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Calendar of Events

Industry Links

Market Reports

Mailing Lists

Home

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Feature Article

Green Power and the LEED Initiative

Renewable energy accounts for roughly 8 percent of the energy produced and 6 percent of the energy consumed in the United States according to the January, 2004 edition of the Energy Information Agency's "Annual Energy Outlook" report. Choosing green power offers a number of benefits to businesses and institutions, including environmental stewardship, public image, customer loyalty, employee pride, power portfolio management and power reliability. Green power is becoming big business in the United States. Electricity sector restructuring is opening up new business opportunities for independent power producers and alternative energy developers. LEED, the national standard for green building design, has acknowledged the importance of green power by incorporating it into its rating systems.

LEED stands for Leadership in Energy and Environmental Design. LEED is a voluntary, points-based, standard for developing high-performance buildings, that is, buildings that benefit from a more integrated, better-planned design process. Think of LEED as a framework for informed, educated design as well as a quality control mechanism. LEED evaluates "greenness" in five categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Quality.

Since its pilot program began in 2000, roughly 3 percent (91 million square feet) of all new commercial construction projects in the United States have registered for LEED certification. Of the approximately 1,200 projects registered to-date, fewer than 100 of these projects have completed the certification process. The low level of certification reflects a number of factors including age of the program, cost of certification, average length of time to complete certification process (several years according to LEED) and decision to register but not pursue certification. The current LEED rating system is LEED-NC, for new construction and major renovation projects. LEED-EB, for existing buildings, is currently in the pilot phase, and will be available later this year.

LEED points directly related to use of green power are achieved through Energy and Atmosphere Credits 2 and 6, respectively titled Renewable Energy and Green Power. These two credits account for 4 of the 69 total program points possible.

The Renewable Energy credit awards 3 points for incorporating on-site renewable energy in order to reduce environmental impacts associated with fossil fuel energy use. It awards 1 point for supplying at least 5 percent of the building's total energy use via on-site renewable energy, 2 points for 10 percent-15 percent and 3 points for 15 percent or more. The Green Power credit encourages the development and use of grid-source, renewable energy on a net-zero pollution basis. It requires 50 percent of the building's electricity be from renewable sources by engaging in a minimum 2-year renewable energy contract. The source of the energy must be from a product certified as Green-e by the Center for Resource Solutions.

National polls have, for 20 years, found majority preferences for renewable energy over other energy sources. Majorities of residential customers say they are willing to pay at least a modest amount more per month on their electric bills for power from renewable sources. And major U.S. corporations are responding to this sentiment by buying and promoting their use of green power to the public. So why aren't more LEED projects incorporating green power into their projects? LEED has responded to the Table 1 findings as to why certain credits are under performing and/or not being pursued. The reasoning focuses on the high cost of renewable technology and lack of market penetration.

A report by the Renewable Energy Policy Project entitled "WINNER, LOSER OR INNOCENT VICTIM: Has Renewable Energy Performed as Expected?" concluded renewable energy has met or exceeded past price projections, but cheap conventional energy generation has blocked renewables from gaining greater market share. In a study by Arthur D. Little for the U.S. DOE, market penetration of a new technology is not achieved unless a technology has a simple pay back of less than 2 years. That's bad news for renewables. So what is needed to change these LEED statistics and increase interest in integrating renewable energy in commercial buildings?

A reorganization of the government's energy budget is one step that is clearly needed to align with the public interest. The data presented in Table 2 represents the Office of Energy and Renewable Energy funding for FY 2003 and 2004. The main issue with the 2004 budget appropriations is increases for hydrogen fuel-cell technology has come at the expense of renewable technologies. In 2004, renewable spending is roughly equal to nuclear research & development spending and it remains significantly below fossil fuel research and development spending.

Another barrier to change related to the cost of the technology and lack of market penetration is the consistently high level of subsidies for fossil fuel development relative to renewable energy development. Subsidies underwrite the cost of fossil fuel exploration, transportation, and production. Reducing or eliminating subsidies for fossil and nuclear energy would help to level the playing field for renewables. In 2000 the U.S. DOE, Energy Information Agency, published a report titled "Financial Interventions and Subsidies in Energy Markets 1999: Energy Transformation and End Use" to provide an estimate of U.S. Federal energy subsidies for 1999. The report found subsidies for renewable energy measured less than 3% of the amount provided to the oil, gas and electricity programs.

Access and education are also limiting factors in market penetration for green power. Market penetration will be improved with increased and widespread access to green power products. Green power premiums must also be reduced and marketing efforts increased.

LEED and the green power programs that LEED supports are helping to shine the spotlight on renewable energy use in buildings and increase the demand for green power. But clearly subsidies for fossil fuels must be reduced and government policy rearranged such that it encourages behavior consistent with the public interest.

Back to e-Report Home

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