

BELLINGHAM, WASHINGTON: A CITY WITH AN ILLUMINATED MISSION

Project Highlights

Energy savings
70% (or 1.8 million kWh)

Annual carbon emissions
reduction
2 million pounds

Rebates
\$400,000

Annual energy savings
\$240,000



Imagine: 26 million aging streetlights in U.S. cities generating greenhouse gas emissions equivalent to 2.6 million cars and consuming as much electricity annually as 1.9 million households. These aging lights—typically identified as the yellow hued high-pressure sodium fixtures—cost cities an estimated \$2 billion in energy plus another \$4-6 billion in maintenance costs each year. The good news: cities are changing. Globally, cities are upgrading their lighting infrastructure to save energy and money as well as creating a safer and smarter environment for their residents.

A Mission to Reduce Energy Consumption

Bellingham, WA is a city with a mission. The mayor declared 2016 “Energy Year” with a coordinated city-wide effort to “fight against climate change, reduce local energy costs, improve their homes, and create a more resilient local energy system.” One specific goal the city intends to achieve is a reduction in carbon emissions by reducing energy consumption. Its first target: city streetlights. In fact, the city’s mission has been nationally recognized. Bellingham is a semi-finalist for the Georgetown University Energy Prize, a national challenge to towns, cities, and counties to rethink their energy use, and implement creative strategies to increase efficiency.

To create a modern, illuminated, energy-efficient city, Bellingham retrofitted its 3,600 city-owned streetlights and lighting infrastructure with new light emitting diode (LED) lights integrated with wired (power line) and wireless (radio frequency) controls based on Echelon’s intelligent networking solution. Bellingham anticipates its new lighting system will reduce its energy consumption by 70 percent or 1.8 million kWh by the year 2020.

Innovative Team for Intelligent Streetlight Solution

To take on the job to replace an entire city's streetlight and infrastructure system, a team of lighting experts were called in. Echelon partnered with McKinstry, a design-build energy services company who led the installation, and Northwest Edison, a commercial and industrial lighting and lighting controls contractor who designs, specifies, and installs new energy efficient systems for commercial, industrial, private, and government sectors throughout the western U.S.

"The streetlight conversion is projected to reduce approximately two million pounds of CO2 output annually," said Clark Alan Williams, Superintendent of Traffic/Communications/Fleet and Facilities. "The City's goal, based on our Climate Action Plan, is to reduce greenhouse gas emissions by 70 percent by the year 2020. We are glad to have a truly modern lighting solution that will provide us long term benefits."

Before

After



By adopting a strategic and intelligent solution that is robust and provides flexibility, the city will be on track to meet all its functional and sustainability goals. Bellingham installed Echelon's open standards-based outdoor solution that uses existing light poles, but replaces conventional light sources with LEDs. The Lumewave PL-RF Gateway by Echelon integrates both wired and wireless lighting networks so that the entire lighting system is controlled through Echelon's central management system (CMS), which simplifies installation and intelligently manages the operation of entire lighting systems. The city did not have to replace any historical or decorative fixtures, as Echelon's system connects to any light fixture with quick and easy installation, commissioning, and management.

Initially, the city will see lower energy and lighting costs, but in the long term, the intelligent solution will enable the city to add new applications to improve overall safety, which will help reduce city costs even further.

Learn More

For more information about Lumewave by Echelon products call +1 408-938-5200 or visit www.echelon.com.

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