

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



RECIPIENT: GTI Energy

STATE: IL

PROJECT TITLE: Efficient, High-Temperature Radiative Exchanger with Secondary Emitters

Notice of Funding Opportunity Number
DE-FOA-0003206

Procurement Instrument Number
DE-EE0011613

NEPA Control Number
GFO-0011613-001

CID Number
GO11613

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:

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 federal funding to GTI Energy (GTI) to extend the operating temperature range of secondary emitters (RESE) heat exchangers for use in high-temperature industrial processes.

The proposed award activities would include data analysis, design, testing, techno-economic analysis (TEA), and laboratory research. Laboratory activities would include coupon testing of candidate materials under different conditions, component fabrication, RESE system fabrication and integration, and RESE system testing. GTI (Des Plaines, IL) would set up the test rig for testing heat exchangers in simulated industrial flue gas. PRE-Heat, Inc. (Oosburg, WI) would provide heat exchanger design support. Bloom Engineering (Pittsburgh, PA), Carpenter (Philadelphia, PA), and Owens-Illinois (Perrysburg, OH) would carry out modeling, equipment design, and provide expertise.

All project activities would be completed in existing, purpose-built facilities. These facilities already carry out similar development, testing, and prototyping activities. Minimal modifications would be carried out, including the addition of additional piping, safe storage space for gases, and additional exhaust ducts. All activities would be carried out at the laboratory scale.

Potential hazards would include the use and handling of potentially hazardous materials, including natural gas and hot flue gas. All award activities would occur in-lab, in dedicated well-ventilated laboratory spaces. Existing corporate health and safety policies and procedures would be followed, including employee training, proper protective equipment, monitoring, and internal assessments. All hazards would be managed in accordance with federal, state, and local environmental regulations. All test systems would be reviewed for hazard analysis, job safety analysis, and appropriate standard operating procedures.

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders.

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:

Industrial Efficiency and Decarbonization Office (IEDO)
NEPA review completed by Alex Colling on 05/28/2026.

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025). To fit within the classes of actions listed in Appendix B to 10CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.

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.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Kristin Kerwin
NEPA Compliance Officer

Date: 6/1/2026

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: _____