

ERS Peer Review Plan

Preliminary Title: The role of carbon payments in anaerobic digester profitability on U.S. swine farms

Type of Report (ERR, EIB, EB) ERR

Influential Scientific Information

Agency: Economic Research Service Highly Influential Scientific Assessment
USDA

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Subject of Review: The United States produces less biogas from animal manure than Europe and China. Using anaerobic digesters (AD) to produce biogas is a strategy to reduce greenhouse gas (GHG) emissions and contribute to renewable energy production, either in the form of electricity or renewable natural gas (RNG). Current rates of return to investment and lower, uncertain energy prices are insufficient to trigger large scale adoption of ADs. However, payments to livestock producers to reduce GHG emissions could increase the number of ADs.

Opportunities for payments to producers are increasing given interest in GHG reductions and the naissance of agricultural carbon markets. In this report, we quantify the financial returns from constructing ADs on swine farms given carbon payments are made under a variety of situations related to, (i) Farm characteristics: Swine inventory, current manure management system, type of swine (i.e., market versus breeding), and location affect the potential GHG reduction and biogas production; (ii) Biogas use: State-specific energy prices and biogas end-use (e.g., RNG, electricity) 16 determine the profitability of an AD in addition to carbon payments.

Purpose of Review: The purpose of the review is to ensure the high-quality of the economic analysis, transparent explanation of methods, objective interpretation of results, and effective communication to the intended audience.

Type of Review: Panel Review Individual Reviewers

Alternative Process (Briefly Explain):

Timing of Review (Est.): Start: 3/22/2024 Completed: 2/21/2025

Number of Reviewers: 3 or fewer 4 to 10 More than 10

Primary Disciplines/Types of Expertise Needed for Review: Economists

Reviewers selected by: Agency Designated Outside Organization

Opportunities for Public Comment? Yes No

