Dual-Use Pilot Program
Expression of Interest (EOI) Guidance Document

Revised: February 6, 2025

1. INTRODUCTION AND OVERVIEW OF THE DUAL-USE PILOT PROGRAM

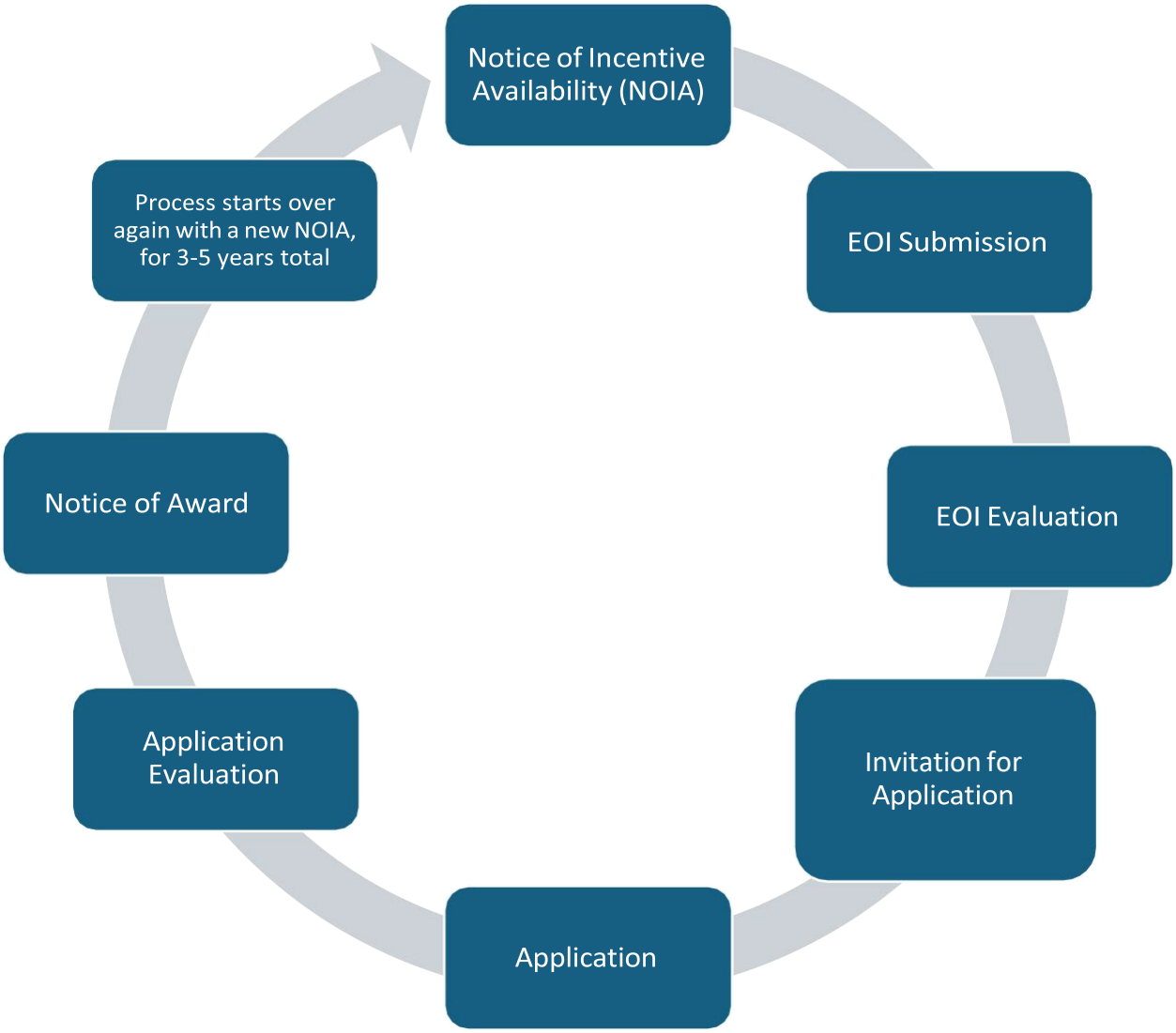
As part of New Jersey's efforts to become a 100 percent ("%") renewable energy state, the New Jersey state legislature authorized the Dual-Use Solar Energy Pilot Program ("Pilot Program") and tasked the New Jersey Board of Public Utilities ("NJBPU") to administer it, in coordination with the New Jersey Department of Agriculture ("NJDA") and the New Jersey Department of Environmental Protection ("NJDEP"). The Pilot Program was designed in consultation with the NJDA, including the State Agricultural Development Committee ("SADC"), NJDEP, and the Rutgers Agrivoltaics Program ("RAP") at Rutgers University ("RU"), as well as the input of public stakeholders.

