

PMC-ND

(1.08.09.13)

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



RECIPIENT: LanzaTech, Inc

STATE: IL

PROJECT TITLE: Upscaling of Non-Recyclable Plastic Waste into CarbonSmart™ Monomers

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002245	DE-EE0009302	GFO-0009302-001	

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to LanzaTech, Inc to develop a hybrid technology for upcycling, through feedstock gasification, the non-recyclable fraction of plastic waste to monoethylene glycol(MEG), to establish a new waste-to-products value chain. The proposed project would be completed over three Budget Periods (BPs), with a Go/No-Go decision point in between each BP. This NEPA review is applicable to all three BPs.

Proposed project activities are listed below:

LanzaTech, Inc. - Skokie, IL

- biocatalyst development and screening; gas fermentation studies and syngas produced from waste plastics

InEnTec - Richmond, WA

- preparation of waste plastics, gasification of waste plastics, compression and storage of syngas in cylinders for shipment

Waste Management – Location to be determined

- paper studies analyzing waste availability; collection of waste plastic samples

Lululemon – Location to be determined

- paper studies analyzing waste availability; collection of waste plastic samples

Project activities would involve the use and handling of hazardous materials, including carbon monoxide, hydrogen and compressed gases. Additionally non-pathogenic, genetically modified, micro-organisms (Clostridium autoethanogenum) of Biosafety Level 1 (BSL1) would be required. LanzaTech, Inc. labs conducting work with these microorganisms are rated BSL1. LanzaTech, Inc. and its project partners would observe all applicable environmental, health, and safety laws and regulations. Any risks associated with the handling of these materials would be mitigated through adherence to established health and safety policies and procedures. Protocols would include personnel training on the use of personal protective equipment, engineering controls, monitoring, and internal assessments. All waste products would be disposed of by licensed waste management service providers. No modifications, new permits, or change in the use, mission, or operation of any facility would be required.

Although the location of the Waste Management and Lululemon facilities have not been determined, additional impacts are not anticipated since activities at these locations would be limited to data analysis and gathering of non-hazardous plastic waste for transportation to the InEnTec facility.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Advanced Manufacturing Office
This NEPA determination does not require a tailored NEPA Provision
NEPA review completed by Diana Heyder, 3/4/2021

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: Casey Strickland Date: 3/15/2021
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