



December 13, 2023

**VIA ELECTRONIC FILING**

New Jersey Board of Public Utilities  
Attn.: Sherri L. Golden, Secretary of the Board  
44 South Clinton Avenue, 1st Floor  
PO Box 350  
Trenton, NJ 08625-0350

**Re: In the Matter of the Dual-Use Solar Energy Pilot Program, Docket No. QO23090679,**  
Lightstar Renewables Straw Proposal Comments

Dear Secretary Golden:

Thank you for the opportunity to provide written comments in the above referenced proceeding, Docket No. QO23090679. We applaud the New Jersey Board of Public Utilities (the Board) for the release of the dual-use solar energy pilot program straw proposal, and we look forward to a robust stakeholder process to inform its execution.

Lightstar Renewables LLC (Lightstar) develops, builds, and owns community solar projects with more than 1000 megawatts (MW) of projects completed or in development across the country. Of our 1000 MW portfolio, about a third of our projects (~300 MWs), are agrivoltaics (dual-use) projects. In New Jersey, we have 30.26 MW of agrivoltaics under development across the state, with a variety of crops and regions. Lightstar is diligently working with New Jersey's Farm Bureau, the American Farmland Trust, and entities such as the Pinelands Commission to communicate the benefits of preferred siting methods like agrivoltaics to both New Jersey's clean energy goals and farmers. We are one of the first developers in the country actively offering this model of community solar development and we are eager to provide the following input to the Board regarding the dual-use solar energy pilot program straw proposal.

**Question 1: What additional pre-solar conditions of the farm parcel proposed for a solar array should be documented?**

Lightstar believes that the pre-solar conditions of the farm parcel proposed for a solar array are sufficient as currently proposed. However, the Board may wish to consider that requiring at least 3 years of continuous agricultural or horticultural activity to occur prior to a dual-use project could remove the opportunity for historic farmland and prime soils to be re-utilized via dual-use projects. Allowing projects without 3 years of current use may also enable first generation farmers to participate in the dual-use pilot program. It is important to remember that finding willing landowners and/or tenant farmers is extremely challenging when paired with

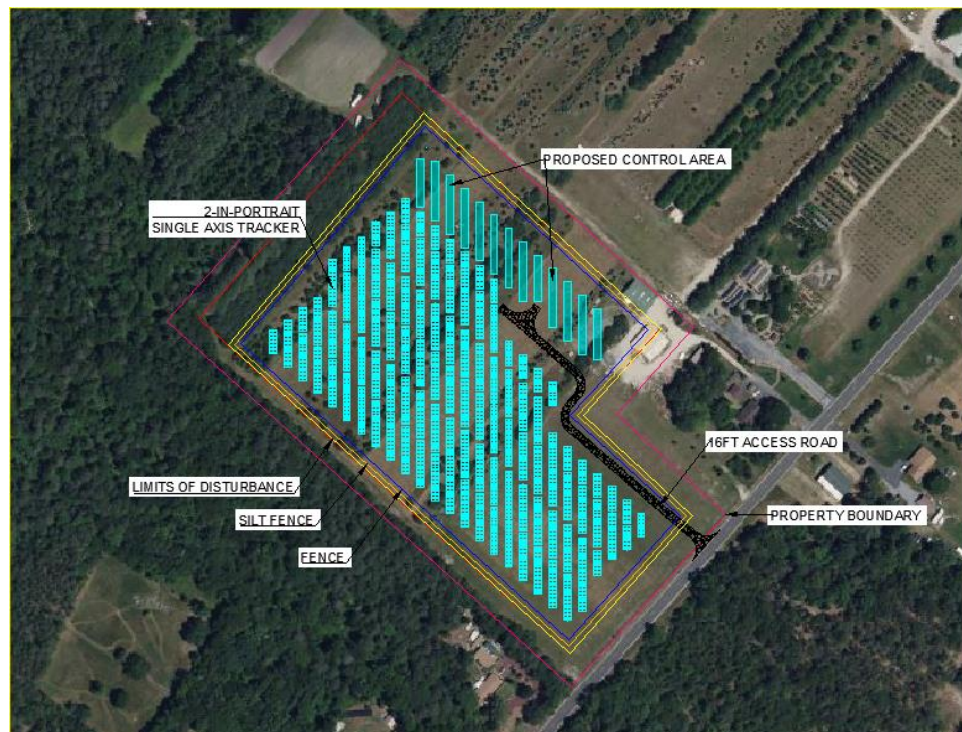
interconnection limitations in New Jersey. A successful pilot program relies on willing and available hosts and tenant farmers.

