**Workgroup Recommendations and Other Potential Control Measures**

**Homes and Restaurants Workgroup**

**HR009 – Increasing Public Relations/Outreach/Education and Extending BPU Programs that Address Energy-Efficiency and Renewable Energy**

**DESCRIPTION**

The use of energy conservation methods or the on-site generation of renewable energy can indirectly lower emissions throughout the State (1). A reduction in home energy use avoids having to produce the electricity at a power plant and lowers emissions at the point of origin, as less energy would need to be produced to meet electrical demands. A home properly constructed to conserve heat and air conditioning and using a geothermal heating/cooling source uses less fuel or gas, thereby reducing ambient air emissions and improving the air quality in the indoor environment. Thus, energy-efficiency and renewable energy are the focus for this strategy. New Jersey is a leader in the country in the funding for home energy conservation measures and clean energy requirements, and the measures described would continue the State’s leadership in energy-efficiency. (see SCS005A – this paper discusses retiring NOx allowances based on energy-efficiency and renewable energy projects)

One part of the potential control measure is a nonregulatory program that would encourage homebuilders to offer homeowners the option of constructing his or her new home with energy conservation or clean energy features prior to all new construction (1). The main components would focus on increasing the marketing, public relations, education, and outreach to homebuilders in order to provide the homeowner with the most complete information to make an informed decision before the house is built.

The State currently provides for rebates and other financial incentives to install energy-efficiency measures in a home (1). The New Jersey Department of Community Affairs (DCA) has minimum design standards for some appliances. The strategy of the other part of the control measure is to encourage more homebuilders to build new homes with energy-efficient or clean energy features by incorporating more benefits under the existing BPU programs, such as increased financial incentives. In addition, increasing outreach to builders about the availability of rebates for energy-efficiency/clean energy options would enable more homebuilders to be informed about the options prior to new construction so that more energy-efficient homes can be available to homeowners.

**IMPLEMENTATION**

Both potential control measures would need to be implemented together statewide to ensure maximum participation by all eligible homebuilders and homeowners. Homebuilders would be encouraged to inform the potential homeowner of the existence of the BPU program to offset the costs of these features and encourage the homeowner sign a waiver if the features are not installed (1). Significant cooperation between state agencies would need to occur so that the strategies are implemented effectively and efficiently. New Jersey’s Clean Energy Program already incorporates an initiative that is designed to assist builders target homebuyers through marketing and provide technical and financial support to them (2). The information is readily available online and provides an abundance of information such as builders that participate in the New Jersey ENERGY STAR™ Homes program (2, 3, 4). Furthermore, the BPU has a clean energy campaign, New Jersey Clean Power Choice, underway that targets consumers to choose alternative energy sources through a multi-media approach that includes television, radio, internet, and print avenues (5).

**COST**

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Continuing the current level of rebates and financial incentives offered by the State and increasing awareness of energy-efficient homes or alternative energy systems in the home may encourage homeowners to install geothermal systems (heat pumps), solar panels, or other energy conservation measures at the time the home is built (1). It would be less expensive for homeowners to put these features on their homes before they are built. However, exact cost figures are unavailable at this time due to the uncertainty of how many builders are not participating and the extent to which builders are unaware of the current programs. Therefore, the amount of marketing, public relations, education, and outreach needed is unknown. The cost of continuing rebate programs and expanding them through the BPU is also unavailable. However, the BPU did receive $745,000,000 in 2004 for its energy-efficiency and renewable energy programs for 2005-2008 (3). Costs of the BPU residential energy-efficiency programs totaled $60,534,000 in 2004 while $14,749,196 was spent on renewable energy programs. “Over 90 percent of the funds expended were spent directly on incentives paid to customers or on measures installed in customers’ homes” (p. 20, 3). As of 2004, only 3% of the budget for the BPU’s Clean Energy Program was allocated to marketing, market research, and evaluation.

Emission Reductions

Increasing communication with the building community and providing additional benefits to building energy-efficient homes could further decrease the existing demand for electricity, offset future growth sources, and possibly further decrease existing air emission levels (1). According to New Jersey’s Clean Energy Program 2004 Annual Report, the electricity demand was reduced by 254 MW through their initiatives for that year along with reductions in air pollution: 254,487, 444, and 989 metric tons of carbon dioxide (CO$_2$), nitrogen oxides (NO$_x$), and sulfur dioxide (SO$_2$), respectively, and 12 pounds of mercury (Hg). Since 2001, the BPU’s Clean Energy Program has resulted in 9,680,336, 15,988, and 33,929 metric tons of CO$_2$, NO$_x$, and SO$_2$, respectively, and 409 pounds of Hg (3). The BPU also calculated that the amount of electricity needed to supply 46,000 homes in New Jersey in 2004 was saved through the implementation of their initiatives and energy-efficient homes actually built under the New Jersey ENERGY STAR™ Homes program totaled 5,974, which equated to 16 percent of new homes built in that year. These figures could be increased if additional research indicated that builders and homeowners were not aware of the incentives and would adopt energy conservation measures if properly informed.

Cost-Effectiveness

There is a possibility that decreasing or discontinuing the rebates and financial incentives for energy-efficiency and clean energy options will decrease the utilization of these features and thus the potential of decreasing air emissions (1). In order to continue to achieve air emission reductions and reduced electricity usage, the current rebates and financial incentives should continue. However, quantitative information is unavailable at this time. Additional research on the costs associated with the potential control measures and awareness of the incentives within the building community should be conducted.

REFERENCES

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