

Case Study – Clifford Jones, Biomass Wood Pelleting Factory, Ruthin, Wales

Industrial & Warehouse High Bay LED Lighting



PROJECT: Installation of Low Energy Designs **SunFIRE™** 77 Watts LED lighting network in a biomass factory.

Clifford Jones Timber are at the forefront of the Biomass industry in the UK. When the company was building a new wood pelleting factory in Ruthin they were keen to reduce operational costs (both power consumption and maintenance) as well as reduce their carbon footprint.

The new factory has been specifically designed to use the waste biomass products from their saw mills to produce wood pellets for use in domestic heating systems as well as generate the heat required for their production.

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The new factory operates twenty-four hours per day, seven days per week, so requires good quality lighting. A lighting system has been designed by Low Energy Designs Ltd, which has enabled the company to reduce power usage without compromising on lighting quality. In fact the **SunFIRE™** lighting units supplied have a wavelength which closely replicates natural daylight.

The **SunFIRE™** fittings were programmed so that the in-built controller and photocell performed auto light levelling to increase power output as the natural daylight decreased and to decrease the power output as natural daylight increased. This eliminates the need for the lights to be switched on and off and hence creating additional savings.

Power and Cost Comparison

The following table compares power consumption and operational costs of 56 x LED **SunFIRE™** 77W units (7 LED strips per light) with 43 x 400W Metal Halide units. The installed system was designed to provide comparable or better light output and light distribution using **SunFIRE™** units to replace Metal Halide units).

Comparator	43 Metal Halide Units	56 LED SunFIRE 7™ Units
Total power consumption (kW) per 24 hours	509.80 kW	115.58 kW
Yearly operation – 24/7 for 50 weeks	178,942.60 KW	40,569.98 KW
Cost/ year based on 10p per kW hour	£17,894.26	£4,056.98
Cost/year for replacement bulbs	£1,596.16	£0.00
Cost of servicing of lights	£1,100.00	£0.00
CO2 Emission Savings /year (Kgs)		55,349 (55.3 Tons)
TOTAL COSTS	£20,590.42	£4,056.98
ANNUAL SAVINGS		£16,533.44

Please contact us for further information or to discuss your specific requirements