Eurolink Motorways Saves 21% in Electric Costs

CASE STUDY

APPLICATION

Road Networks

BENEFITS

21% savings

ROI within 24 months

Robust design

Operates efficiently 24/7 under harsh environments

No changes to infrastructure

Zero maintenance

CLIENT PROFILE

Eurolink Motorway Corp. is the incorporated Irish company that holds the concession contract for design, build, finance, operation and maintenance of the M4-M6 Kinnegad-Kilcock Motorway. Eurolink is formed by Cintra Infraestructuras, S.A. (Cintra), a subsidiary of Ferrovial, and SIAC Construction Ltd one of the most reputable Irish construction firms. With 39 kilometers of motorway, Eurolink needed to reduce their annual electric costs and ample carbon emissions.

According to the Sustainable Energy Ireland each KWh of electricity saved reduces CO_2 emission by an average of 0.635 Kgs.

BUSINESS NEED

The Eurolink M4 roads, composed of 18 lanes, are illuminated by over 500 Son T fixtures with a total lighting load just over 315 kW. The road lights are in operation on average 12 hours/day 7 days a week, making the lighting energy expense a major part of overall operating costs. Eurolink required a reliable energy efficiency solution that would not disrupt commuters during normal business hours.

SOLUTION

Global Energy Management (GEM) Ltd. proposed to install PowerSines Lighting energy Controllers (LEC). The energy auditing results stated that a mixture of LEC A units would be sufficient to drive all the lighting circuits and generate more than 20% direct savings. LEC's robust design ensures reliable operation 24/7 under the harshest of environments, without requiring any maintenance. LEC is not sensitive like other electronic systems and ensures on-going energy savings. It is cost-effective, easily installing on any existing lighting infrastructure without the need for re-wiring or lamp replacement. Eurolink profited from immediate reduction in CO_2 and electric costs.

RESULTS

The LEC was easily mounted in pillars next to the existing electrical distribution board. The setup and wiring was completed in a matter of hours per unit, allowing for immediate system activation and lighting control. The actual results in comparison to those conducted at system commissioning exceeded expectations.

Upon comparing two consecutive electric billing periods, from pre / post LEC installation, Eurolink got 21% direct savings off their electric costs, in addition to indirect savings of 20%-30% as a result of the reduced maintenance costs and extended lamp lifecycle. And to top it off, GEM achieved a further saving of 9% by renegotiating the customers' tarrif.

Following the success of this project, Eurolink is planning on installing additional LEC units in the Motorways Toll Plaza and Administration Building.

Electric Bill Comparison	
Nov 2009-Feb2010	386,231kWh
Nov 2010-Feb2011	304,200kWh
kWh Savings	82,031 kWh
Comparison Monthly Savings	**€ 8670**
Estimated savings for 1 year	**Over €100,000**
Return on Investment	**Less than 24 months**

> ***"The initial analysis indicated 21% saving over the first 4-months in comparison to last year. We are very happy with these savings."***
>
> ***Enda Tyrell, Operations Manager, M4 motorway***