



# AmpLight™ Case Study

Beijing



*Streetlight Intelligence*

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## Centralized streetlight control

**Beijing achieves 28% energy savings managing 5,500 streetlights.**

- 28% energy savings through Energy Savings Mode and central control
- Reduced maintenance costs
- Fast deployment
- Improved service quality and reliability

**Client:** Beijing Capital Highway Development Company (BCHDC) – China

**Objective:** Improving streetlight quality and reducing energy consumption

**Results:** Energy savings; easier maintenance; full streetlight status visibility

## The Challenge

The BCHDC is a Chinese state-owned organisation in charge of the construction and operation of the capital's expressways. Acutely aware of the necessity for energy savings, it's working hard to meet the carbon emission reduction targets set by the Chinese government.

As part of this effort, BCHDC sought to reduce streetlight energy consumption and improve its central monitoring and control facilities.

## The solution

BCHDC chose AmpLight™ to manage, monitor and control its streetlights. Because the solution consists of modular components, Amplex is able to configure AmpLight™ to precisely match the client's requirements. This includes the need for energy saving facilities in order to meet BCHDC's tough targets.

BCHDC Project Manager Wang Desen states, "We chose to work with Amplex due to their high profile as an international brand within the lighting industry, and their professional presentation of the excellent capabilities and advanced technology of AmpLight™."

## Low-cost, intelligent agents

Amplex installed AmpLight™ in Beijing in 2008. One of the many advantages of AmpLight™ is its ease and speed of deployment. By placing low-cost intelligent monitoring and control agents at the cabinet rather than the pole level, installation time averages out at less than one minute per pole. That is not just fast, it is cost effective too.



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## Centralized Management

At launch, AmpLight™ controlled a total of 4,500 Beijing streetlights, with an additional 1,000 poles being added in 2009. BCHDC manages this infrastructure centrally, with all the management and cost benefits that this entails.

BCHDC's command center now has unprecedented visibility and control of its streetlight network. As well as the ability to centrally deploy the Energy Savings Mode, managers can monitor all the readings from the cabinets – remotely and in real time. This provides full knowledge of energy consumption and other key operational and performance measures.

AmpLight™ delivers all this knowledge and control through an easy to use Web interface that provides an instant and accurate overview of all AmpLight™ installations.

Powerful reporting functionality is a crucial asset when it comes to lowering maintenance costs and increasing energy savings. AmpLight™ gives BCHDC's managers detailed overviews of the control cabinets, simplifying and accelerating the process of detecting faults or power leaks.

## Energy Savings Mode

The Energy Savings Mode technology is at the heart of the solution's ability to deliver energy savings. AmpLight™ uses a centrally located photocell, ensuring that Beijing's streetlights are turned on at twilight and remain fully on until the end of peak traffic hours. The lights are then set to Energy Savings Mode throughout the night, returning to full voltage as the morning traffic starts. This continues until dawn, when the lights are automatically switched off.

## Flexible control

A reliable backup system activates in the event of photocell failure. BCHDC operators can also override automated settings when special circumstances like accidents or freak weather conditions occur. Alarm alerts can be received by email and SMS as well as via the Web interface, and extended SMS capabilities are also available.

## The Smart Grid

Incorporating intelligent streetlight into their Smart Grid efforts, utilities gain several advantages:

- Energy Savings Mode and on/off control are great tools for load balancing
- Streetlights can be turned on during over-capacity and switched to Energy Savings Mode or partially shut off during lack of capacity



## Results

AmpLight™ has delivered energy savings of 28% due to:

- Precise, optimized and centralized streetlight control
- Energy Savings Mode during off-peak traffic hours
- Reduced maintenance costs

As Project Manager Weng Desen says, "We are happy with the savings Amplex achieved on the project - our original target was only 25%". Exceeding this target means that the solution payback period is even shorter than originally forecast.

## Additional benefits

"The control and monitoring system is very practical and easy to operate," says Desen. The maintenance procedures are much simpler too, because AmpLight™ enables a scheduled routine maintenance strategy, where light bulbs are replaced at regular intervals according to the measured burn hours. This puts an end to BCHDC's reliance on citizen reports or visual inspections.

"Compared to other products installed in 2008, the AmpLight™ solution is superior in its technology and energy savings. In the future, it will be our first choice for streetlight projects".



*Wang Desen, Project Manager  
Beijing Capital Highway Development Company*

## About Amplex

Amplex is a well-grounded company with a large customer base. We control millions of streetlight worldwide, and our cutting-edge solutions prove their worth every day, when CO<sub>2</sub> emissions are reduced and more customers invest in our future-proof enterprise systems. Our streetlight solution, AmpLight™, is installed at sites of all sizes and in any geographical environment. They enable centralized control, Energy Savings Mode, monitoring and consumption readings.

Combining energy savings with high quality is our core business. For a fully configurable, low maintenance and extremely reliable solution, AmpLight™ is the right choice, now and in the future.

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