**Question 2: What additional information should be collected to enable an evaluation of solar construction and operational impacts on the land beneath and adjacent to the solar array.**

Lightstar believes that the information to be collected, as stated in the straw proposal, is sufficient to enable an evaluation and perhaps may need to be reconsidered. Our primary concern is the requested 1:1 control area. Lightstar believes that requiring a 1:1 control area is inconsistent with current Rutgers research practices for dual-use sites. This practice would also be onerous to farmers and could pose a major challenge for farmers with small parcels of land.

From Lightstar's perspective, it may be more effective to require a standardized or minimum control plot size of 1 acre. As stated earlier, finding willing landowners and/or tenant farmers and a site with feasible interconnection logistics presents an enormous challenge to the dual-use pilot program. Requiring such a large control area will force developers to focus on larger parcels of land and will reduce the positive benefits of dual-use sites. It would also discourage the participation of smaller family farmers, who arguably need farm viability tools like agrivoltaics the most.

To the right is an example of a Lightstar leased site in New Jersey. This parcel cannot accommodate a 1:1 control area without the risk of being financially unviable. This parcel has 2.2 MWac total substation capacity and a 13-acre lease area. As a result, the proposed control area is 1.25 acres, or 10% of the total farmable area. This farmer cannot financially forfeit



the use of that acreage for a control site for research purposes. Accommodating for the loss of half the project capacity in an adder request would be an unnecessary expense for the pilot program and would not serve to demonstrate the scalability and commercial viability of agrivoltaics in New Jersey. Additionally, it is important to remember that solar projects will be subject to adequate setbacks and limits of disturbance at the state and local levels. In the above example, the control area allows for crops to be grown with the same variables as in the array

area (e.g. row spacing, crop orientation, etc.) while excluding the solar modules/racking from that portion of the plot. The control area described above will allow for adequate research and monitoring activity without compromising the project's overall viability.

**Question 3: Which of the alternative approaches to awarding an incentive to a dual-use solar energy project eligible for the CSI Program provide the most competitive, efficient and effective outcome at the least cost to ratepayers.**

Lightstar strongly believes that the CSI Program is the wrong place to evaluate dual-use pilot program projects. We urge the Board to allow dual-use pilot projects to be eligible for the Community Solar Energy Program (CSEP) up to their full allowable size of 10 MWs. The pilot program could still implement a pre-qualification process and other metrics specific to dual-use projects, outside of the CSI Program, to gather information. Community solar offers a variety of benefits, including guaranteed energy bill savings and a focus on serving low- and moderate-income people. The developers with the most mature potential projects and skills in agrivoltaics reside primarily within the community solar space. Allowing dual-use projects to participate in the CSEP would allow the pilot program to move forward expeditiously. As the pilot moves into the permanent program, the application and reporting materials can change as necessary.

Furthermore, Lightstar respectfully cautions the Board that requiring developers to propose their own incentives for dual-use projects, based on increased projects costs as compared to traditional solar arrays, has the potential to create an expensive program that does not support the scalability of dual-use projects as a preferred siting method. In this instance, developers may find ways in which to inflate their costs and receive a larger adder. This would harm the dual-use industry in the long term and would not be a reasonable use of incentive funding. The requirement to propose an incentive amount may also become administratively burdensome to the Board and could cause further delays that the dual-use industry has already experienced due to the late release of the straw proposal. The program can still prefer more innovative designs, but Lightstar has significant concerns about the complex administrative nature of most aspects of the pilot.

The Board may wish to implement the "propose-you-own-incentive" process for the first year of the program. In future program years, the Board could consider a uniform dollar per MWh adder for dual-use projects, based on crop or livestock categories, to move the program to be more competitive, efficient, and effective. This approach removes opportunities for bad actors, levels the playing field, and encourages developers to remain agile and responsive to market signals.

**Also listed as question 3 in the straw proposal: In addition to scoring an application based on its status in the interconnection process, should a minimum level of project maturity within the interconnection planning process be required of an applicant?**

Lightstar respectfully and urgently requests that the Board directs New Jersey utilities to accept interconnection applications for dual-use projects. Currently, several utilities in New Jersey are refusing to accept dual-use interconnection applications because there is not a clear "program" established by the Board, despite the longstanding statute that enables the dual-use pilot program. This refusal to accept and review applications limits the potential of the pilot program and adds to the already long timeline for application and permitting. Developers take on significant risk when they cannot ascertain the interconnection costs of a project.

For example, Lightstar has a project that was bumped down in the queue because the utility did not feel it was obligated to accept or review the application because the site was dual-use. This is a fundamental and important project maturity milestone, and the Board must act quickly to allow dual-use projects to prepare for 2024 applications into the pilot program. If the Board plans to use interconnection progress as a mechanism for awarding points in the application process, it is critical that projects be allowed to move forward now.

As a general point the Board should award more points or weight to projects that are more mature. That could be projects with permits, wetlands verification, or interconnection viability.

