



## Department of Energy

Golden Field Office  
15013 Denver West Parkway  
Golden, Colorado 80401

### FINDING OF NO SIGNIFICANT IMPACT

#### LANZATECH FREEDOM PINES FUELS LLC COMMERCIAL-SCALE SUSTAINABLE AVIATION FUEL; TREUTLEN COUNTY, GEORGIA

DOE/EA-2143

**AGENCY:** U.S. Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE)

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** DOE is proposing to provide federal funding to LanzaTech, Inc. and its subsidiary, LanzaTech Freedom Pines Fuels, LLC (collectively referred to as LanzaTech) in support of the LanzaTech Freedom Pines Biorefinery Project (“Proposed Project”) located in the Town of Soperton, Treutlen County, Georgia.<sup>1</sup> The full scope of the Proposed Project is to design, plan, construct, commission, and operate an integrated alcohol-to-jet (ATJ) facility at LanzaTech’s Freedom Pines biorefinery site capable of producing 10 million gallons of hydrocarbon fuels per year from ethanol. The Proposed Project will use patented processes to convert alcohol to kerosene and diesel; the fuel will be sold to airlines and fuel distributors for blending with conventional jet and diesel fuel. LanzaTech is also seeking financial assistance from the U.S. Department of Agriculture (USDA) under the USDA’s Section 9003 Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program. The USDA is proposing to provide a loan guarantee to LanzaTech for the Proposed Project as defined. The scope of the activities to be funded by DOE is a subset of and fully contained within the scope of the Proposed Project.

In compliance with the National Environmental Policy Act (NEPA), USDA was the lead federal agency with DOE as a cooperating agency in the development of the LanzaTech Freedom Pines Fuels LLC Environmental Assessment (EA), DOE/EA-2143. The EA was completed to evaluate the potential environmental impacts of providing federal funding to the Proposed Project. The analysis provided in the EA supports DOE’s determination that providing federal funding for the Proposed Project will not significantly affect the quality of the human and natural environment. The EA is hereby incorporated into this FONSI by reference.

DOE places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. As set forth in chapter V section 3 of the EA, LanzaTech has committed to incorporating mandatory project design criteria (e.g. applicant committed measures) which are

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<sup>1</sup> Prior to the issuance of this FONSI, DOE authorized LanzaTech to use federal funding for preliminary activities, which include data analysis, modeling, outreach, planning and design, permitting, and EA preparation. These activities are associated with the Proposed Project and do not significantly impact the environment or represent an irreversible or irretrievable commitment by DOE in advance of its completion of the EA and subsequent decision to issue this FONSI.

intended to ensure that the potential for adverse impacts to natural and cultural resources are minimized, if not eliminated. LanzaTech's commitment to obtain and comply with all appropriate federal, state, and local permits required for the Proposed Project and to minimize potential impacts through the implementation of applicant committed measures, mitigation measures, and best management practices, shall be incorporated and enforceable through DOE's financial assistance agreement.

### **Context of Potential Impacts**

DOE must evaluate the significance of an action in several different contexts, such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than globally. Both short- and long-term effects are relevant.

The Proposed Project is located at 535 Commerce Drive, Soperton (Treutlen County), GA, and encompasses 260 acres. Approximately 115 acres has been previously developed as a biorefinery and much of the existing infrastructure will be upgraded and recommissioned. Safety systems, process water, potable water, wastewater treatment facilities, cooling towers and other infrastructure and utilities are already present and operational on the site. Minor new construction of loading and receiving docks and storage tanks will be necessary. The Proposed Project is located with easy access to rail lines and interstate highways. The Proposed Project would not cause any significant adverse effects nationally, regionally, or at the statewide level.

