Implementation Process

A consultant team was retained to identify opportunities for energy conservation at each campus and to evaluate the feasibility of alternative energy installations and cogeneration. Detailed evaluation of the mechanical/electrical infrastructure was undertaken. Utility sources, consumption, and cost data were collected and benchmarked.

For each campus opportunities to install cogeneration and renewable energy systems were evaluated to determine their impact on the overall reduction in purchased energy. Six renewable energy systems were evaluated: solar hot water, solar photovoltaic, wind, geothermal, biomass and biofuel, and tidal energy.

Challenges and Lessons Learned

230 energy conservation measures (ECM’s) were recommended with a projected aggregate energy reduction of 28%. The total cost of implementing the ECM’s was estimated to be $61M and the average payback 3.7 years, representing a 27% annual return on investment.

- 18 months into the 5 year program implementing the ECM’s, September 2011, 32% of the first phase energy cost savings had been realized, representing an overall reduction of 9%.
- Cogeneration facilities are in design or construction at two hospitals and being planned for a third hospital. The average simple payback on the three installations is calculated to be 7.8 years.
- An effort is underway to locate and finance an off-site 10Mw photovoltaic installation to serve several PHS hospitals.

Demographic Information

Partners HealthCare consists of 15 principal facilities in Boston and eastern Massachusetts providing acute inpatient care, ambulatory care and rehabilitation with a total of approximately 3,300 beds. Including administration, the total built assets amount to 16 million square feet, of which approximately 10 million SF is owned and 6 million SF leased.