

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** University of Florida**STATE:** FL

PROJECT TITLE: Evaluation of Energycane for Bioenergy and Sustainable Agricultural Systems (EC-BioSALTS)

| | | | |
|--|--------------------------------------|----------------------------|-------------------|
| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
| DE-FOA-0002203 | DE-EE0009281 | GFO-0009281-001 | G09281 |

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 federal funding to University of Florida (UF) to investigate the use of energycane for biomass production and ecosystem services. Methods would be developed for optimizing crop growth in the U.S. Southeast Coastal Plains.

Proposed project activities would consist of crop production and data collection/analysis. Initially, the project would focus on the production of billets (used to seed the energycane), site characterization, and study development. Subsequently, the land to be used at the field testing sites would be prepared for crop production. This would include planting, weed control, and fertilization. Once planted, the energycane would be managed and harvested over the course of three growing seasons. During that time, crop management practices would be developed, production and environmental data would be collected and analyzed, and a machine learning model would be developed to predict targeted agronomic metrics. Environmental data collection and analysis would include biomass composition analysis, soil and water analysis, and soil arthropod analysis. Analysis would be performed both on-site at field testing locations and at dedicated laboratory testing facilities (discussed further below).

UF would oversee and coordinate all project activities. Crop production and associated agricultural testing would be performed at two purpose built agricultural research centers operated by UF in Belle Glade and Fort Pierce, Florida. Soil arthropod samples would also be collected at these locations and analyzed visually on-site to assess biodiversity. At the research center in Belle Glade, approximately six acres would be utilized to plant, manage, and monitor energycane, sugarcane and sweet corn. At the research center in Fort Pierce, approximately two acres would be utilized to plant, manage, and monitor energycane. Soil cultivation would occur once at each site location, as the crops to be planted are all perennial and would recur in subsequent growing seasons. Soil disturbance would occur at an approximate depth of 15-20 cm. At both locations, existing heavy machinery, including tractors and sugarcane

harvesters, would be used for harvesting. Approximately 24 – 28 Mg of dry biomass would be produced annually from the crops harvested at each field location. Biomass would not be used for fuel production as part of this project

Laboratory analysis of collected samples would be performed at two purpose-built laboratory facilities. Analysis of soil and water samples would be performed by UF at its laboratory testing facilities in Gainesville, FL. Biomass samples would be sent to Texas A&M for analysis at its AgriLife Research Center in Weslaco, TX. Throughout the project, project partner Argonne National Laboratory (ANL) would also provide assistance in the valuation of ecosystem services. Work performed by ANL would be limited to computer modeling and analysis.

UF's research centers regularly perform field work that includes crop planting, monitoring, harvesting, and biomass processing. Ground disturbance would be limited to areas in which agricultural activities are routinely performed. No facility modifications or changes to the use, mission, or operation of existing facilities would be required as part of the project. No additional permits or authorizations would be required.

The U.S. Fish and Wildlife Service's Information for Planning and Consultation database indicates that there are various Endangered Species Act (ESA) listed species that have the potential to occur in the vicinity of the two project sites. The research center at Belle Glade is also located near a protected wetland area. However, because all project work and ground disturbance activities would occur solely on agricultural land that is actively used for crop production and no land conversion would occur, DOE has determined that there would be no impact to ESA listed species or critical habitats.

Project work would include the use and handling of heavy machinery and various fertilizers, herbicides, insecticides, and fungicides. In order to mitigate potential risks associated with the handling of these substances, established health and safety policies and procedures would be adhered to. All personnel would utilize applicable personal protective equipment (PPE) when performing project work. Chemical mixing and disposal would be performed in accordance with established industry norms. UF and its project partners would observe all applicable Federal, state, and local health, safety, and environmental regulations.

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

This NEPA determination does not require a tailored NEPA provision.

Review completed by Jonathan Hartman, 12/15/2020

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: **Roak Parker**
NEPA Compliance Officer

Date: 12/15/2020

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: _____