

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



RECIPIENT: LanzaTech, Inc.

STATE: GA

PROJECT TITLE: Low-cost Sustainable Aviation Fuel from Waste CO2

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002396	DE-EE0009759	GFO-0009759-001	G09759

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to LanzaTech, Inc. to modify existing facilities at the Freedom Pines Biorefinery (FPB) to produce sustainable aviation fuel (SAF) from carbon dioxide originating from biogenic wastes ("novel feedstock").

DOE previously completed a NEPA Determination (ND) for Funding Opportunity Announcement (FOA) DE-FOA-0002396 (FOA-0002396-001; A9, B3.6; 05/20/2021), which applies to Budget Period (BP) 1 initial verification activities for all awards under the FOA, including this award (DE-EE0009759). This ND (GFO-0009759-001) applies to the award's remaining activities (BP2 and BP3).

FPB (Soperton, GA) is an existing facility which has the capability to produce ethanol and SAF. Award activities would involve planning, designing, and modifying FPB to enable the facility to produce ethanol from novel feedstock. Installation of new equipment would occur in existing indoor laboratory space and outdoors on an existing concrete slab. To accommodate the installation of new equipment, the following modifications would occur: installation of windows, doors, floor reinforcements, safety systems, air and climate control systems, and raising the ceiling of the affected laboratory space by approximately 1.5 meters. Modifications would not involve ground disturbing activities. LanzaTech would acquire all required permits prior to modifying FPB facilities.

System components and equipment would be tested to verify and optimize performance. After verification, LanzaTech would produce crude ethanol from novel feedstock. The crude ethanol would be transported to Monument Chemical (Houston, TX) for processing. Processed ethanol would be used to produce SAF at FPB. Approximately 600 gallons of SAF would be produced as part of award activities.

Award activities would involve the handling and use of hazardous materials, including flammable and toxic gases and corrosive chemicals. All such handling and storage would occur within controlled purpose-built settings and would follow existing policies and procedures for handling and disposal of these materials. Ethanol production activities would involve the use of microorganisms in a bioreactor. All organisms used for this award would fall under the lowest risk categories concerning individual and public health as described by federal agencies, i.e. Biosafety Level 1 (BSL-1) or Risk Group 1 (RG1). Existing corporate and government health, safety, and environmental policies and procedures would be followed at all facilities, including personnel training, proper personal protective equipment (PPE), engineering controls, monitoring, and internal assessments.

Additional award activities would include those of an intellectual, academic, and analytical nature. Such activities would support the completion of a life cycle analysis and techno-economic analysis. Argonne National Laboratory would assist with these activities.

DOE has considered potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate adverse impacts on these resources.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Bioenergy Technologies Office (BETO)
NEPA review completed by Dan Cahill, 01/18/2023.

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

NEPA Compliance Officer

Date: 1/23/2023

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: _____