Board Decision
Farm Power Misty Meadows Agriculture Biogas Plant Project

May 23, 2012

Summary

Authorize funding of up to $1 million paid over four years to offset the above-market cost of a 750 kilowatt (KW) facility fueled by methane, constructed, owned and operated by Farm Power Misty Meadows, LLC (FPMM) at Misty Meadows dairy.

Energy Trust Goals

- The FPMM project supports Goal 2 of the 2010-2014 Strategic Plan: to accelerate the rate at which renewable energy resources are acquired, helping to achieve Oregon's 2025 goal of meeting at least eight percent of retail electrical load.
- This project supports the Biomass program goal of investing in third-party owned biogas plants in the agriculture sector.
- At 750 kW, the FPMM project would increase the Biomass program portfolio capacity by 8%. Currently, Energy Trust has 5.09 MW of Biomass projects in operation. Another 4.25 MW have been approved by the board and are in various stages of construction.

Background

- Farm Power Misty Meadows proposes to build, own and operate a dairy biogas plant at a dairy in Tillamook County. The project will generate electricity utilizing methane produced from anaerobic digestion of dairy manure. The project will have a capacity of 750 kW, and is expected to generate 5,400 MWh annually.
- FPMM presently operates three dairy biogas plants, two in Washington and one in Oregon. A fourth project is under construction in Washington.
- The proposed project will mirror the operating projects. FPMM will use the same process design (GHD manufactured in Wisconsin), the same development team, and the same construction team.
- FPMM will use a third-party ownership business model that has become a standard approach to agriculture biogas project development in the Northwest. FPMM will own and operate the biogas plant, secure a long-term site lease and feedstock contract with the dairy, and share with the dairy a percentage of the energy sales and fiber produced (the dairy uses the fiber as bedding). FPMM will sell any excess fiber as compost or dairy bedding to surrounding dairies.
- The biogas facility will include an anaerobic digester, a methane storage facility, a generator that utilizes methane produced from anaerobic digestion of manure, and interconnection infrastructure to sell the electricity as a QF to Pacific Power.

- The project will interconnect with Tillamook PUD at the Misty Meadows site, Tillamook PUD will wheel the power to BPA's substation, and BPA has agreed to allow FPMM to deliver power to Pacific Power.
- The RAC has reviewed and supports this project.

Financial Analysis

- Energy Trust determines project incentives based on a project's above-market cost, i.e., the difference between the cost to produce the power from the project over its life and the market value of the equivalent grid power at standard rates.
- The analysis includes tax credits and other benefits available to the project. Above-market costs are calculated as a net present value, which is the sum of the discounted value of the installation costs and the annual operating expenses of the project over its lifetime.

Project Financial Summary - NPV Basis

Size (MW)	0.75
Annual Output (mwh)	5400
Evaluated Resource Life (years)	15

Revenues

Power Sales	$ 3,138,803
Additional Revenue	$ 1,641,548
State BETC Pass-through	$ 871,818
ITC Grant	$ 1,280,858
Total Revenue	$ 6,933,027

Costs

Capitalized Cost	$ 4,699,488
Operations Expense	$ 1,054,842
Maintenance Expense	$ 1,215,059
Other Expense	$ 1,109,914
Taxes	$ 97,608
Total Project Cost	$ 8,176,911
Gross Above Market Cost (Total Revenue - Total Project Cost)	$ (1,243,884)
Tax Benefits	$ 440,679
Net Above Market Cost	$ (803,205)
Above Market Cost After Tax Adjustment	**$ (1,302,974)**

- The “tax adjustment” that increases above-market cost from $803,205 net to $1,302,974 compensates for the taxability of Energy Trust’s incentive. Staff and an independent contractor reviewed the project design and costs and found them to be standard and reasonable for projects of similar size, type and design.
- The total life cycle cost of the project is $8,176,911.
- The project’s above-market, net-present value is $1,302,974 over 15 years, including installation and operating costs, and assuming the project qualifies for state and federal tax benefits (including a BETC) and the Biomass Producer Collector Tax Credit.
- Staff proposes to pay $1,000,000 to be disbursed over 4 years. The net-present value of this 4-year payment is $792,466, or 61% of above-market costs for the project.
- Disbursements would be in equal amounts: the first payment would be made on project commissioning; the next 3 will be paid based on project performance.
- At a total payment of $1,000,000, the project’s energy would cost Energy Trust about $1.62 million per average megawatt (aMW). On a net present value basis, the cost to Energy Trust is $1.29 million/aMW.
- At $1.29 million/aMW, the incentive cost of this project proposal is lower than the RES Phase 2 project funding authorization ($1.9 million/aMW). It is higher than other funded projects including Stahlbush Island Farms ($600,000/aMW) or the City of Medford ($960,000/aMW).
- The project will benefit from other revenue streams associated with carbon offsets and the sale of fiber as bedding dairy animals. These revenues were included in evaluating the above-market cost of the project.
- Energy Trust will receive 65% of the Renewable Energy Certificates (environmental attributes of renewable energy) produced annually by the project, which can be used to meet renewable portfolio standards of Pacific Power.
- Funds for the project are within the 2012 Biomass program budget.

Recommendation

Approve up to $1,000,000 in funding for the Farm Power Misty Meadows project, by adopting resolution #628, below.

RESOLUTION 628

APPROVING FUNDS FOR THE FARM POWER MISTY MEADOWS, LLC GENERATION PROJECT

WHEREAS:

1. **Farm Power Misty Meadows now seeks funding to develop one megawatt of generation capacity at two sites. The facilities would be fueled by methane from anaerobic digestion of manure.**
2. **For this project, Farm Power Misty Meadows proposes to use the same process design, development and construction teams, and business model.**
3. **Staff and an independent contractor reviewed the project design and costs and found them to be standard and reasonable for projects of similar type and design.**
4. **The project would seek Qualifying Facility treatment for sale of its energy to Pacific Power.**
5. **Staff proposes up to $1 million in incentives. At the proposed payment, the project's energy would cost Energy Trust about $1.29 million per average megawatt (aMW), compared to Stahlbush Island Farms ($600,000/aMW), the City of Medford ($960,000/aMW), and the City of Pendleton ($2.6 million/aMW).**
6. **Energy Trust would take at least 65% of the project's renewable energy certificates, which Pacific Power can use to meet its renewable energy portfolio requirements.**
7. **Energy Trust's Biomass Program portfolio is currently 5.09 MW, with 4.25 MW preparing for construction. At 750 KW, the Farm Power Misty Meadows project would be a significant increase.**

It is therefore RESOLVED, that the board of directors of Energy Trust of Oregon, Inc. authorizes:

1. **Payment of up to $1 million into escrow to be paid to Farm Power Misty Meadows over time to offset the above-market costs of the project;**
2. **Energy Trust will take ownership of at least 65% of the Renewable Energy Certificates produced annually; and**
3. **The executive director to enter into contracts consistent with this resolution.**

Moved by: Seconded by:

Vote: In favor: Abstained:

Opposed: [list name(s) and, if requested, reason for "no" vote]