Agrivoltaics, also known as dual-use solar facilities, is the combined use of farmland for agricultural production and generation of solar energy concurrently, with some modifications to traditional photovoltaic systems to allow for common agricultural production practices. Modifications may include the use of a lower ground coverage ratio, photovoltaic ("PV") panels mounted higher above the ground in order to facilitate the movement of agricultural equipment and to reduce the variability in light availability at ground level, etc.

To participate in the Pilot Program, applicants must submit an Expression of Interest ("EOI") form, and if selected, an application. The selection cycle starts with the Notice of Incentive Availability ("NOIA"), which will be released a number of times over a period of three years, with a possible extension from the Board to either four and/or five years. New applicants may submit an EOI each time a NOIA is released, and applicants may opt to resubmit an EOI during a subsequent NOIA if it was previously denied.

This document provides guidance to applicants for completing the EOI form as part of the solicitation process. It does not replace, substitute, or otherwise supersede requirements set forth in the Board's rules or any other applicable laws, statutes, regulations, codes, ordinances, or permit requirements. In addition, applicants should refer to the New Jersey Clean Energy Program ("NJCEP") at njcleanenergy.com and NJBPU at nj.gov/bpu/ for updated information on a particular solicitation.

Figure 1. Overview of the Dual-Use Solar Energy Project Selection Process for the Pilot Program



2. EOI FORM – SUPPLEMENTAL ASSISTANCE

This section provides guidance on how to complete the EOI form, including how to find some of the required information to accurately answer each question. Applicants are reminded to refer to the NOIA for requirements and complete information, and also the Dual-Use Pilot Order.[1]

2.1 Basic Project Information

For the EOI form, ensure that complete contact information for the main point of contact for the Dual-Use Solar Energy Project is provided. Complete contact information for each member of the project team is not necessary for an EOI.

2.2 Eligibility

A complete list of requirements to be eligible for the Pilot Program can be found in the applicable NOIA on the "Eligibility Criteria" and "Pre-Qualification Criteria and EOI Requirements" sections.

Refer to the Dual-Use Pilot Order starting on page 14 for a discussion on active agricultural or horticultural use of the farmland.

2.3 Proposed Dual-Use Solar Facility Characteristics

2.3.1 Basic Information

Q1. Dual-Use solar facility site location

Provide the complete address of the location where the Dual-Use facility site will be installed.

Q2. Property Block and Lot Number(s)

The Block(s) and Lot Number(s) can be found on your tax bill or official tax map.

Q3. Dual-Use solar facility site coordinates (within 20 feet of the center of the site)

One way to obtain coordinates is to place the center of the proposed facility site in Google Maps on your computer, right click on the location and the coordinates will appear at the top of the pop-up. Mapping a project using geographic information system ("GIS") software can also provide coordinates.

Q4. Dual-Use solar facility site soil classification

To determine if the land where the proposed Dual-Use solar facility site will be located is on prime or statewide significance soils, you can use the Web Soil Survey tool

[1] In re Dual-Use Solar Energy Pilot Program, BPU Docket No. QO23090679, Order dated October 23, 2024 ("Dual-Use Pilot Order"). https://www.nj.gov/bpu/pdf/boardorders/2024/20241023/8C ORDER Dual-Use Solar Energy Pilot Program.pdf

(WebSoilSurveyTool), NJDA Soil Evaluation Mapping Tool (NJDASoilEvalMapTool) or consult with your local Natural Resources Conservation Service ("NRCS") office.

Q5. Siting of and location for the proposed Dual-Use solar facility site

Refer to the Dual-Use Pilot Order starting on page 12 for a discussion on siting.
To assist in evaluating siting locations, NJDEP's Solar Siting Tools can be used and are accessible online at https://dep.nj.gov/cleanenergy/technologies/solar/#solar-siting. Specific to Agricultural Development Areas ("ADAs"), you can use the GIS layer, "New Jersey Agricultural Development Areas," to help identify this information. Questions on NJDEP's Solar Siting Tools can be sent via email to solar_siting_analysis@dep.nj.gov.

