-income customers, EJ communities, communities of color and other underserved communities that are linked to the rollout of solar in the state.

New Jersey should follow the examples set by California and Washington, DC, which have established job training programs as a key component of their low-income solar programs.¹⁸ Careful consideration should also be given to explore ways to transition former or current fossil fuel workers to clean energy career tracks.

15. How can the transition to 100% clean energy grow New Jersey's economy and create new innovative and high paying careers for New Jersey residents?

No comments

16. How can the State encourage, require, or otherwise develop a robust supply chain for all clean energy industries?

No comments

¹⁷ <https://www.nrel.gov/technical-assistance/blog/posts/best-practices-in-zoning-for-solar.html>

¹⁸ <https://www.lowincomesolar.org/best-practices/workforce-development/>

Environmental Justice

17. How will the State consider and integrate overburdened communities into clean energy advancements?

Integrating overburdened communities into clean energy advancements will require both financial support as well as participatory support. As we noted earlier, any SREC successor program should utilize factors or multipliers that encourages low-income customers and environmental justice communities to participate in and benefit from clean energy deployment.

On the participatory side, BPU and other state agencies should consider holding regional meetings that are designed not only to gain ideas and input but to also disseminate information on New Jersey's clean energy vision as well as energy efficiency, renewables, and other programs and services offered by BPU and other agencies. These meetings should be advertised to residents of environmental justice communities and the public at large using communication mediums that work best for these communities and should be held in EJ communities at times that allow residents to attend and at locations that are convenient. Input from these meeting should inform priorities of EJ communities moving forward, including program definitions. Although not perfect, New York provides a good framework on ways to facilitate this.¹⁹

Similarly, we encourage the BPU to establish a long-term process to seek input from underserved communities. The regulatory process can be challenging and often the time and resources needed to participate are out of reach for many groups. We urge the BPU to establish recurring LMI/environmental justice stakeholder meetings, as recommended by the New Jersey Environmental Justice Alliance (NJEJA) and other EJ partners to make it simpler to receive input from our partners representing low-income communities, communities of color, and environmental justice communities regarding their needs and requirements relating to clean energy solutions. These stakeholder meetings can be further organized in working groups that periodically reviews the targets for renewable energy and the Energy Master Plan process.

Finally, one of the most crucial topical area for EJ communities is emissions reductions. EJ communities and communities of color have borne the brunt of fossil fuel pollution for

¹⁹ New York: NY PSC set up a "Low-Income Customer Collaborative" with NYSERDA, low-income community organizers, utilities, and other interested stakeholders "on developing means for encouraging low-income customer participation in Community [Distributed Generation]," including the consideration of demonstration projects to encourage low-income customer participation. NY PSC staff are to report on the outcome of the collaborative. N.Y. Public Service Commission, Case 15-E-0082, Order Establishing a Community Distributed Generation Program and Making Other Findings, at 31 (July 17, 2015).

decades,²⁰ so it is imperative to structure the deployment of clean energy in such a manner as to ensure the benefits are meaningful for these communities, as a priority. One of the first actions the Energy Master Plan should include is a plan for addressing environmental injustices in the state and ensuring an equitable energy future. Solar and other clean energy technologies are crucial for aiding this forward-looking equity, and should be thoughtfully deployed to replace most dangerous power plants first, with - as always - meaningful input from affected communities. The implementation of RGGI provides a significant opportunity for this type of input, as discussed above.

18. What efforts are most successful towards making clean energy and energy efficiency measures affordable and accessible to all?

The Low-Income Solar Policy Guide developed by GRID Alternatives and Vote Solar provides a roadmap and toolbox for making solar energy affordable and accessible for low-income communities. The Guide includes relevant examples from all over the country. Please see www.lowincomesolar.org for comprehensive examples and suggestions. The observations and solutions offered in the Guide are, in many cases, applicable to other energy measures, as well.

