



**Liberty
Utilities®**

KEY POINTS

- **Variable frequency drives save energy by adjusting motor speed to meet HVAC system demand**
- **Fixing steam system leaks can eliminate a significant source of energy loss**
- **T8 fluorescent lamps and LEDs are energy-saving replacement options for conventional lights**

Find out what incentives are available for your home or business. Energy Efficiency 603-216-3698
NHSaves@LibertyUtilities.com
 or visit NHSaves.com

3 Cost-Effective Ways to Save Energy in Hospitals

Nationwide, healthcare facilities spend more than \$13 billion per year on energy costs, according to the U.S.

Department of Energy. While hospitals are continually looking for ways to improve efficiency, equipment upgrades can be expensive. Variable frequency drives, lighting retrofits and steam system repairs are cost-effective strategies for during high energy bills.



Operating on schedule

Motors that run heating, ventilation and air conditioning (HVAC) equipment are designed to operate at a constant speed while HVAC demand changes. Variable frequency drives save energy by matching motor speed to equipment demand.

To make the best use of VFDs, identify occupancy levels in different areas and create a schedule. For example, one hospital found that the hours of lowest occupancy were between 4 p.m. and 8 a.m. To save energy, fans were switched to half-speed during those hours using VFDs.

At Christian Northeast Hospital, normal fan operation required only 60 to 80 percent of maximum speed. VFDs adjusted fan motor speed, providing annual energy savings of \$17,000, as well as lower maintenance costs.

University Behavioral Center, a 100-bed psychiatric hospital, installed VFDs on their air-handling system. This resulted in improved humidity control and energy savings of 221,000 kilowatt-hours per year. The project cost was \$15,000, with a payback of 11 months.

Mending steam systems

Steam systems are widely used in hospitals for domestic hot water, autoclaves and other applications. Leaks at pipe junctions, fittings or steam traps are a major source of energy loss. It's important to repair leaks quickly to save energy and ensure safety.

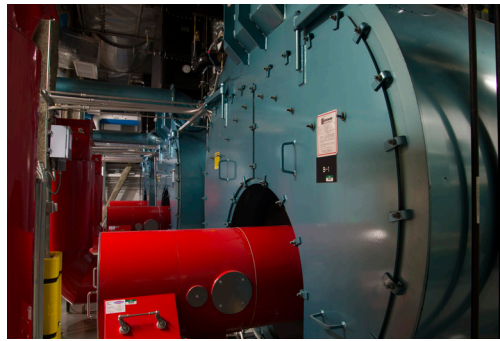
Leaky steam traps account for up to 20 percent of steam losses in a typical boiler, according to the U.S. Department of Energy. Even for a



Leaky steam traps account for up to 20% of steam losses in a typical boiler cost.

Liberty Utilities

- may fund a portion of the cost of an energy audit study
- provides incentives on energy savings improvements
- may require pre-approval of the audit and incentives



small steam trap, a six-month leak will cost up to \$5,000, depending on fuel costs.

At St. Luke Hospital, losses from 13 failed traps cost the facility more than \$250,000 a year. The average cost for repairing or replacing each trap was about \$3,500, for a return on investment in only a few months.

Focus on lighting

Hospitals have a wide range of lighting requirements, making lighting systems a prime target for energy-saving opportunities. High-efficiency T8 linear fluorescent lamps are a good replacement option for older T12 lamps; T8s use less energy and last up to twice as long. Resurrection Health Care is saving \$900,000 a year in energy costs by switching to T8s.

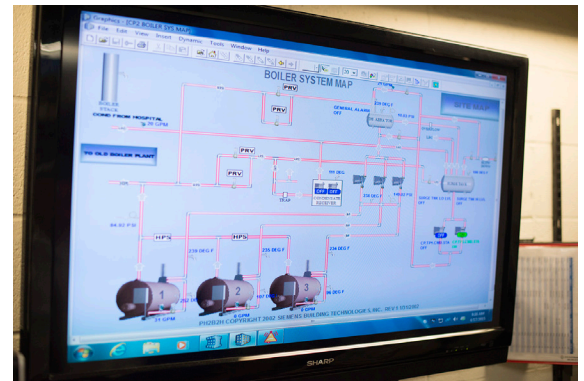
Light-emitting diode (LED) fixtures offer an energy-efficient upgrade option for conventional incandescent and compact fluorescent lamps (CFLs). One hospital replaced existing incandescent and CFL lamps with LED equivalent fixtures, and installed occupancy sensors to control lights in restrooms, break rooms and storage areas. The lower energy and maintenance costs resulted in a payback of less than two years.

Supplementary prescriptions

These cost-cutting measures will stretch your energy budget even further:

- Regularly clean fan coil units in patient rooms
- Optimize the HVAC schedule for operating rooms, radiology and laboratories
- Adjust thermostats for seasonal changes and occupancy
- Balance air and water systems

Educate staff and patients about the importance of conserving energy and how their actions can contribute to a healthier environment.



SIGN UP FOR OUR NEWSLETTER AT bit.ly/ElecBusMyEnergyTips

Liberty Utilities has prepared this content solely for the purpose of providing helpful information to users of this service. No representation is made by Liberty Utilities as to the completeness or accuracy of the information contained therein. In particular, some information may be incomplete, may contain errors or may be out of date. In addition, Liberty Utilities does not endorse any product or service mentioned therein.