For forested lands, the Board's order establishing the CSI Program lays out the classification of forested lands, following NJDEP's definition.[2] For an area to fit the definition of forest, the area must be one acre or greater in area, and have trees at a width of 120 ft. or more over a length of 363 ft.

In addition to not being forested currently, a site cannot have been forested in the past ten (10) years. Below are links to several resources that may provide useful historic aerial data that an applicant may use to confirm that a site was not forested in the past ten (10) years:

- NJ GeoWeb: https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=02251e521d97454aabadfd8cf168e44d.
- NJ Geographic Information Network Imagery: https://njgin.nj.gov/njgin/edata/imagery/index.html.
- NJ historic aerial photos: https://www.arcgis.com/home/item.html?id=0d55ac76c7264242b7b97ac6d2847b6e
- USGS EarthExplorer – hub for aerial imagery/Landsat satellite data: EarthExplorer (usgs.gov)

For more information on land resource protection in New Jersey and for site-specific questions about land classification, contact the NJDEP's Division of Land Resources Protection or Office of Permit and Project Navigation ("OPPN") at: https://dep.nj.gov/wlm/lrp/ and/or https://dep.nj.gov/oppn/.

[2] In re Competitive Solar Incentive ("CSI") Program Pursuant to P.L. 2021, c.169, Order Launching the CSI Program, BPU Docket No. QO21101186, Order dated December 7, 2022 ("CSI Order"). https://njcleanenergy.com/files/file/BPU/2022/12-7-22-8C.pdf.

To determine if the proposed land is on an ADA, you can consult your county agriculture development board or the State Agriculture Development Committee.

Q6. Is the project for a public entity?

"Public entity" means an electric utility customer that is a State entity, school district, county, county agency, county authority, municipality, municipal agency, municipal authority, New Jersey public college, or New Jersey public university.

Q7. Is the land being leased, i.e., is there a lease agreement in place?

Include a copy of the lease agreement between the landowner, the solar operator (developer or owner), and the farmer, as applicable. If applicable, any lease agreement must be effective for a minimum of three years.

"Solar operator" means the person or entity that installs, owns, or controls the dual-use solar energy generation facilities, structures, and equipment.

Q8. Is the project located in an overburdened community?

Refer to the Dual-Use Pilot Order starting on page 25 for a discussion on overburdened communities and the complete definition.

Overburdened community is defined as "any census block group, as determined in accordance with the most recent United States Census, in which: (1) at least 35 percent of the households qualify as low-income households; (2) at least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or (3) at least 40 percent of the households have limited English proficiency. For the purposes of [N.J.A.C. 7:1C], State-designated tribal lands shall be considered overburdened communities." N.J.A.C. 7:1C-1.5. Refer to the Dual-Use Pilot Order for the complete definition.

To determine if the project is located in an overburdened community, refer to the New Jersey Department of Environmental Protection website, "What are Overburdened Communities (OBC)?" page, found online here: NJDEP| Environmental Justice | What are Overburdened Communities (OBC)?.

Q9. Is the project located in an underserved community?

Refer to the Dual-Use Pilot Order starting on page 25 for a discussion on underserved communities and the complete definition.

"Underserved communities" are populations sharing a particular characteristic, as well as geographic communities, that are unlikely to have received consistent and systemic fair, just, and impartial treatment, such that the failure to receive this treatment impacted their opportunity to participate equitably in and benefit from various aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of "equity."

"Equity" means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have historically experienced inequitable treatment, such as Black, Latino, and Indigenous and Native American persons; Asian Americans, Pacific Islanders, and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or adversely impacted by the building or location of their residence.

To determine if the project is located in an underserved community, there is currently no single method by which to make a determination. To give just one example, a modified version of the U.S. Department of Energy's Low-income Energy Affordability Data ("LEAD") tool is available at https://lead.openei.org/. This tool may be used in concert with other methods or tools, such as the NJDEP OBC resource listed under Q8; other federal and state resources are also available.

Q10. The total acreage of the Dual-Use solar facility site and the proposed research control area

Refer to the Dual-Use Pilot Order starting on page 23 for a discussion on a research control area.

When calculating the area for the Dual-Use solar facility site, also include the equipment turnaround or headland (area at the edge of a field where farm machinery turns around and moves between fields) areas.

Q11. Attach municipal tax map or similar

A site plan or map that is similar to a municipal tax map could also be used. For example, an applicant-generated cadastral map using parcel data available from the New Jersey Office of Information Technology, Office of GIS, available online at https://nj.gov/njgin/edata/parcels/, would be acceptable.

