

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION**



RECIPIENT: Cornell University

STATE: NY

PROJECT TITLE : Holistic Framework to Assess the Costs and Benefits of Ecosystem Services at Solar Facilities

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-002605	DE-EE0010384	GFO-0010384-001	

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

A9 Information gathering, analysis, and dissemination

Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

A11 Technical advice and assistance to organizations

Technical advice and planning assistance to international, national, state, and local organizations.

B3.1 Site characterization and environmental monitoring

Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Cornell University to design, develop, and evaluate the costs and benefits of the holistic ecosystem services at community- and utility-scale solar facilities in the Northeastern US.

The proposed project would consist of two Budget Periods (BPs). Eight solar facilities are described below, and four sites from the list would be designated as "core sites", and four would be "non-core sites" for field data collection. Core sites would be designated depending on if they contain priority resources or not. In addition to field sampling, Cornell University (Ithaca, NY) would form a Project Advisory Committee (PAC) to hold regular meetings, create biophysical and ecosystem services models, carry out outreach activities, and develop a web-based app to evaluate the costs and benefits of ecosystem services. This framework would be tested with PAC members and focus groups.

The project team would conduct field sampling during BP1 and BP2. A suite of well-established field sampling techniques would be used to collect data and which would be amenable to large-scale deployment across multiple

sites simultaneously. Core sites would be sampled at least 8 times per year, and non-core sites would be sampled at least seasonally. Proposed sampling methods include the following:

1. Microclimate data collection:

- a. Four total microclimate sensors would be deployed at each site with three transecting a single solar array and fourth control sensor placed within facility boundaries at least ten feet away from the nearest solar array
- b. Sensors would remain during non-winter months

2. Insect sampling:

- a. Sampling would take place bi-weekly during non-winter months
- b. Sweep samples and sticky cards would be collected at transect locations

3. Soil sample collection:

- a. Up to 12 soil samples would be retrieved at each site
- b. A drain spade would be used to dig 8 inch (in.) deep hole, removing a 6x2 in. rectangular section of soil for each sample once per year in the early spring

4. Vegetation sampling:

- a. Sampling would take place bi-weekly during non-winter months
- b. A square meter quadrant of vegetation would be assessed for biodiversity by manually counting species

The proposed project would not involve the permanent modification of existing/planned facilities or any change in the use, mission, or operation of these facilities. DOE also conducted a review of potential issues related to other resources of concern and found no effects that would be expected to result from the proposed project activities. Entomologists would be involved in insect sampling in order to ensure that federally listed species such as Monarch Butterflies are not caught.

All sites would be located in the Northeast US. The U.S. Fish and Wildlife Service Endangered Species Program website (IPaC) identifies several federally listed threatened or endangered species, including the Indiana Bat, Northern Long-eared Bat, and Monarch Butterfly which are believed to occur in the project area. Migratory bird species of conservation concern such as American Golden-plover, Bald Eagle, Belted Kingfisher, Black-billed Cuckoo, Blue-winged Warbler, Bobolink, Canada Warbler, Cerulean Warbler, Chimney Swift, Eastern Meadowlark, Eastern Whip-poor-will, Evening Grosbeak, Golden Eagle, Golden-winged Warbler, Kentucky Warbler, Lesser Yellowlegs, Long-eared Owl, Prairie Warblers, Prothonotary Warbler, Red-headed Woodpecker, Ruddy Turnstone, Rusty Blackbird, Short-billed Dowitcher, Upland Sandpiper, and Wood Thrush as identified in IPaC, may be present seasonally within the project areas. However, because equipment installations would be temporary and limited to standard types of noninvasive surveying tools, award activities would result in negligible ground disturbance. DOE has determined that no adverse impacts to species of concern are to be expected as a result of the proposed activities at these locations.

The commercially operating solar facility sites are as follows:

1. Auburn Solar Farm (Auburn, NY)
2. Branscomb Solar Site (Easton, NY)
3. Cascadilla Community Solar Farm (East Ithaca, NY)
4. Cornell Musgrave Solar Farm (Aurora, NY)
5. Green Corners Solar Project (Watertown, NY)
6. Knowlton Farm (Grafton, MA)
7. Skaneateles Solar Project (Skaneateles, NY)
8. Wilmington Housing Authority Solar Project (Wilmington, DE)

The proposed project would not involve the permanent modification of existing/planned facilities or any change in the use, mission, or operation of these facilities. There are no critical habitats within the project areas. DOE also conducted a review of potential issues related to other resources of concern such as prime farmland and found no effects that would be expected to result from the proposed project activities.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

If during project work cultural or archaeological artifacts are encountered, the recipient shall stop the site-based activities immediately and inform the DOE Project Officer of the finding. A Class III: Intensive Cultural Resources Inventory shall be required prior to re-commencing project work.

Notes:

Solar Energy Technologies Office (SETO)
NEPA review completed by Alex Colling on 4/17/2023.

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  _____ Date: 4/19/2023
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
 Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____ Date: _____
Field Office Manager