

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



**RECIPIENT:** Global Algae Innovations

**STATE:** CA

**PROJECT TITLE :** Algae Direct Air Capture Scale-up to Multi-acre Raceways

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0002638	DE-EE0010460	GFO-0010460-001	

**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.)

**B3.6 Small-scale research and development, laboratory operations, and pilot projects**

Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

**B5.15 Small-scale renewable energy research and development and pilot projects**

Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Global Algae Innovations (GAI) to design, build, and operate in-ground algae raceways intended to improve algae yields for biofuel production applications. Award activities would not include production of biofuel or biofuel intermediates.

Algae raceways would be built at GAI's facility in Shandon, CA and would occupy approximately 16.5 acres (total). Supporting algaculture equipment for algae cultivation, harvesting, and processing would be installed at the site. Award activities would include operation of the algae raceways and equipment, which would produce approximately ten tons of algae as part of this award. Additional award activities would include those of an intellectual, academic, and analytical nature, including the development of computer models. Such activities would support the completion of numerical modeling, life cycle analysis, and techno-economic analysis.

GAI's algaculture facility in Shandon, CA is currently under development, partly funded by other active DOE financial assistance awards (DE-EE0009758 and DE-EE0009259). This determination only applies to proposed actions under award DE-EE0010460. Considering the proposed activities under awards DE-EE0009758, DE-EE0009259, and DE-EE0010460, the cumulative capabilities of the facility would not amount to demonstration-scale activities. All permits required complete award activities would be obtained prior to initiating those activities.

Award activities would involve typical hazards associated with building algae raceways, installing equipment, and operating an algaculture facility, including handling and use of hazardous materials, operation of potentially hazardous equipment and vehicles, and site-specific environmental hazards. Existing health, safety, and environmental policies and procedures would be followed to mitigate hazards to acceptable levels. Mitigated hazards would pose negligible risks to the public and environment. All activities would comply with existing federal, state, and local laws and regulations.

DOE previously completed informal consultation with the U.S. Fish and Wildlife Service (FWS) per Section 7 of the

Endangered Species Act to determine potential impacts on federally listed species and critical habitats for GAI financial assistance awards DE-EE0009758 and DE-EE0009259. DOE received a letter of concurrence (LOC) from FWS (06/24/2022) stating their concurrence that those award activities would not likely adversely affect listed species or critical habitats, but that concurrence is contingent on conservation measures being properly implemented by all award participants. The conservation measures are described in the LOC. Proposed activities of this award (DE-EE0010460) are of a similar nature at the same location described in the LOC. DOE requested and received concurrence (06/21/2023) from FWS that the LOC may be applied to the proposed activities under award DE-EE0010460. As such, additional consultation with FWS is not required.

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders aside from consultations that have already been mentioned. A diversity, equity, and inclusion (DEI) plan would be implemented to encourage the inclusion of individuals from underrepresented groups in fields of science, technology, engineering, and mathematics (STEM).

## NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Bioenergy Technologies Office (BETO)  
NEPA review completed by Dan Cahill, 06/23/2023.

## 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:



Andrew Montano

Date: 6/23/2023

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: \_\_\_\_\_  
Field Office Manager

Date: \_\_\_\_\_