

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



RECIPIENT: NREL

STATE: CO

PROJECT TITLE : NREL-22-011 Agrivoltaics for food and energy sovereignty - Nespelem, WA

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-22-011	GO28308

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:

A11 Technical advice and assistance to organizations

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

B3.8 Outdoor terrestrial ecological and environmental research

Outdoor terrestrial ecological and environmental research in a small area (generally less than 5 acres), including, but not limited to, siting, construction, and operation of a smallscale laboratory building or renovation of a room in an existing building for associated 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.

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's (DOE) Solar Energy Technology Office (SETO) is proposing to provide funding to the National Renewable Energy Laboratory and three partners, Konbit Public Benefit Corporation (Konbit), Twende Solar, and the Colville Tribal Community, as part of InSPIRE 3.0 Task 3, "Conduct Field-based Research". The purpose of the proposed project is to investigate and develop strategies to co-locate agriculture and solar development to provide multiple food, energy, and water benefits to landowners. DOE completed a NEPA review for Task 2.0 of this project which was signed by the DOE NEPA Compliance Officer on May 13, 2019 (see NREL-19-028, "InSPIRE 2.0: Dryland Agriculture and Solar Co-Location - Oregon").

The proposed project involves the design and completion of desktop and field studies to evaluate crop production for different crop types and varying configurations of solar infrastructure. NREL would manage the overall project and provide technical support for the study design. NREL would also train Konbit staff to perform on-site research and monitoring. Both NREL and Konbit would plant crops at the testing site. Twende Solar would assist in project logistics

and would provide project equipment. The Colville Tribal Community would provide the land for the study, which is an existing agricultural site located in Nespelem, Washington.

Crops would be planted at and around an existing 20 kW solar array system at the agricultural site, which consists of two 51 feet x 9 feet solar arrays. To prepare the soil for crop sowing, light, shallow tilling may be performed by the Colville Tribal Community. Crops would be planted either directly underneath the solar array system or circling around it and would involve up to 0.25 acres of total crop land use. Irrigation infrastructure is already in place and would be used to irrigate the study plots.

Monitoring equipment, such as soil moisture probes and a weather station, would be used to measure sunlight, shading, soil moisture content, and rainfall. The monitoring equipment would be installed aboveground and within the crop area and would not exceed 10 feet x 10 feet. Additional data, such as vegetation height, cover, and crop production, would be measured.

Planting would begin in June 2022 and would continue through the fall. Monitoring would occur over a few growing seasons and would end in fall 2024. At the conclusion of the study, the monitoring equipment would be removed, and the crops would remain for use by the Colville Tribal Community.

One threatened and one candidate species, the Yellow-billed Cuckoo and the Monarch Butterfly respectively, and two Birds of Conservation Concern, the Evening Grosbeak and Lewis's Woodpecker, could encounter the project. The proposed project would not adversely affect these species as it involves planting a test plot underneath and around an existing solar array on agricultural land. Additionally, pesticides and herbicides would not be used.

The project would involve minor ground disturbance to plant the crops. All activities would occur on previously disturbed land and would not result in a change in the use, mission, or operation of the site. The project would not affect cultural resources, wetlands, floodplains, or prime farmlands, and no permits would be required.

Mobile air emissions resulting from trucks and farming equipment would be negligible and short-term. Packaging and miscellaneous non-hazard waste used in establishing the study plot would be reused, recycled, or disposed of in a sanitary landfill as appropriate.

Workers could be exposed to physical hazards during the proposed project. Existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, proper material handling, monitoring, and internal assessments. Additional policies and procedures would be developed if additional health and safety risks are identified.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

A migratory bird nesting survey shall be completed if project activities involving ground disturbance occur between March 15 and September 15.

Notes:

NREL
Nicole Serio, 5/23/2022

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: _____

 Electronically Signed By: Lisa Jorgensen
NEPA Compliance Officer

Date: 5/25/2022

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: _____

Field Office Manager

Date: _____