

## Introduction

The Agency of Agriculture, Food and Markets (Agency) thanks the Energy Generation Siting Policy Commission (Commission) for thoroughly investigating Vermont’s electric generation siting process, and especially for engaging the broad array of individuals and entities that have offered such a rich variety of information. We applaud the Governor’s initiative to create this Commission, and the support that several state agencies are providing.

## Concerns and recommendations

As an Agency, in energy-related projects, we strive to be flexible while enforcing our regulations, and to coordinate with other agencies, especially with the Public Service Department (PSD) and with the Agency of Natural Resources (ANR).

Following this section, which consists mainly of recommendations, we provide a separate section “Context and Opportunity,” that elaborates on key issues to inform your deliberations with regard to the intersection of energy, land-use, and farming.

## Statewide regulation in a quasi-judicial process

The Agency recommends that energy-generation siting remain regulated through a statewide, consistent, adjudicated, evidence-based process. We value the opportunity for public comment in such a process, and are glad that the Board’s rules allow individuals and entities, without great difficulty or expense, to become formal parties. We value the adjudicatory process because testimony and especially the opportunity for rebuttal and surrebuttal, tends to ferret out the truth, and because the decision is required to be based on evidence. VAAFm recommends it become a statutory party to all energy and telecommunication applications to the PSB where there will be more than *de minimis* impact on prime agricultural soils, soils of statewide significance or take place on a farm as defined by the AAPs.

## Eliminate overlapping regulation of manure digesters in CPG process

The Board currently includes the manure-handling equipment, including pumping, storage, and the manure digester itself, as part of an electricity generating facility. Consequently, farms are forced to request an amendment to their CPG for any changes in manure handling, storage, or even the size of the building that protects the bedding they create for their animals. All of these things are already regulated by ANR and the Agency of Agriculture.

The Agency of Agriculture, Food and Markets, and ANR, regulate manure-management systems, whether or not there is an electric generator. For example, Vermont has two manure digesters that operate solely as manure management systems that also provide biogas-fired heating. We support the idea that the Board should define the “facility” as only the equipment used to generate electricity and connect to the electricity distribution system. Our Agency is drafting a recommendation to this effect, with ANR and the Public Service Department. Our recommendation includes specific, well-established standards that the Board would delineate within the CPG, essentially delegating the responsibility in § 248 (b) (5) of no “...undue adverse effect...” to the relevant state agencies.

We ask that the Siting Commission recommend the Board use this framework when the next manure digester project comes before the Board. Prior to the next petition, the Board could

convene a workshop and/or meeting(s) with the Public Service Department, AAFM, and ANR, in order to understand or better clarify the framework. The Agency of Agriculture, Food and Markets sees this work as clearly within item 1 of the Charge section of the Executive Order: “The report shall provide recommendations regarding modifications or improvements that the Commission believes should be made in Vermont, through legislation, Public Service Board rule, or otherwise...” and “...procedures (including ...substantive criteria and standards applied...)”

### **Conserved land and protection of soils**

VAAFAM believes renewable energy projects can be installed on conserved agricultural land when: 1) the installation does not permanently commit a piece of prime agricultural soil or soils of statewide significance to the energy use either by virtue of costs of reversal or destruction of soil quality. 2) the installation does not severely threaten or eliminate the underlying farm’s long term economic and agronomic viability as a farm. The Agency is working closely with the holders and co-holders of conservation easements, and has been able to assert that soils will be protected, with several cases of solar electric systems. Our Agency is routinely reviewing soil types as energy projects are proposed in the CPG process to assure high value prime soils and soils of state wide significance are not permanently lost or destroyed.

### **Aesthetics**

Aesthetics matter, and yet the conditions that could be placed, who makes that judgment, and the basis for any such judgment, are unclear or yet to be determined. Insofar as the Public Service Board is to consider aesthetics, we recommend that the area already have been evaluated in advance, to provide project developers a roadmap. The evaluation can be statewide, regional, or on a town-by-town basis.

### **On Farm Energy and Local Food**

On farm energy projects may enhance the economic viability of farms and thereby increase the production of local energy and food resources for the benefit of local communities and economies. In this way the utilization of renewable on farm energy may enhance the productivity of a farm.

### **The Section 248 process**

We support the idea of requiring the Board to act within certain time limit for on farm energy projects, in the same way the Board is required to do in telecommunications cases.

As mentioned earlier, we recommend that the Agency be automatically granted party status for any project proposed for a farm, any project that is on prime agricultural soils, or on soils of statewide significance.

The Agency has extensive experience with the regulation of farms that include manure digesters. The Agency would like to see some sort of umbrella permitting for manure digesters and possibly other types of on farm energy projects. The Commission received very specific public comment on this issue from the Green Mountain Power Renewable Development Fund Executive Committee (available as the first document in batch six of the public comments.<sup>1</sup> Furthermore, right now the Agency is drafting, with our colleagues in ANR and PSD, recommendations to the Board for more consistent and sensible regulation of manure-digester

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<sup>1</sup> Accessed via [http://sitingcommission.vermont.gov/public\\_involvement](http://sitingcommission.vermont.gov/public_involvement)

projects, for the sake of efficiency and to ensure that our existing regulations remain strong and effective.

## Wind power

The Agency requests that farm-scale wind be distinguished from the ongoing discussions around ridge line utility scale wind projects. Farm-scale wind, by contrast, is most likely a form of distributed generation, connected to the local electrical distribution system, rather than the transmission system.

