

Board Decision

Combined Heat and Power (Co-generation) Policy

February 16, 2005

Purpose

Approve a work plan to evaluate the market for large combined heat and power (CHP) projects in Oregon.

Background

CHP simultaneously produces electrical and thermal energy from a single fuel. In some applications, CHP projects can be a considerable source of efficiency, generating energy using heat that otherwise would be wasted. It can also produce other benefits, such as reducing greenhouse gases and deferring investment in transmission and distribution.

Energy Trust supports renewable energy CHP projects, like the Douglas County Forest Products project. Energy Trust energy conservation programs offer support for CHP projects that use waste heat, but does not support projects that involve new or enhanced generation facilities, but have found no takers. Energy Trust also supports small CHP projects with a market transformation rationale. Since adoption of the policy in 2003, only renewable and small CHP projects have proved viable.

Beginning in the summer of 2004, the Board discussed whether it wanted to support large, non-renewable CHP projects more strongly. There had been several previous CAC and RAC discussions of the issue, with opinions divided. The RAC had opposed use of Energy Trust funds for non-renewable CHP projects that enhance existing generating facilities or support new generating facilities. Opinions in board discussions were also diverse.

Seeking further input, in November Energy Trust, the Oregon Public Utility Commission (PUC) and Oregon Department of Energy co-sponsored a CHP workshop involving a range of interested parties. The workshop agenda was organized to address questions of need (what is the specific need for Energy Trust involvement in larger CHP projects?), funding (considering that Energy Trust is funded only for residential and commercial natural gas programs), and program design. The workshop generated a good discussion, but no consensus about the appropriate role for Energy Trust. See Attachment I for high points of the discussion.

Meanwhile, over the last few months the PUC has opened several dockets in which the legal and policy aspects of treating CHP as “energy conservation” are in issue.¹ There is a schedule for briefing these issues, but no announced schedule for resolving them.

¹ The legal issue is more for the PUC issue than Energy Trust. The definition of “energy conservation” used in the PUC-ETO grant agreement, which binds Energy Trust, defines energy conservation broadly, to

Proposal

Staff's proposal is based on the assumption that the Energy Trust wants to make steady progress on CHP policy issues without jumping the gun on the PUC dockets. Accordingly, the proposal is framed to give us a sense of the potential size and consequences of Energy Trust involvement in large CHP, but without committing the organization to carrying out a program until the PUC dockets are further along. The proposal was discussed with the Conservation Advisory Council and the Board Policy Committee. They concur.

Here are the things we would want to know before deciding whether to adopt a large CHP program:

- We know there is interest in large CHP projects, but not how many big projects are likely to be far enough along in 2005 to justify 2006 funding.
- We have a general sense of the costs of large CHP project, but not a clear picture of how leveled cost/kWh compares to other industrial and commercial efficiency resources.
- We do not know how many other industrial efficiency projects will be ready for funding in 2005. If we put \$2-4 M aside in 2006 for CHP, when might the industrial program need to stop taking new orders?

Thus, while the PUC works through the legal and policy issues, we recommend:

- February: staff work with Aspen to identify the average price of industrial efficiency projects.
- March-April: staff select a consultant to do a resource/market assessment during the April-June period. The consultant (at an estimated cost of \$50,000-75,000) would:
 - gather engineering and economic data on potential projects, customer rates-of-return, number of solid projects, development time, etc.;
 - assess standard load shape and efficiency gain for different project types;
 - recommend a benefit-cost methodology; and
 - recommend a process (e.g., request for proposals, open solicitation or standard offer).
- June-Aug, staff:
 - review the status of the PUC dockets;
 - evaluate Industrial Efficiency Program demand and preliminary budget projections for 2006; and
 - report to the board with recommended next steps.

While we do the work, Energy Trust would continue (and consider whether to expand) the small CHP program.

encompass any project that reduces electricity or gas consumption. Other provisions of Oregon law define energy conservation more narrowly. The question is which of these definitions should apply.

**RESOLUTION 315
APPROVING A COMBINED HEAT AND POWER
RESOURCE/MARKET ASSESSMENT**

WHEREAS:

1. **Combined heat and power (CHP) projects have certain economic and environmental advantages, including potential energy efficiencies, which make them of interest to the Energy Trust.**
2. **Energy Trust currently supports only renewable energy CHP projects, small market transformation CHP projects, and large CHP projects that use waste heat exclusively.**
3. **The Oregon Public Utility Commission has under consideration whether CHP projects that increase the efficiency of existing generation or involve the siting of new generation are within the meaning of “energy conservation.”**

It is therefore RESOLVED:

1. **That the Board of Directors of Energy Trust of Oregon, Inc. approves the following work plan:**
 - **February: staff identify the average price of industrial efficiency projects;**
 - **March-April: staff select a consultant to do a resource/market assessment during the April-June period. The consultant should:**
 - **gather engineering and economic data on potential projects, customer rates-of-return, number of solid projects, development time, etc.;**
 - **assess standard load shape and efficiency gain for different project types;**
 - **recommend a benefit-cost methodology; and**
 - **recommend a process (e.g., request for proposals, open solicitation or standard offer).**
 - **June-Aug, staff:**
 - **review the status of the PUC dockets;**
 - **evaluate Industrial Efficiency Program demand and preliminary budget projections for 2006; and**
 - **report to the board with recommended next steps.**

Moved by: _____ Seconded by: _____

Vote: _____ in favor _____ abstained

Opposed: [name]_____

Adopted on (date) _____ by the Energy Trust of Oregon, Inc. Board of Directors.

Attachment I: Major Points in November, 2004 CHP Workshop

CHP generally:

- CHP is part of distributed generation policy, with potentially important societal benefits and a high degree of PUC interest.
- CHP proponents are interested in medium and large projects; however, the level of financial commitment and whether financing is viable are unclear.
- There are significant obstacles to large CHP development in Oregon -- expense, investment requirements, credit issues, non-alignment of utility interests. The PUC may address some of these obstacles (back-up, interconnection charges) and not others (price uncertainty, complexity of transactions).
- The cost of potential CHP projects compared to Energy Trust industrial efficiency projects can only be estimated

Potential roles for Energy Trust:

- Funding (combined with BETC and Climate Trust)
- Technical analysis and other assistance (analysis of CHP values, feasibility studies, site inventory)
- Market transformation
- Advocate for CHP in utility IRP process and generally

Funding:

- Most money would likely be needed for industrial projects; commercial projects are smaller in scale and expense.
- Funding CHP from existing industrial and commercial programs could compete with other Energy Trust projects.
- There would be an equity concern if funds for industrial CHP were increased at expense of residential and small commercial programs.
- In response, some participants urged higher electric or gas public purposes charge, which large industrial customers said would only reduce their bottom line and not increase investment in CHP overall.
- Others urged Energy Trust to pay for savings like any other conservation investment, by soliciting bids at a maximum \$/MWh level, with a budget cap for large CHP.
- Still others suggested that Energy Trust should fund above-market costs of CHP.

Regarding program design:

- There was general support for the idea of a budget cap (or caps) for a CHP program.
- There were differing views on merits of request for proposals (which may not synch with business cycles) versus open solicitation.
- There were many ideas for specific incentive formulas.
- Participants stressed the importance of using simple funding criteria.
- Several factors influence timing:
 - The PUC is working on several barriers, especially rate-related, and is examining whether CHP is “energy conservation” under Oregon law
 - Program stability is important, so any program should be in place long enough for people to be comfortable with it
 - In the short term, CHP is likely to be primarily for on-site use