

PSE&G Hospital Efficiency Program

Category: Power Generation & Supply

Public Service Electric and Gas Company's (PSE&G's) highly successful Hospital Efficiency Program is a \$129 million multi-year initiative that is funding the installation of energy efficiency measures (ECMs) for a critical market segment; hospitals and healthcare facilities, in the utility's New Jersey service territory. The program is one of only a few programs in the U.S. that specifically targets hospitals. PSE&G provides upfront funding for the total cost of the ECMs which eliminates the financial burden for hospitals which often do not have the capital to invest in critical energy efficiency improvements. The program also provides an incentive toward the total cost of the project, and on-bill repayment for the hospital's share of the program costs which is often offset by the savings realized. The elimination of the need for out-of-pocket capital, coupled with the on-bill repayment component for the hospital facility, is vital to the success of PSE&G's program.

Since program inception in 2009, 37 projects in 33 hospitals have commenced and 33 of those projects have been completed. The program currently has a waiting list of another 21 projects, pending approval by the New Jersey Board of Public Utilities for an additional \$45 million in program funding. PSE&G has invested over \$122 million to date in upfront funding and achieved 57,969,458 kWh savings, 7,242 peak kW reduction and 2,542,783 therms for the 33 completed projects. The savings were realized from 2011 through 2014, as no projects had yet completed in 2009/2010 due to program start-up and construction lead-times. The ECMs will save \$13.1 million in utility costs annually (an average of \$396,536 per hospital) and about \$261 million over the 20 year lifespan of the upgrades. The following estimates of additional annual average savings apply: estimated annual emissions savings electric (Metric Tons) CO₂ 7,308; NO_x 6.2; SO₂ 14.5. Estimated annual emissions savings gas (Metric Tons) CO₂ 3,374 and NO_x 2.65. The average annual savings over the four years the program realized savings (2011 - 2014) was 14,500,000 kWh/yr. and 640,000 therms/yr. The program's banner year thus far was 2011, with annual savings of 30,222,916 kWh, 2,690 peak kW reduction and 1,456,218 therms.

Hospitals are a high energy-usage sector which provide critical care for all members of society, are a significant source of employment in the state of New Jersey, and face unique challenges requiring more than traditional energy efficiency rebate program strategies. Market barriers include reduced funding, treating the uninsured, replacing aging equipment, rising energy costs, and a general lack of capital for energy improvements. PSE&G's innovative program enables hospitals to make an investment in energy efficiency as well as improve the comfort of hospital facilities for patients and staff. Hospitals receive an energy audit at no cost, along with a detailed report of recommended cost-effective ECMs. PSE&G provides an incentive by "buying-down" the cost of the measures, along with up-front funding for the total cost of the ECMs. The program provides a "whole building" approach to energy efficiency to achieve deep savings; many energy efficiency programs "cap" the amount of a project or limit the types of ECMs eligible. At project completion, the hospital repays a portion of the total project cost, on their PSE&G bill, over a period of 36 months at zero percent interest. The hospitals repayment portion is often equal to or less than, the annual energy dollar savings realized through the ECMs. Once the hospital's portion is re-paid, the facility can apply the future savings to their bottom line or re-invest it in new equipment, upgrades, renovations, etc.

PSE&G has been able to successfully address energy inefficiency in the hospital sector through its proven and replicable program delivery model utilizing upfront financing and a comprehensive approach to energy efficiency, thus facilitating significant cost and energy savings to a critical market segment. PSE&G's innovative program is deserving of recognition because it enables hospitals to make an investment in energy efficiency which significantly reduces operating costs while improving the comfort of hospital facilities.

PSE&G Residential Multifamily Housing Program

The uniquely comprehensive program design and successful implementation of Public Service Electric and Gas Company's (PSE&G's) \$39 million Residential Multifamily Housing Program is worthy of award recognition. PSE&G's program enables residential multifamily buildings to undergo critical energy efficiency improvements while providing building owners with up-front financing to remove the program participation cost barrier. PSE&G provides for an on-bill repayment option allowing building owners to repay their share of the project costs over a number of years on the monthly utility bill at zero percent interest. The on-bill repayment component is critical to the success of the Multifamily Program since the energy savings realized through the installation of energy efficiency measures often offsets the cost of the owner's repayment obligation. The program's success is exemplified by its participation to date; 250 buildings representing more than 10,000 individual living units. The energy efficiency upgrades result in reduced energy use and utility cost savings; as well as improved tenant safety and comfort. The PSE&G program has proved to be a success for all program stakeholders, as well as an overall model for energy efficiency program design.

Since program inception in 2009, over 44 projects have commenced and 41 of the projects have been completed. The program currently has a waiting list of another 55 projects, pending approval by the New Jersey Board of Public Utilities for an additional \$35 million in program funding. PSE&G has invested nearly \$37 million to date in upfront funding and achieved 7,144,259 kWh savings, 568 peak kW reduction and 1,902,825 therms for the 41 completed projects. The savings were realized from 2012 through first quarter 2015; as no projects had yet completed in 2009 - 2011 due to program start-up and construction lead-times. The energy efficiency improvements will save over \$ 3 million in utility costs annually (an average of \$100,000 per facility) and about \$60 million over the 20 year lifespan of the upgrades. The following estimates of additional annual savings apply: estimated annual emissions savings electric (Metric Tons) CO2 901; NOX .8; SO2 1.8. Estimated annual emissions savings gas (Metric Tons) CO2 2,525 and NOX 1.99. The average annual savings over the programs life is 1,786,065 kWh, 142 peak kW reduction and 475,706 therms. The program's banner year thus far was 2014, with annual savings of 4,137,716 kWh, 261 peak kW reduction and 1,198,516 therms.

PSE&G's program has achieved great success in delivering energy efficiency effectively to a significant number of multifamily housing facilities that range from 2 to over 25 stories high. PSE&G has demonstrated its leadership in the promotion of energy efficiency by delivering a successful program to a targeted market segment in need of infrastructure upgrades, and has incorporated a number of innovative program features designed to address a number of critical market barriers. PSE&G utilizes a "whole building" approach to energy efficiency; it does not place a cap on project financing. This is critical in order to address all cost effective measures and to achieve a deep building retrofit. As a result, projects are able to focus on their entire facility and include energy efficiency upgrades to not only their building's central HVAC and water systems, but to also enable energy efficiency improvements in individual resident apartments.

The Residential Multifamily Housing Program has set a high standard for energy efficiency in the multifamily housing market and PSE&G has gained national interest and recognition for its program design. Through its program, PSE&G is successfully transforming the multifamily sector to embrace and recognize the value of energy efficiency and to incorporate energy efficiency practices in a market segment often unaware and unable to afford critical upgrades. The institutionalization of energy efficiency in the multifamily marketplace is evidenced not only by program participation to date and the program's resulting gas and electric energy savings, but also by the number of building owners who have enrolled additional properties based on a positive program experience.