Insofar as statewide standards for permission to site a wind power installation are contemplated, we strongly recommend that the Commission base any recommendation(s) in this area on the exhaustive and recent work by the National Regulatory Research Institute (which serves state utility regulators, through and with the National Association of Regulatory Utility Commissioners), “Wind Energy & Wind Park Siting and Zoning Best Practices and Guidance for States,”<sup>2</sup> which was summarized at the 19 December, 2012 meeting of the Commission.<sup>3</sup>

## Interconnection costs and standards

The Agency recommends the Public Service Department review the variety of ways that manure-digester projects have been allowed to connect to the utility distribution system and evaluate the requirements that utilities are placing on these projects, especially as they relate to existing national standards. Given the public benefits that manure management through anaerobic digestion provides as well as the real and potential for other agricultural and on farm energy projects, we recommend the Siting Commission consider spreading the costs of electrical integration among the rate payer base while still adhering to the national standards. We believe the multiple public benefits of on farm energy generation, especially associated with manure digesters warrants this consideration.

## Context and opportunity

The Agency appreciates the Commission’s acknowledgement that agriculture is part of Vermont’s energy future especially relating to electrical power generation but also including other forms of agricultural and on farm energy. For many years the Agency has promoted farm-scale energy projects as a way to improve farm viability and thereby protect and preserve Vermont’s rural, working landscape. For example, on approximately 19 Vermont dairy farms manure digesters treat raw manure to provide dilute fertilizer, peat-moss-like bedding for cows, and electricity. The United States Environmental Protection Agency estimates that digesting manure and capturing the gas to generate electricity means that over 1,000 pounds of greenhouse gas per cow per year is not emitted (CO<sub>2</sub> equivalent).<sup>4</sup>

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<sup>2</sup> Accessed as <http://www.nrri.org/documents/317330/18b517ca-d2c3-4edc-adb4-b7f9ff8d88b2> on January 25, 2013; via [http://www.nrri.org/web/guest/research-papers/-/document\\_library\\_display/3stN/view/0/6710](http://www.nrri.org/web/guest/research-papers/-/document_library_display/3stN/view/0/6710)

<sup>3</sup> The summary by the author is on the Commission’s web site at [http://sitingcommission.vermont.gov/sites/cep/files/Siting\\_Commission/Publications/Meeting121912/NRRI\\_Stanton\\_121912.pdf](http://sitingcommission.vermont.gov/sites/cep/files/Siting_Commission/Publications/Meeting121912/NRRI_Stanton_121912.pdf)

<sup>4</sup> EPA AgSTAR project spreadsheet for Vermont projects, dividing metric tons CO<sub>2</sub> equivalent per year by the number of animals yields 1.28 metric tons per animal per year. [http://epa.gov/agstar/downloads/digesters\\_all.xls](http://epa.gov/agstar/downloads/digesters_all.xls) (Accessed January 25, 2013)

Farms also host an array of solar arrays and wind turbines and have the potential to significantly grow these resources in the future. Solar arrays have strong potential applications not only on the ground but on agriculture building roofs. The potential for farm-scale wind systems has improved recently, due to recent industry-wide standards and certification, and because the worldwide build-out into less windy areas has caused manufacturers to develop and manufacture turbines suited for Vermont's moderate winds.

As Vermont looks ahead the Agency continues to see opportunities in farm-sector energy, including biofuels generated from harvesting grass and processing oil crops into biodiesel and other biofuel liquids. These resources can offset on-farm fuel needs and can heat greenhouses or other farm buildings. With some extra investment, farms could install combustion systems that generate electricity and use the waste heat for greenhouses, with the main goal being the heat.

In all our efforts, we act to support farm viability by adding value to farm products and operations through energy generation. This diversification of the farm operation also provides diversification in Vermont's energy supply, and with it, system resilience. And generating energy locally, using local fuel -- sun, wind, grass, or manure -- lessens the economic leakage.

In short, farms can provide real public good by producing energy on farms.

## Questions

As an Agency, we continue to grapple with some big questions relating to agricultural energy and are working collaboratively to get answers. Below we raise a number of questions to the Commission in an effort to acknowledge the trade-offs inherent in evaluating and establishing policy for agricultural energy. A few critical questions are:

- What is a farm -- when do farm-related activities or activities that evolved from a farm operation become something other than a farm? Currently we use a threshold of 51 percent to determine when an operation is a farm, but is this the appropriate standard for all agricultural energy questions? For example, does a manure digester utilizing more than 51% of its inputs from off the farm meet the definition of a farm?
- Are costs and incentives for farm energy well-balanced? Manure digesters that provide electricity get a special rate, some of which comes from voluntary contributions by electricity customers, while providing baseload electricity and reducing greenhouse-gas emissions. We continue to investigate the actual costs of electricity from manure digesters in order to understand the most appropriate level for a standard offer. These are questions we pursue through several grants the Agency provides to UVM researchers.
- How is a farm's aesthetic value accounted for? It is clear to the Agency that aesthetics is a critical issue for many forms of on-farm energy and one of the important issues the Siting Commission must address.

A couple of other critical questions have emerged in our analysis of agricultural energy opportunities which relate to utilization of quality agricultural soils for energy projects and under what circumstances should agriculture energy projects be able to enjoy some of the exemptions afforded agriculture under existing laws.

- For example, when do the foundations for wind and solar projects constitute a permanent commitment when installed on prime agricultural soils and thereby require mitigation?
- If agricultural energy projects are considered part of a farm should they enjoy all the exemptions provided by the AAPs under the definition farming?

The future of on farm and agriculturally based energy is evolving as we speak nationally and in Vermont. In order to appropriately harness the future potential of agricultural energy will require persistent diligence in evaluating the opportunities and impacts of agricultural energy as it evolves. The VAAFEM will continue to partner with the relevant governmental, not for profit and private stakeholders to continuously evaluate and support when and where its deemed appropriate the utilization of agricultural energy opportunities.