2.3.2 Interconnection Planning

Refer to the Dual-Use Pilot Order starting on page 17 for a discussion on interconnection.

Q12. Electric distribution company (EDC) in which the proposed Dual-Use solar facility site is located?

If you are not sure what EDC serves the Dual-Use solar facility site, you can refer to an electricity bill generated for the same area or use mapping tools that contain the EDC territories, such as those available from NJ-GeoWeb. Specifically, you can visit dep.nj.gov, select NJGeoWeb from the Information and Tools tab, launch the NJGeoWeb tool, and navigate to the "Utilities" section.

Q13. Anticipated means of electricity sale and interconnection

For general information about interconnection, visit the following NJCEP webpage at: https://www.njcleanenergy.com/renewable-energy/programs/net-metering-and-interconnection. Detailed information about the applicable solar incentive programs specific to the Pilot Program under the SuSI Program are provided under the questions below. Generally, the minimum level of interconnection maturity depends on the program and the size of the project.

Q14. Is the proposed Dual-Use solar facility site part of an existing solar project?

Applicants are reminded to review the applicable NOIA for requirements.

The ADI Program provides administratively set incentives for net metered residential projects and for net metered non-residential and community solar projects of five (5) megawatts ("MW") measured in direct current ("dc") or less. ADI Program Forms, Checklists, and additional program information can be found on the ADI Program website page. Solar customer FAQs may be found on the NJCEP website here.

The CSI Program provides incentives for grid supply projects and net metered non-residential projects greater than five (5) MW (dc). The amount of these incentives is determined through a competitive solicitation. The Board has held two solicitations since opening the program and is preparing for a third. A separate website hosts the solicitations, which may be found here and includes helpful information such as Q&A.

Q15. If the project is proposed to be net metered, the most recent 12 months of historic electricity consumption according to a utility bill

You can contact your utility company to request an annual summary of your bills. Contact information for utilities may be found on the NJCEP website at: https://www.njcleanenergy.com/renewable-energy/programs/net-metering-and-interconnection/interconnection-forms.

2.3.3 Solar Array Design and Agricultural Plan for Dual-Use Solar Facility Site

Refer to the Dual-Use Pilot Order starting on page 27 for a discussion on project design and page 21 for technical feasibility and technical innovation.

For basic information on solar electric systems, you may refer to the NJCEP's "Basic Guide to Solar Electric Systems." Within that resource, you may also wish to refer to the Board's list of solar installers and vendors at "Find a Solar Trade Ally." However, note that this list does not reflect those specific to agrivoltaics – the Board does not currently provide a list of agrivoltaic partners.

Q16. Crops grown in the past three years in the area intended for the proposed Dual-Use solar facility site

Include all crops that were produced in the area intended for the proposed Dual-Use solar facility site including the control area.

Q17. Agricultural plan for the proposed Dual-Use solar facility site and the control area for year 1, 2 and 3, including plan for monitoring the quality of agricultural or horticultural use of the land.

This plan should list all the types of crops and/or animals you will be producing, as well as the planned use of specialty machinery, type of irrigation system, and the factors to be monitored for crop or animal quality. Some examples of these factors include, but are not limited to, crop yield, percentage of the crop yield that is of marketable quality, weight gain, number or amount of culls. Note that when changing production practices (e.g., crop rotations), these plans may change from year to year.

Q18. System Type

For more information about solar system types that may be applicable to agrivoltaic systems in New Jersey, you can access information online from the Rutgers Agrivoltaics Program at: https://agrivoltaics.rutgers.edu/resources/. There are additional resources that may be of assistance that include federal tools available online, such as the following:

- Innovative Solar Practices Integrated with Rural Economies and Ecosystems ("InSPIRE"): Agrivoltaics Primer
- AgriSolar Clearinghouse
- National Renewable Energy Laboratory ("NREL"): NREL Data and Tools

Q19. Array design innovation plan to facilitate continued practical farming after construction

Array or panel design that differs from conventional widely-used solar array designs to adapt for agricultural practices, for example arrays elevated high enough to allow large farming equipment to drive underneath, unique row spacing, or different panel orientations.

Q20. Height of lowest panel edge during normal daily operation (feet)

When designing the system, consider local ordinances for the highest allowable panel edge. Also, consider that the lowest panel edge may interfere with standard farming practices.

Q21. Number of panels

List the total number of panels proposed for the Dual-Use facility site.

Q22. Rated wattage (dc) per panel

Rated wattage per panel can be found in the manufacturer's datasheet.