### **Intensity of Potential Impacts**

The following discussion is organized around ten (10) intensity factors, which refer to severity of impact. The intensity of effects considered is in terms of the following:

#### *1) Impacts that may be both beneficial and adverse:*

In the EA, DOE considered and analyzed the beneficial and adverse impacts of the Proposed Project. Construction and operation of the Proposed Project would result in negligible to minor direct and indirect adverse impacts on the environment and would have beneficial impacts on socioeconomic factors in the area. The EA evaluated adverse effects of the Proposed Project separately from beneficial effects, to determine whether such adverse effects would have been significant in their own right, and no such effects were found to be significant. The analysis in the EA did not use beneficial effects to offset the potential significance of any adverse effect. Accordingly, DOE concludes the Proposed Project will not have any significant adverse impacts and that the Proposed Project would have negligible to minor beneficial impacts to the resources evaluated in the EA.

The following best management practices committed to by LanzaTech would further minimize or eliminate the potential for adverse impacts to environmental resources:

- a) Discharge from the facility will be in compliance with an approved Storm Water Pollution Prevention Plan and Georgia Pollutant Discharge Elimination System permit requirements.

- b) In the event of unanticipated discovery of archeological deposits, cultural artifacts or human remains, all work within the vicinity of the discovery will stop immediately and the Georgia State Historic Preservation Officer (SHPO) and the U.S. Department of Agriculture Rural Business-Cooperative Service (RBCS) will be notified.
- c) Prior to construction activity, an exclusion fence will be erected to keep out Gopher Tortoises. If any Gopher Tortoises or Eastern Indigo Snakes are seen in the project area, the U.S. Fish and Wildlife Service will be notified.

*2) The degree to which the proposed action affects public health or safety:*

As presented in the EA, the Proposed Project will not cause any significant effects on public health and safety. There are no adverse effects expected to public health or safety. The project activities will comply with all state and federal regulations.

The Proposed Project would not be a likely target for intentional destructive acts that could further affect public safety.

*3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:*

The EA identified the unique characteristics in the vicinity of the Proposed Project and evaluated the potential impacts of the Proposed Project on natural and cultural resources.

The project site consists of areas considered prime farmland; however, the conversion to industrial use has already occurred when the original biorefinery was built. No new conversion of farmland will occur with the current project. There are no National Landmarks, Monuments, forestlands or ecologically sensitive areas near the project site. The project construction site is not located within a mapped Special Flood Hazard Area (the 100-year floodplain). Hydric soils and wetlands are located on the project site but well outside of the construction zone. There will be no manipulation of wetlands or discharge into wetlands, so a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers is not needed.

Based on the analysis provided in the EA, DOE has concluded that the Proposed Project would not cause any adverse effects on unique characteristics of the geographic area.

*4) The degree to which the effects on the quality of the human environment are likely to be highly controversial:*

The analysis in the EA demonstrates that the effects of the Proposed Project on the natural and human environment would be minimal. During the public comment period, no comments were received, and no factual evidence was presented that questioned the technical and scientific analyses of the EA or supporting documents. Accordingly, the effects of the Proposed Project are not highly controversial.

*5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks:*

The impact analyses in chapter V of the EA show effects of the Proposed Project are not uncertain; they do not involve unique or unknown risks. Actions similar to the Proposed Project have been implemented before at this site. Mitigation measures, applicant committed measures, management requirements, standard practices, and monitoring will ensure effects are within the expected parameters. Accordingly, the effects of the proposed project are not highly uncertain, nor do they involve unique or unknown risks.

Although some elements of the proposed project involve relatively new technology, pilot testing and scientific peer-reviewed research on the technology are sufficient to support the findings and assessment of effects in the EA. The potential impacts to the human environment are fully analyzed and supported by previous projects, studies and publications, as referenced in the EA. There is a low probability of highly uncertain effects or unique or unknown risks resulting from the proposed project.

*6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:*

The implementation of the Proposed Project is not likely to establish a precedent for future actions with significant effects. The Proposed Project does not establish a precedent for future actions or represent a decision in principle about a future consideration. Public commenting for the Proposed Project did not raise any disputes pertaining to the appropriate scope of the Proposed Project, connectedness of other actions, or reasonably foreseeable future actions other than those considered. Accordingly, the Proposed Project would not establish a precedent.

