

Report Recommends Combined Heat and Power for Massachusetts Hospitals

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BOSTON - Massachusetts hospitals should consider adding an energy-efficient technology called combined heat and power (CHP) to their buildings, according to a new report from Health Care without Harm and the Green Ribbon Commission. The report is titled [Powering the Future of Health Care – Financial and Operational Resilience: A Combined Heat and Power Guide for Massachusetts Hospital Decision Makers](#).

CHP can provide hospitals with many advantages simultaneously, the report says. It can increase the energy efficiency of hospital operations. It can provide backup power for weeks on end during natural disasters. It can remove pollutants from the atmosphere, improving public health. It can reduce greenhouse gas emissions substantially. And it can pay for itself within four to eight years with a reliable return on investment.

CHP can cut hospitals' fuel consumption by 25 percent, said Bill Ravanese, senior director of health care at Health Care without Harm's Green Building and Energy Program. Because of how CHP systems are set up, they are inherently more energy-efficient than conventional electricity-generating technology. CHP systems burn fuels such as natural gas or wood to create steam and electricity simultaneously. Hospitals and other large buildings can use this steam for heating.

During Hurricane Sandy, Ravanese said, hospitals with CHP were able to keep their lights on when other hospitals lost power. While backup diesel generators are required by law for critical life support situations, these generators were underwater during the hurricane. Hospitals with CHP systems were able to rely on these systems instead of generators.

As hospitals become increasingly aware of the importance of public health outreach in the community, they also understand the value of pollution prevention, Ravanese said. CHP systems reduce the amounts of airborne pollutants that enter the atmosphere and cause health problems near power plants.

The Global Warming Solutions Act set [goals](#) of reducing greenhouse gas emissions in Massachusetts to 25 percent below 1990 levels by 2020 and 80 percent below 1990 levels by 2050. To help the state reach these targets, hospitals can install CHP systems. CHP technology has been on the market for many decades and is seen as more financially reliable than solar and wind power. Ravanese quoted a national report which said that across all industries where CHP is used, the average drop in greenhouse gas emissions is 18 percent.

According to Ravanese, there are now 12 CHP systems powering 16 hospitals in Massachusetts. However, since there are over 100 hospitals in the state, there is plenty of room for growth. Ravanese is particularly interested in reaching out to smaller hospitals and said he plans to share the report with decision makers there.

CHP's reliable return on investment is a major selling point for hospital executives, Ravanese said. Adding a CHP system can result in a net positive cash flow of over \$700,000, according to the report. The report details federal and state incentives for installing CHP systems and also describes financing options. Hospitals can also use CHP to avoid utility peak demand charges.

The report says CHP systems are especially useful for hospitals that have a high demand for heating and electricity at the same time, are paying a high cost for electricity, have long operating hours, have adequate space for installation, and are planning to renovate their facilities.