Q23. Number of rows

List the total number of rows of solar panels (regardless of the length of the panels) proposed for the Dual-Use facility site.

Q24. Distance between rows (feet)

Distance between the rows of the solar panels. When designing the system, consider light availability and specific agricultural equipment (e.g., irrigation, tractors, drainage tiles, combines) to be used in the system to determine the distance between rows.

Q25. Overall system capacity (kW dc)

This information refers to the total power-generating capacity of all the solar panels, measured in kilowatts (kW dc). It can be calculated by multiplying the total number of panels by the rated capacity of each panel (Q21*Q22).

Q26. Expected annual electricity generation (in MWh)

To estimate the expected annual electricity generation in MW-hour ("MWh"), the use of at least one of the following software packages is recommended:

- System Adviser Model ("SAM"): Welcome - System Advisor Model - SAM
- PVWatts: PVWatts Calculator
- PVsyst: PVsyst – Photovoltaic software

Q27. Are you planning to store solar energy?

In your plan, include the location, type, and storage capacity of any proposed energy storage system.

Q28. Type of mounting structure and proposed materials (mono poles, I-Beams, racking type, etc.)

Describe the proposed type of mounting or racking system/equipment and associated materials, e.g., steel, aluminum, planned for the project. The resources highlighted under Q18, i.e., RAP, InSPIRE, NREL, and AgriSolar Clearinghouse, are among several resources publicly available which may provide assistance in designing a project and determining which materials may be best suited for your project.

Q29. Description of materials and process to be used for post installation

Details should include the foundation for the posts, if any, type of equipment required to install the posts, and what will be done in the case of post refusals, meaning posts that do not get successfully installed during construction.

Q30. Proposed measures to prevent permanent damage to agricultural land

Refer to the Dual-Use Pilot Order starting on page 19 for a discussion on minimizing the negative impacts to farmland.

Permanent damage for this purpose may be considered as damage that negatively impacts the potential agricultural productivity for longer than a year. Examples of damage include but are not limited to chemical contamination, loss of topsoil via intentional removal or erosion, excessive compaction (beyond normal agricultural use) of topsoil or mixing of topsoil with subsoil, and drainage disturbance.

Q31. Proposed measures to reduce soil erosion, stormwater runoff and other environmental issues

Refer to the Dual-Use Pilot Order starting on page 21 for a discussion on stormwater runoff and other environmental issues.

Include all the environmental impacts that you are considering in your plan due to the construction and operation of the proposed agrivoltaics system and describe steps that will be taken to minimize this damage. For describing a decommissioning plan, including recycling, refer to the next question.

Q32. Plan for decommissioning at end of useful life

The decommissioning plan should include how negative impacts to the farmland, specifically for the soil, will be mitigated as a result of decommissioning the solar facility. Refer to the Dual-Use Pilot Order starting on page 20 for a discussion on decommissioning. The plan should cover elements of the solar system such as solar panels, wiring, balance of system equipment, and the racking system.

For information on solar panel recycling, refer to the following organizations for contacts and resources:

- NJDEP's Division of Sustainable Waste Management: https://www.nj.gov/dep/dshw/; email recyclingfacilities@dep.nj.gov
- U.S. Environmental Protection Agency ("USEPA") Hazardous Waste: https://www.epa.gov/hw/solar-panel-frequent-questions
- U.S. Department of Energy ("USDOE"), Solar Energy Technologies Office ("SETO"), PV End-of-Life ("EOL") Action Plan: https://www.energy.gov/eere/solar/webinar-photovoltaics-end-life-action-plan-update

Q33. Briefly describe your research plan, how it fulfills the requirements of the Dual-Use Pilot Program, and list the names of the potential research partner entity(ies) or organization(s)

Refer to the Dual-Use Pilot Order starting on page 23 for discussion on research and monitoring as well as Appendix B. Contacting potential research partners beforehand is recommended.

2.4 Costs and Incentives

Refer to the Dual-Use Pilot Order starting on page 15 for discussion on project costs and incentives.

2.4.1 Cost Estimates

Q34. Provide cost estimates for the total installed cost for the entire project and additional costs incurred specific to the agricultural or horticultural aspects of the Dual-

Use Solar Energy Project

When determining the additional cost of the agrivoltaics system, compare it to a conventional photovoltaic system with the same generation capacity, and same array type. For equipment and labor costs, use estimates from the same solar developer and manufacturer.

