Board Decision
Authorizing Funds for the Stahlbush Island Farms Biopower Project

September 3, 2008

Summary

Authorize funding of up to $827,000 to offset the above-market cost of a 1.6 MW cogeneration facility fueled by agricultural residues. Payment would be made upon commissioning and commercial operation. Board approval is required for any contract over $500,000.

Background

- Stahlbush Island Farms is a family-owned operation that processes over 30 fruit and vegetable crops on 4000 acres near Corvallis. It employs 150 people full time. One third of its acreage is USDA-certified organic and 100% of its acreage is Certified Sustainable.

- The farm generates approximately 52,000 tons of residuals from processing crops every year. Currently, the residuals are sold, applied to land or disposed in landfills.

- In June 2007, Energy Trust and Stahlbush co-funded a study that identified a way to use anaerobic digester technology to use residuals for energy or other purposes. A funding application was submitted to Energy Trust in April 2008.

- The proposed facility would:
    - Use a hydraulically mixed anaerobic digester to create methane. The digester would come from an Austrian company that has been designing and constructing anaerobic digesters for the European market since 1981.
    - Use a generator manufactured by Caterpillar with a name-plate, maximum capacity of 1.6 MW, expected to generate 1.3 aMW annually. AAT-Biogas, a design and engineering firm, would guarantee the project's energy production.
    - Be a Qualifying Facility, with output sold to PacifiCorp under standard rates and terms approved by the Oregon Public Utilities Commission;
    - Generate enough waste heat to meet the digester's thermal load and offset the farm's natural gas for process drying.
    - Apply effluent from the digester to land to expand the farm's organic acreage.

- Based on the resource mix at the margin, which is primarily gas fired electric generation, the project would offset about 4,327 tons of CO2 per year, the equivalent of planting 14 acres of trees.

- The project is expected to be operating by the end of 2008.

Discussion

- The project applicant requests an Energy Trust incentive of $827,000, to be paid upon commissioning and commercial operation.

- Energy Trust will receive the first 6,000 green tags produced annually which is expected to represent 52% of the average annual production.

- 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.

- Staff has determined that over a 20-year operating lifetime, the net-present value of the project's energy is $1,066,706 above-market. The calculation includes installation and operating costs, assumes the project qualifies for state and federal tax benefits, and nets out cogeneration benefits.

- With an incentive of $827,000, the project's energy would cost Energy Trust about $636,000 per aMW. In comparison, the Rough & Ready biomass project cost $1.48 million/aMW, and the Columbia Boulevard biogas project cost $241,000/aMW.

- Green tags (environmental attributes of renewable energy that can be used to meet renewable portfolio standards and/or sold apart from the underlying energy):
    - The Energy Trust green tag policy requires Energy Trust either to take ownership of green tags in proportion to its contribution to above-market costs (which would be 78% of the tags), or match the green tag market price if it is projected to be higher.
    - A 78% share of green tags translates to $7.54 per tag, levelized. Our current market forecast shows green tags at $11.29, levelized. Taking ownership of 6,000 green tags (52% of expected annual production) would meet the future market value of the tags consistent with the green tag policy.

- At 1.6 megawatts, the project would significantly increase Energy Trust's renewable energy portfolio.

- The project will expand the market for anaerobic digestion in the agricultural sector by:
    - Using the first agricultural digester in Oregon outside the dairy sector;
    - Introducing digester that is new to the Northwest but common in Europe;
    - Helping to build local/Oregon capacity to support growing demand for beneficial uses of agricultural residuals; and
    - Demonstrating a flexible green tag policy in line with market valuations.

- With this project and two already online, the Biopower Program would record a total of 4.2 aMW in new generation, meeting the program's conservative 2008 goal of 4 MW.

- Funds for the project are within the 2008 Biomass program budget.

Recommendation

Approve funding for the project by adopting resolution number 488.

RESOLUTION # 488
APPROVING FUNDS FOR THE STAHLBUSH FARMS BIOPOWER PROJECT

WHEREAS:

1. **Stahlbush Island Farms, a family-owned farm, proposes to use an anaerobic digester to create methane gas from farm residuals to fuel a generator with a name-plate, maximum capacity of 1.6 MW, expected to generate 1.3 aMW annually.**
2. **The project would sell its output to Pacific Power under standard QF terms, generate waste heat to meet the digester's thermal load, and offset the farm's natural gas for process drying, apply effluent from the digester to land to expand the farm's organic acreage, and offset about 4,327 tons of CO_2 per year.**
3. **Energy Trust analysis shows:**
   - **The project's above-market costs are about $1.067 million**
   - **The applicant seeks an incentive of $827,000, which would cost Energy Trust about $636,000 per aMW. In comparison, the Rough & Ready biomass project cost $1.48 million/aMW, and the Columbia Boulevard biogas project cost $241,000/aMW**
4. **Green tags:**
   - **The Energy Trust green tag policy requires Energy Trust either to take ownership of green tags in proportion to its contribution to above-market costs (which would be 78% of the tags), or match the green tag market price if it is projected to be higher.**
   - **A 78% share of green tags translates to $7.54 per tag, levelized. Energy Trust's low market forecast shows green tags at $11.29, levelized. Taking ownership of 6,000 green tags would meet the future market value of the tags consistent with the green tag policy.**

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

1. **An incentive payment to Stahlbush Island Farms of $827,000 from the 2008 Biopower program budget for the proposed project; and**
2. **Energy Trust shall take ownership of 6,000 of the project's green tags annually;**
3. **The executive director to negotiate and sign an agreement consistent with the terms of this resolution.**

Moved by: Seconded by:

Vote: In favor: Abstained

Opposed: