

This research project examines the process by which the Central Vermont Public Service (CVPS) Corp promotes the installation and operation of farm scale biogas digesters (CVPS CowPower Program) and the economic implications for the participating farmers. On-farm electrical generation utilizing biogas derived from animal manure produces electricity with a net negative carbon output (Poeschel et al. 2010) and reduces the effect of farm odors on nearby communities (EPA. 2010). Implementation of biogas operations requires significant initial investment on the part of farmers, many of whom do not have access to the necessary capital. This research determines the financial support necessary from electricity customers, government agencies and private grants to support and promote on-farm biogas generated electricity. Data was compiled from dairy farm financial balance sheets collected by UVM extension personnel during in person interviews and from CVPS databases. The initial capital investment, operating expenses and operating revenue of biogas electricity operations are used to create a cash flow analysis based on varying levels of consumer support. The research shows that variations in electricity rates of \$0.02 per kilowatt hour can have significant impacts on the economic viability of participating farms. Support from electricity customers, government agencies and state legislatures have all been crucial to the success of the CVPS CowPower program and the ongoing generation of biogas powered electricity in Vermont.