Economic Viability of Anaerobic Methane Digesters in Vermont

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There are currently fourteen operating methane digesters in Vermont, all of which have received some form of public funds, and some of which are receiving a voluntary consumer premium for the electricity the farmer provides to the grid. Previous studies have pointed to the importance of public funds, such as grants, in determining the economic viability of these systems. The technology, although proven to produce electricity, is not proven to have economic viability over the long-term, especially for smaller farms like the average sized dairy operations in Vermont of 130 head. This study is conducted in two parts to examine both the consumer willingness to pay for electricity generated by AD technology, and to determine the economic viability of AD systems across three different herd sizes typical in Vermont. A representative survey of Vermont residents found consumers are less WTP for energy generated from manure as compared to solar and wind, making future premium payment support for AD technology tenuous for farmers employing the technology. An analysis of eight operating AD systems in Vermont found larger systems (>1800 head) and medium systems (4-500 head) to have a positive cash flow after ten years in operation at the funding status quo. Small systems (<200 head) however were not found to have positive cash flow after ten years even when the consumer premium is doubled, and therefore appear to require continued public support.