At the outset, The Energy Master Plan Committee must fully understand the barriers to access that face various consumers. Barriers to solar for low-income families, for example, include:

- Cost sensitivity and access to financing
- Physical barriers and home ownership status
- Housing conditions
- Education and outreach
- Market forces²¹

Successful deployment of clean energy programs that are accessible and affordable for all will necessitate adherence to the Guiding Principles outlined in the Low-Income Solar Policy Guide:

- Accessibility and affordability
- Community engagement
- Consumer protection
- Sustainability and flexibility
- Compatibility and integration²²

²⁰ See Phil McKenna, EPA Finds Black Americans Face More Health-Threatening Air Pollution, Inside Climate News (March 2, 2018), at <https://insideclimatenews.org/news/01032018/air-pollution-data-african-american-race-health-epa-research>.

²¹ GRID Alternatives, Vote Solar, Low-Income Solar Policy Guide, Unlocking Participation (2018) at <https://www.lowincomesolar.org/why-act/unlocking-participation/>.

²² Id, at Guiding Principles, at <https://www.lowincomesolar.org/guiding-principles/>.

The ultimate participation of diverse consumers in clean energy products and services hinges on the value-add for them. Achieving that value-add may require various measures such as incentives, robust compensation mechanisms, financing, and others. Additionally, maximum value-add may involve the incorporation of job training and workforce development opportunities, and ensuring that participation in clean energy programs meshes with other energy assistance programs, as well as housing programs.

Communicating the value-add of clean energy participation often requires consistent deployment of time, resources, and outreach. We have observed that, absent concrete plans and funding to work with trusted community-based organizations, participation especially among low-income customers and others in underserved communities will be difficult to achieve. To address this, we encourage BPU to provide technical assistance and training to community organizations and individuals to ensure they have full set of information to successfully participate in the clean energy planning and programs that emerge. This technical assistance and training should cater towards the unique customer needs in New Jersey. For example, multilingual training, both verbal and written, will ensure all potential customers are informed of the programs and ways they can benefit from it.

While just scratching the surface, we hope that the Low-Income Solar Policy Guide serves as a useful tool for highlighting the various ways states across the country have found success in delivering clean energy benefits to underserved communities.

Conclusion

The Commenting Parties appreciate the opportunity to respond to the Energy Master Planning Committee's Request for Comments and look forward to future collaboration to achieve New Jersey's 100% clean energy goals.

About us:

Vote Solar is a national, non-profit, non-partisan grassroots organization with a mission to make solar a mainstream energy source. We aim to foster economic opportunity and support a cleaner, healthier environment by bringing solar energy into the mainstream. Vote Solar is not a trade group and does not have corporate members. Since 2002, Vote Solar has worked in states all across the country to remove market barriers and implement key policies needed to bring solar to scale.

Earthjustice is the nation's original and largest nonprofit environmental law organization that leverages its expertise and commitment to fight for justice and advance the promise of a healthy world for all.

Environment New Jersey is a citizen-based environmental advocacy project of the non-profit Environment America. Environment New Jersey researches the challenges confronting our environment and educate the public about what's at stake. Through research reports, news conferences, interviews with reporters, op-ed pieces, letters to the editor and more, Environment New Jersey raises awareness of environmental issues and promote sensible solutions.

Formed over 15 years ago, **GRID Alternatives** is a national leader in making clean, affordable solar power and solar jobs accessible to low-income communities and communities of color. GRID's mission is to make renewable energy technology and job training accessible to underserved communities. GRID has completed over 10,600 commercial and residential solar projects for low-income families throughout the country, totaling over 44 megawatts. It has provided 37,700 job trainees and community members with hands-on training to build the skills and experience necessary to secure jobs in today's rapidly growing solar industry. GRID is also a leader in low-income solar policy and partners with utilities, state agencies and other stakeholders across the country to increase solar access and equity.

Solar United Neighbors of New Jersey envisions a clean, equitable energy system that directs control and benefits back to local communities, with solar on every roof and money in every pocket. NJ-SUN is a community of people building a new energy system. They help people go solar, join together, and fight for their energy rights. Partner organizations range from nonprofits to municipal governments, universities to community organizations, and individual "super volunteers" to houses of worship.