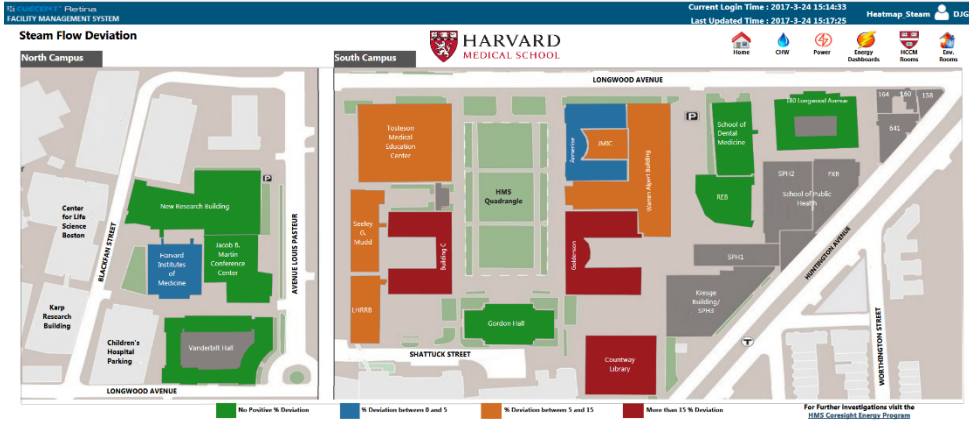


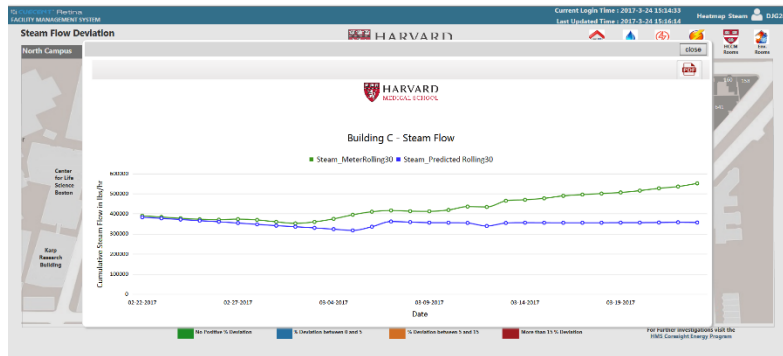
Harvard Medical School Invests in Energy Dashboards

Over the last two years Harvard Medical School (HMS) devoted time and money into energy visualization upgrades for their campus. These upgrades have increased the Facilities staff awareness of energy use within the campus buildings which has led to additional energy reductions.

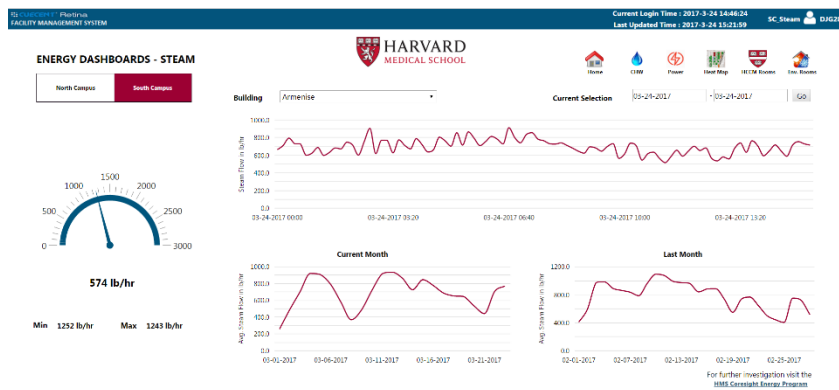


There are several dashboards that the Facilities Operation staff use. The first is a heat map which shows how each building utility is performing versus its 30 day rolling prediction. When a building is displayed

in red it indicates it is over 15% of its prediction. This automatically triggers an email notification to the Facilities personnel to let them know their building is consuming higher energy than expected. The Facilities department can then investigate further by selecting a building and looking at a chart which shows the performance of the building over the last 30 days.



Further analysis of individual utilities and date ranges highlights when the increased energy use occurred. This tool also allows HMS to monitor Energy Conservation Measure projects to see when reductions are fully realized and if the ECMs are being maintained.



An advanced dashboard (OSI Coresight) is available to the internal Facilities personnel, and this dashboard provides a live look at hourly data. This live look allows HMS to analyze the utility as well as

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overlay additional attributes such as outside air or return chilled water temperature to help further troubleshoot the energy usage.

All of these dashboard applications are available to HMS Facilities personnel online and can be used as an app on a smartphone. It allows the HMS Facility personnel to

see each building's utility consumption with live usage data at varying date ranges. It provides a comparison of utility types with other parameters such as outdoor temperature or humidity. The tool has allowed HMS to better troubleshoot and predict our energy use.



Don Gillis, CEM

Energy Manager

Harvard Medical School