

"In today's climate of ever increasing energy cost, it made financial sense for Cepac to install ECO-MAX lighting optimisers to our factory lighting. The system reduced our annual electricity consumption by 365,940kWhrs and cut our electricity cost by £10,624.00 providing a full return on investment in just 14.7 months!" - **Financial Director, Cepac Ltd.**



Reference: 050601-1400

Client: Cepac

Type Of Building: Modern Corrugated Packing Production Facility

A Case Study

Introduction

Custom designed and built in 1999, Cepac has established one of the largest and most technological advanced corrugated packing plants in the world with modern equipment, leading edge technology and sophisticated computer based design.

Existing Lighting

The facility has two production and two storage areas. The production areas are illuminated to 300lux allowing operators to monitor the automated process. Quality control inspection stations are equipped with localised task lighting at a higher light level. The raw materials storage area and the and product dispatch warehouse are both lit to 200lux, for safe fork truck operations.

Type Of Lights: 400W Metal Halide
Total Lighting Load: 110kW
Annual Operating Hours: 6487
Lighting Electricity Spend: £39,807.00

Trial

The energy-saving capabilities of the ECO-MAX system were demonstrated in a "with and without" scenario, to verify the projected level of energy and financial benefits that could be expected, and to demonstrate that the system has no detrimental affect on light levels.

Trial Results

The trial which included approximately one third of the sites lighting, demonstrated a 26.7% reduction in the electricity consumption of the lighting with the ECO-MAX optimiser connected. As anticipated there was a minimal effect on the existing light level, in fact light levels with the ECO-MAX optimiser connected were increased to levels higher than were present before the introduction of the ECO-MAX, by carrying out a limited amount of overdue relamping.

Electrical Load Of Lighting: 46.82kW
Reduced Electrical Lighting Load: 34.24kW
Lux Level Measured: 347 lux
Reduction in Electricity Consumption: 26.7%

Energy and Financial Benefits Across Site

Because the light fittings employed across the site are identical, and site conditions remain relatively constant, this data could be extrapolated across the entire roof lighting, in order to establish the overall energy and financial savings that could be made.

Annual Reduction In KWhrs: 187,583
Annual Financial Benefit: £10,624.00



Return On Investment (ROI)

At the electricity tariff paid at the time, Cepac would fully recoup the capital investment required in just 14.7 months, by opting for the Silver service level, i.e. fully installed and commissioned, (the actual figures are detailed below).

In addition to the reduction in energy and maintenance costs, ECO-MAX optimisers also qualify for Enhanced Capital Allowance, (ECA), due to their inclusion on the Carbon Trusts Energy Technology List, (ETL), currently the only equipment of this type that is listed. The ECA scheme provides companies with a welcome cash flow boost in the financial year that the investment is made. A free publication, (PFL188), which details the effects of the ECA scheme is available from the Carbon Trust by calling **0800 585794**, or alternatively it can be downloaded from their website www.eca.gov.uk.

Capital Investment Required £19,492.00

First year financial benefits

Capital Allowance (@ 30% tax rate) £5,847.00
 Financial benefit from reduced energy consumption £10,624.00
 Financial benefit from reduced maintenance cost £500.00

Year on year financial benefit

Financial benefit from reduced energy consumption £10,624.00
 Financial benefit from reduced maintenance cost £500.00

ROI in Months 14.7

Carbon Trust Interest Free Loans

SME's that implement ECO-MAX optimisers may also qualify for a Carbon Trust Energy-Efficiency Loan. The repayments for these loans, which are Interest Free and without arrangement fees, are structured to be less than the energy saving made, allowing companies to benefit immediately from an improved cash flow. Further information can be obtained from the Carbon Trust by calling **0800 585794**, or at www.thecarbontrust.co.uk

For larger companies that fail to meet the criteria of the Energy-Efficiency loan scheme, but would also prefer to see the financial benefits of the ECO-MAX transferred almost immediately into an improved cash flow, then lease purchase may be a better option, as cash flow for many companies can be positive in just a few months.

Written testimonials, site visits, or further information from the Carbon Trust can be provided by contacting Gw Energy directly.

