

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



RECIPIENT: Alder Fuels

STATE: CO

PROJECT TITLE: Scale-up and Qualification of Net-Zero Sustainable Aviation Fuel from Wet Waste

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-00022003	DE-EE0009258	GFO-0009258-001	G09258

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 Alder Fuels, LLC (Alder) to produce volatile fatty acids (VFAs) through ketonization, and subsequent hydrotreating and distillation to produce sustainable aviation fuel (SAF). The award would culminate with a test flight using blended jet fuel which would include SAF produced by award activities.

This NEPA Determination (ND) does not apply to Budget Period (BP) 4, Task 4.2., which would include a test flight using SAF produced from award activities. However, flight logistics are unknown at this time and are contingent on BP1-3 outcomes, all of which would be evaluated during a Go/No-Go Review with DOE. DOE will complete the NEPA review for BP4 Task 4.2 when sufficient information is available to conduct a meaningful review.

Award activities would involve BioVeritas (Bryan, TX) sending VFAs to the National Renewable Energy Laboratory (NREL) (Golden, CO) to undergo ketonization, resulting in a VFA-derived ketone blendstock. Blendstock would later be transported to Alder (Washington, DC) and RPD Technologies (Crosby, TX) to perform pilot-scale hydrotreatment and distillation to produce VFA-SAF. Washington State University Tri-Cities (Richland, WA) would test VFA-SAF and petroleum jet fuel blends to ensure that blends meet the American Society for Testing and Materials (ASTM) specifications, including volatility, fluidity, combustion, thermal stability, and contaminants. Southwest Research Institute (San Antonio, TX) would also perform fuel measurements.

Additional award activities would include those of an intellectual, academic, and analytical nature. Such activities would support the completion of a life cycle analysis, techno-economic analysis, cost analysis and greenhouse gas emissions analysis.

All facilities are preexisting purpose-built facilities for the type of work to be conducted for this award. Facility modifications would not be required. Award activities would involve the handling and use of hazardous materials, including toxic gases, dry sodium hydroxide, spent catalyst materials, and jet fuel. 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. Existing corporate, government, and university health, safety, and environmental policies and procedures would be followed at all facilities, including personnel training, proper personal protective equipment, engineering controls, monitoring, and internal assessments.

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 conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

Budget Period 1, all
Budget Period 2, all
Budget Period 3, all
Budget Period 4, Task 4.1

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

Budget Period 4, Tasks 4.2

Notes:

Bioenergy Technologies Office (BETO)
NEPA review completed by Alex Colling on 05/31/2023.

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:

 Electronically Signed By: Andrew Montano

NEPA Compliance Officer

Date: 5/31/2023

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: _____