**Question 4: What stage should a project have achieved in the PJM interconnection queue or in the NJ EDC interconnection application process to be considered eligible to apply in the Pilot Program?**

The CSEP requires projects above 1 MW to have an executed electric distribution company interconnection study to enter the program. Lightstar believes that this maturity criteria would be appropriate for the dual-use pilot program as well. A signed interconnection agreement should warrant the highest points and a viable interconnection study should warrant the next highest.

**Question 5: What additional information pertaining to techniques for minimizing the negative impacts to farmland would be useful for including in the Pilot Program for the purposes of informing a future, permanent dual-use program design?**

As described in the straw proposal, Lightstar believes the proposed framework to avoid negative impacts to farmland is robust and sufficient. However, we urge the Board and Staff to provide developers with as much detail as possible on specific requirements as early in the process as possible. It is important for developers to understand these requirements early, as they relate to project viability and expected costs. This feedback also applies to the waiver requirements to be determined and the to be determined minimum design requirements.

**Question 6: What additional information pertaining to techniques for addressing decommissioning would be useful in the Pilot Program for the purposes of informing a future, permanent dual-use program design?**

Lightstar believes the proposed techniques for decommissioning are robust and must emphasize the protection of topsoil to allow for continued farming activities post-decommissioning.

**Question 7: What additional information pertaining to techniques for managing stormwater impacts from impervious coverage and optimizing water management would be useful for considering in the Pilot Program for the purposes of informing a future, permanent dual-use program design? Is there a certain panel density below which we can anticipate minimal environmental impact, including but not limited to those from stormwater runoff?**

Lightstar recommends that soil compaction, soil depth, and ground cover types all be considered when determining panel density. Strategic plant selection and biodiversity strips between piles and beneath a solar array can significantly reduce stormwater runoff, limiting environmental impacts. Since the majority of Lightstar's projects, and presumably the majority of the other dual-use project applications, will be single axis tracking arrays, the drip edge will continuously change throughout the day, dispersing water across the panels' width.

When engineering both dual-use and conventional solar projects, developers are typically held to New Jersey Stormwater Best Practices which require that there may be no more runoff from the site than there already exist pre-construction. We caution against putting additional restrictive requirements on projects that are already incorporating additional soil treatment and protection mechanisms.

**Question 8: What additional information pertaining to technical feasibility and technical innovation would be useful for the purposes of informing a future, permanent dual-use program design?**

Lightstar applauds the Board for asking for a variety of projects to discover which dual-use applications would work best in New Jersey, but we are also hyperaware of the increased cost for more customized designs. Even in Europe, developers are moving towards off-the-shelf racking systems because of cost efficiencies while still upholding good agricultural yields. We urge the Board, when considering the baseline designs for systems, to consider what will be most commercially viable and mindful of ratepayer impact. In Italy, the minimum height for cropping systems is 6 feet 10 inches, and many regions in Italy have similar solar irradiance as New Jersey. Lightstar's sites range from 1429-1550/kWh and we believe that we can utilize off the shelf racking, tracking systems, and/or bifacial panels with adequate spacing so that both solar and crops can thrive.

**Question 9: What challenges or obstacles do you foresee that could prevent a project applicant from providing research results within the timeframe of the Pilot Program?**

Research should be centralized at the BPU. Joint solar parties suggested this to NYSERDA on their research RFI. This approach ensures that all research will be streamlined and standardized so that policymakers can effectively and efficiently evaluate the data and make decisions regarding the permanent program.

If each developer is to independently retain researchers and research programs, even if there were minimum standards set by the BPU, there is still a high risk of incompatibility of research data and a poor comparison of outcomes.

Developers and farmers are not researchers. We can partner with researchers effectively, but it would be in the best interest of good research outcomes to centralize the research studies at the BPU/RAP level so that developers can enroll their projects into a well-designed and controlled approach to research.

We also recommend that researchers outside of New Jersey should be eligible to be co-principal investigators with New Jersey researchers to leverage additional grant funding opportunities. This would alleviate the burden on New Jersey research institutions to front the majority of the funding for research projects.

**Question 10: What additional criteria, if any, should the Board consider in making its awards?**

Lightstar encourages the Board to consider benefits to the farmer and the general resiliency of the agricultural use of the affected land as a criterion in awards.

**Question 11: If so, how should those additional criteria be weighted?**

Benefits to the farmer and general resiliency of the agricultural use of the affected land should be considered a top priority in project evaluation, alongside project viability.