*7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:*

The Proposed Project is expected to have a net positive cumulative impact on the human environment because the plant would produce low carbon fuels that also reduce emissions of air pollutants. The Proposed Project will also create demand for advanced ethanol that will strengthen the U.S. rural economy and provide a market to offset demand reductions for road transport. The proposed action, when evaluated together with other past, present, or reasonably foreseeable land disturbing activities in the area, would not result in other cumulatively significant impacts at the local or regional scale.

DOE evaluated the Proposed Project in the context of other past, present, and reasonably foreseeable actions. When considering other activities within the area affected, the cumulative impacts of the proposed project are anticipated to be minimal. Whether the Proposed Project is related to other actions with individually insignificant but cumulatively significant impacts is discussed in the EA. As supported by that discussion, DOE concludes the cumulative impacts of the Proposed Project would not be significant, and the Proposed Project is not related to other actions, that when combined, would have significant impacts.

*8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources:*

The Proposed Project will have no adverse effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places, and there is no loss of significant scientific, cultural, or historical resources.

An archeological survey was performed when the original facility was constructed. Although the survey indicated the presence of archeological sites, they were deemed ineligible for listing in the National Register of Historic Places. No significant new ground disturbance is planned as part of the current project.

The Georgia SHPO concurred with the finding that the Proposed Project will have no adverse effect on historic property.

Tribes with an historic interest in Treutlen County were notified of the Proposed Project. No Tribes expressed concern with the undertaking.

No significant impact is expected; however, if prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials or any other physical remains that could be associated with native American, early European, or American settlements are encountered at any time within the project area, the Proposed Project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the SHPO and interested Tribes immediately and project activities shall not resume without verbal and/or written authorization from the SHPO and Tribes. In the event that human remains are encountered during construction, all work shall stop immediately, and the proper authorities notified in accordance with Georgia statutes.

Accordingly, DOE concludes the Proposed Project will have no adverse effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places.

*9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (ESA) of 1973:*

Based on analysis provided in the EA and consultation with the U.S. Fish and Wildlife Service (USFWS), DOE has concluded that the Proposed Project will not adversely affect any endangered or threatened species or any critical habitat.

Although two federally-listed species are potentially present within the action area of the Proposed Project (the Gopher Tortoise and the Eastern Indigo Snake), no individuals were seen during surveys. Gopher tortoise burrows were found by the riparian areas but appeared to be uninhabited and are also outside of the action area. Therefore, the Proposed Project may affect but is not likely to adversely affect any federally-protected species. The US Fish and Wildlife Service has concurred with this finding. To avoid potential impacts to protected species, exclusion fencing will be installed around construction zones.

*10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the human environment:*

The Proposed Project does not violate any federal, state, or local law or requirement imposed for the protection of the environment. LanzaTech will implement Best Management Practices (BMPs) to avoid or mitigate any potential effects concerning sensitive environmental and cultural resources. The Proposed Project and BMPs are consistent with applicable federal, state, and local laws and requirements for the protection of the environment and with agency policy and direction.

**Conclusion:**

Based on the EA and the above considerations, DOE finds that the proposed action is not a major action that constitutes a significant effect on the human environment. This finding and decision is based on the consideration of DOE's NEPA implementing regulations (10 CFR Part 1021) and the Council on Environmental Quality's (CEQ) National Environmental Policy Act Implementing Regulations (40 CFR 1500 to 1508; note that the NEPA process for the Proposed Project began prior to the effective date of certain revisions to Title 40 of the Code of Federal Regulations), both with regard to the context and the intensity of impacts analyzed in the EA. Accordingly, the proposed action does not require the preparation of an environmental impact statement.

For questions about this FONSI or the Final EA, please contact:

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