2.4.2 Incentives

Q35. Project award details for a CSI-eligible facility

The proxy value for a base incentive in the CSI Program is provided in the applicable NOIA. Refer to Q14 for resources available for the CSI Program.

Q36. Applicable market segment for an ADI facility

Select the applicable box for the ADI market segment. Refer to Q14 for resources available for the ADI Program.

Q37. Requested anticipated adder

To calculate the anticipated adder, refer to the NOIA for complete instructions.

Requested Adder:

Solar projects accepted into the Dual-Use Pilot Program can qualify for an additional incentive ("adder") which will be added to the New Jersey Solar Renewable Energy Certificate-II ("SREC-II") incentive. The adder is to be calculated in dollars($)/MWh and included in the EOI. If an EOI proposal is invited for a full application, the requested adder has to be fully justified. After a project proposal is fully approved, the requested adder amount will be added to the SREC-II value for the associated solar project. The project's solar developer will be able to assist with this calculation.

Installation and Operating Costs:

Examples of installation costs that may be different for agrivoltaic projects include but are not limited to photovoltaic modules, mounting structure, site preparation, installation, soil protection measures, monitoring equipment, and fencing. Examples of operating costs include but are not limited to yearly land costs, system maintenance, mowing, environmental and energy production monitoring, surveillance, and research costs. It is important to note that some of these costs may be lower for agrivoltaics projects as compared to conventional photovoltaic projects. For example, it is conceivable that mowing and weed management costs could be lower for agrivoltaic projects.

Energy Production:

The denominator in the adder calculation is the project's estimated 15-year energy production (“MWh”).

Example of Adder Calculation:

Below is an example of an adder calculation. The cost categories in the table are for illustrative purposes only. Solar developers will be able to provide cost estimates. NREL also provides guidance and a free software application to perform techno-economic analyses of solar and other renewable energy systems, which can be found at https://sam.nrel.gov/.

Table 1. Example of an Adder Calculation for a 1 MW Agrivoltaic Solar Project

	Installation Expense ($)		
Expense Item	**Agrivoltaic**	**Photovoltaic**	**Difference**
Modules			
Inverters and Optimizers			
Mounting Structures and Hardware			
Miscellaneous Components			
Site Preparation & Installation			
Electrician Labor & Material			
Fencing			
System Design, Management, Admin Costs			
Legal			
Grid Connection			
Civil/Environmental Engineering			
Soil Protection Plans			
Surveying			
Racking Design			
Permits and Fees			
Bonding			
Engineering			
Project Management			
Commissioning, Startup			
Overhead			
Total Installation Expense	**$**	**$**	**$**

	Operating Expenses (per year)		
Expense Item	**Agrivoltaic**	**Photovoltaic**	**Difference**
Land Cost			
Maintenance/Mowing			
Surveillance			
Monitoring/Research			
Insurance			
Repair Services			
Yearly Operating Expense	**$**	**$**	**$**

Installation Cost Difference **$**

Operating Expense Difference (over 15 years)	**$**
Total Cost Difference	**$**
Energy Production over first 15 years (MWh)	**MWh**
Adder requested: $/MWh	**$/MWh**

2.5 Additional Project Maturity Information

Refer to the Dual-Use Pilot Order starting on page 12 for a discussion on permitting.

Q38. Submission of applications for electrical and building permits

Permits are not required prior to submitting an EOI.

Q39. Applications or approvals for all discretionary land use approvals and entitlements, applicable to the project

Approvals and entitlements are not required to be received by the Applicant from the applicable approving entities before submitting an EOI. 'Discretionary' is used here in the case of an overseeing authority for making a judgment in determining the requirements to issue an approval. These approvals and entitlements are different from permits and approvals that are ministerial in nature such as electrical and building permits, which are covered in Q38.

Q40. Estimated time from application selection to project completion

Project completion would be considered achieved on the date that the project receives permission to operate ("PTO") from the EDC.

Q41. Anticipated construction schedule and additional project maturity details

The projected schedule could include dates for permit approvals, initial delivery of materials, racking and panel installation, completion of wiring and testing, and PTO.

2.6 Certifications

For the section on Certifications, refer to the applicable NOIA.

3. QUESTIONS AND FURTHER INFORMATION

Address all questions pertaining to the EOI Form to board.secretary@bpu.nj.gov and dual-use@njcleanenergy.com.

Further information, including Frequently Asked Questions, will be available on the NJCEP website at: https://www.njcleanenergy.com/renewable-energy/programs/dual-use-solar-pilot-program.