**Question 12: The Act gives the Board the authority to designate additional criteria in reviewing and making decisions about dual-use projects. What additional information pertaining to diversity of size and productivity would be useful for the purposes of future permanent dual-use program design?**

Lightstar encourages the Board to remain flexible and agile when evaluating criteria pertaining to the diversity of size, productivity, and agricultural use of dual-use pilot projects. As we have mentioned earlier in these comments, finding willing landowners and/or tenant farmers with land near feasible interconnection points is extremely challenging. While selecting a broad set of use cases for the pilot program is very important, the Board should also consider the impact of becoming too selective and therefore impeding the pilot program's success. The Board should also allow farmers and developers to create flexible farm plans that can be adapted to suit individual farmers, site needs, and market conditions for crops. The crops may change over time and the markets may demand farmers to pivot to new farming applications within the array.

We discourage the Board from assigning capacity targets to each of the production categories outlined in Table 1 of the straw proposal. We defer to our agricultural partners to provide more details on the economic challenges of each of those agricultural production categories, but from Lightstar's understanding there are significant pressures on berry and specialty crop producers in New Jersey. Therefore, we would recommend that the Board focus more capacity on those production categories that would have both good agrivoltaic and economic viability applications. For example, in New Jersey, the blueberry producers need support to compete with foreign imports and to protect against more extreme weather conditions that cause damaging early and late frosts. Agrivoltaics as a farm viability tool should be considered for these producers, especially the smaller ones.

Lightstar provides the following additional comments for the Board's consideration:

**Dual-Use Enforcement Comments**

Lightstar agrees with the Board's outline of compliance measures for projects and with the cure periods as proposed. However, we would like to highlight one particularly important point when it comes to financing of agrivoltaic projects - we request that the Board make it explicitly clear that "force majeure" such as crop loss or failure, extreme weather, or similar are exceptions to the compliance recourse. This is important when securing financing and insurance for agrivoltaic projects.

**Program Capacity Allocation**

The straw proposal states that "Staff proposes to set an initial annual capacity target for Program Year 1 at 30 MW, Program Year 2 at 70 MW, and Program Year 3 at 100 MW." Lightstar strongly disagrees with this proposal. Given the significant timeline for site plan approval even with the "permitted use" language and after numerous delays of the straw proposal release, there

is immense demand from all stakeholders for a functional and quickly executed dual-use pilot program. Capacity should be released to reflect how much more advanced the solar industry and agricultural community is as it pertains to agrivoltaics, with more megawatts in the first two program years. Lightstar supports the joint stakeholder proposal for 100MW Y1 and 100MW Y2.

### **Local Permitting Clarifications**

Lightstar urges the Board to provide clarity regarding the pilot program's interpretation of permitted uses at the municipal level.

The statute enabling the dual-use pilot program states:

*“Notwithstanding any law, ordinance, rule or regulation to the contrary, a dual-use solar energy project approved pursuant to this section shall be considered a permitted use within every municipality.”*

However, the Board appears to interpret the legislation to mean:

*“The Act requires that all dual-use projects comply with all applicable federal, state, or local laws, rules, regulations, or ordinances. The Act also prescribes that a dual-use project “be a permitted use within every municipality.” Staff interprets this provision to mean that a dual-use project would not be required to obtain a variance from a municipality and municipalities would not be required to update their ordinances to make such an allowance.”*

Could the Board please provide clarification that it also intends that projects do not need a special or conditional use permit from a municipality?

### **Geographic Criteria**

“Staff recommends that the application evaluation rubric take into account the impacts to the Act's requirement for diversity of size and agricultural and horticultural production should multiple projects be proposed at or near the 10 MW limit at or near the same geography location, farm, farm parcel, entity or interconnection point”. Lightstar urges the Board not to overly restrict the ability to site projects where interconnection is available. Interconnection capacity alone is difficult to find in New Jersey and when developers are searching for willing and engaged farmers, it is even more difficult to find a site that meets all solar development requirements and agrivoltaic requirements.

### **General Timeline Information**

Lightstar would like to provide general timeline information for an agrivoltaic array seeking permits, interconnection, and capacity in the pilot program. Permitting in New Jersey for a project that conforms to all local bylaws can take 12 months, but a project that has adjacent wetland or other habitat issues can take up to 24-28 months since DEP approval is required. These DEP approvals have been taking 9-12 months. Interconnection study and agreement execution can take up to 6 months, and understanding interconnection viability is imperative to the health of a project. The majority of Lightstar's permitting and construction timelines reach

into 2026. We urge the BPU to consider any measures to expedite the implementation and application processes.

Thank you for the opportunity to provide these comments in relation to Docket No. QO23090679. Lightstar feels strongly that the Board should act expeditiously to incorporate stakeholder comments and move forward with a 2024 dual-use pilot program application process. If you have any questions or need additional information, please contact me at [lucy.bullock-sieger@lightstar.com](mailto:lucy.bullock-sieger@lightstar.com).

Sincerely,

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Kelly Buchanan  
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