



CASE STUDY

WATERBURY PUBLIC SCHOOLS

Faced with an inefficient energy-related infrastructure, Waterbury Public Schools (WPS) sought to prioritize and implement critically needed energy savings measures as quickly as possible.

Solution

The Waterbury Public School district selected NORESKO, a national leader in energy efficiency and energy infrastructure solutions, as its Qualified Energy Service Provider (ESCO). The \$30 million performance contract included plug load control, new boilers and chillers, energy management system upgrades, and lighting retrofits/replacements.

Offering the ideal combination of quick payback and rapid implementation, the BERT® plug load management system was one of the first Energy Savings Measures (ESMs) to be completed at WPS.

In most cases, BERT is able to complete a plug load control ESMs within six weeks. One reason BERT is able to complete projects so rapidly is because of the BERT toolkit that automates the entire process from audit to installation. When an investment grade audit is conducted, the audit tool verifies wireless coverage and records the plug load devices in each room. This data is used to generate a savings sheet for each building summarizing the number of each device type and calculates annual energy savings.

Project at a Glance

ABOUT

Located in Connecticut, Waterbury Public Schools is an urban school district educating 18,000 children in 29 schools.

OPPORTUNITY

WPS wanted energy savings measures with quick paybacks and rapid deployment.

SOLUTION

1,187 BERT Smart Plugs
Running Threshold, Measurement, Control, and Analysis

RESULTS

3x

BERT's plug load Energy Savings Measure (ESM) had the quickest payback, over three times faster than the project average.

BERTBRAIN.COM

489 Devon Park Drive, Suite 302
Wayne, Pennsylvania 19087

484.690.3820

sales@bertbrain.com

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Information from the audit is then shared with the installation partner letting installers know the specific locations for each Bert before arriving. The installation tool records the building, room or office number, MAC address of each Bert, device type, and other installation notes. During the installation process, the BERT support team remotely monitors the each new Bert and verifies it is communicating with BERTBrain.

Results

The BERT plug load control ESM had the fastest payback of the 14 ESMs implemented at Waterbury Public Schools.

The Power of BERT

When it comes to intelligent buildings, BERT controls the small things and delivers big. BERT's end-to-end solution typically lowers plug load expense by 40 percent.

Using patented technologies and the facility's existing Wi-Fi network, BERT remotely measures, analyzes, and controls plug-in and hardwired loads up to 250 V and 30 A. Frequently installed as a standalone solution, BERT delivers even greater value by integrating miscellaneous electric loads into Building Automation Systems (BAS), enabling the BAS to control all building loads and to collect additional measurement, temperature, and other building data for increased efficiency and comfort.

Learn how K-12 schools, colleges, offices, local governments, and sporting venues save money and energy by visiting bertbrain.com.

\$27,543

Annual Energy Savings

201,247 kWh

Annual Energy Reduction

\$60,372

Estimated Incentives

4.2 Years

Simple Payback
(Net of Incentives)

14.1 Years

Project Average Payback
(Net of Incentives)

SOFTWARE

BERT's standard BertBrain software offers a robust range of functions.



Control

Automatically power loads off during nights, weekends, and holidays when buildings are unoccupied. Each device, group of devices, building, or group of buildings can have unique schedules based on specific operating hours.



Measurement

Get real-time energy usage data and historical power usage by hour, day, month, year, and user-defined time-period. BERT uses measurement data to establish the Baseline Load for M&V.



Analysis

BERTBrain, running on the BERTBrain Gateway, makes analysis a breeze, with a comprehensive reporting system to analyze energy consumption for schedule optimization and savings verification, and a detailed event log.



Threshold

User-defined power threshold settings prevent devices from turning off until the normal shutdown cycle is complete. Every time the device is scheduled to switch off, the threshold is checked. This prevents the device from turning off until the power level falls below the threshold. Threshold works best with copiers, vending machines, projectors, and charging carts.



Temperature

Customers can control devices such as PTAC, AC units, and heaters using high and low temperature set points. Plus, real-time temperature data can be gathered from any location with a Bert in place.