

PMC-EF2a

**U.S. DEPARTMENT OF ENERGY  
EERE PROJECT MANAGEMENT CENTER  
NEPA DETERMINATION**



(2010)

**RECIPIENT:** Ohio Department of Development**STATE:** OH**PROJECT TITLE :** SEP ARRA - Zanesville Energy LLC

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000052	EE0000165	GFO-0000165-029	GOO

**Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:**

**CX, EA, EIS APPENDIX AND NUMBER:**

## Description:

**B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

## Rational for determination:

Proposed Project – The Ohio Department of Development would allocate \$1,000,000 in SEP ARRA funding to Zanesville Energy, LLC for purchase and installation of an anaerobic digester at 6400 Maysville Pike, Zanesville, Ohio 43701. The proposed project would involve installation of the following components within a 4.5 acre footprint:

- Digester tank
- Feedstock hammer mill
- Feedstock mixer
- Feedstock storage tank
- Mixture hopper for piston pump
- Piston pump
- Screw conveyor unloader for the digester
- Heat exchanger

The proposed project would use 84.1 wet tons/day (30,683 wet tons/year) of yard waste and liquid effluent to operate a solid state digester at the same site as an existing liquid state digester. Biogas generated from the anaerobic digester would be integrated into the existing digester's biogas line and the combination would drive either one large generator or 2 smaller ones (to be determined). A new transformer may be required for the additional energy output from the facility. If a transformer is required, approximately 250 feet of trenching would be necessary. The recipient would work with AEP to perform a feasibility and impact study and get the additional approval required for interconnection to the local distribution grid. Existing overhead cables from the street to the underground cables are considered adequate to manage the increased load and no changes would be required.

**New Facilities and Infrastructure** – This solid-state anaerobic digestion facility would be located next to an existing liquid anaerobic digester owned and operated by Zanesville Energy, LLC. Adjacent activities include agricultural fields, reclaimed, vacant strip mines, a closed cement factory, and isolated residences. The Zanesville system would disturb approximately 1.5 acres to install a solid-state anaerobic digestion facility. The facility would consist of 2 tanks that are 70' height x 20' diameter. One tank would serve as the digester and the other would be for solid feedstock storage. Additional components would include a feedstock hammer mill (20' length x 8' width), a feedstock mixer (20' diameter x 15' height), a mixture hopper for piston pump (10' diameter x 6' height), a piston pump (10' length x 6' width), a screw conveyor unloader for the digester (15' length x 3' width), and a heat exchanger to heat the effluent from the LAD plant (15' length x 4' width). In addition to the system, there would be a 1 acre, hard based feedstock storage pad and a 2 acre concrete compost pad with leachate collection and recycling. The current state of the site where the pads would be located is partially cleared of trees and brush. Building plans have been approved by the Mid-East Ohio Building Department and required permits would be obtained.



Storm Water – The site is currently permitted for storm water under the existing Ohio EPA Construction General Permit (OHC000003). A letter from Scott Nally, the Director of the Ohio EPA, dated 5.31.2011, confirmed that the "site/facility is approved for coverage under the existing Construction General Permit."

Visual – Adverse visual effects are not expected from the installation of the digester as there is an existing digester of a larger scale at the site.

Noise – Noise attenuation from the generator would be handled by a container. Noise levels at two meters are estimated at 68db. The nearest residence is 1,250ft away from the proposed digester.

Traffic – Expected truck traffic would be 4 to 5 truckloads per day during the summer and fall seasons, and 1 to 2 truckloads per day during the winter and spring seasons. Compost shipped from the facility would be 2 to 3 truckloads per day. The majority of the compost would be shipped within a 100 mile radius of the plant.

Air Quality – The recipient is in the process of obtaining an Ohio EPA Permit to Install and Operate. This permitting process will assess potential impacts from all sources of emissions resulting from the proposed anaerobic digestion facility including storage of feedstock and electricity generation. The proposed project is expected to improve air quality. Currently, all waste is either incinerated or sent to landfills for disposal. The proposed anaerobic digestion facility would have a beneficial impact on air quality because all the gas from the digestions process would be captured. Under the current system, all emissions go directly into the atmosphere. "US EPA recognizes in its waste management hierarchy that technologies for recovering energy from waste are preferable to simply incinerating waste or disposing of waste in landfills. This is due to the benefits associated with waste-to-energy technologies. Chief among these benefits are lower pollution emissions, creation of alternatives to fossil fuels, and reduced reliance on landfills" (2009 State Solid Waste Management Plan, Ohio EPA DSIWM, Pg.16). There will be a net decrease in odor as the incoming biomass would be placed into the in-ground receiving tank which is enclosed, and the displaced air when material is being received would be sent to a bio-filter. The anaerobic digestion process would break down the volatile organic solids in the biomass that are responsible for the offensive off-gassing of hydrogen sulphide in the air at landfills where waste is currently disposed.

Biological Resources – The Ohio Department of Natural Resources and the US Fish and Wildlife have been consulted. DOE has determined that the proposed project would not result in adverse effects to threatened and endangered species (Documentation attached).

Cultural Resources – The Ohio State Historic Preservation Officer has reviewed a detailed application and agrees that historic and/or archeological buildings and/or assets such as Native American protected lands (burial grounds) are not present; therefore, DOE has determined that the proposed project would not result in adverse effects to cultural resources (Documentation attached).

In view of the information provided by the State and the recipient, DOE has determined that the impacts related to the proposed project are anticipated to have negligible effects on the human and natural environment. The proposed project is consistent with actions outlined in CX B5.1 (actions to conserve energy) and is, therefore, categorically excluded from further NEPA review.

#### NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Cristina Tyler 6.7.2011

#### SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: \_\_\_\_\_

NEPA Compliance Officer

Date: \_\_\_\_\_

#### FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required