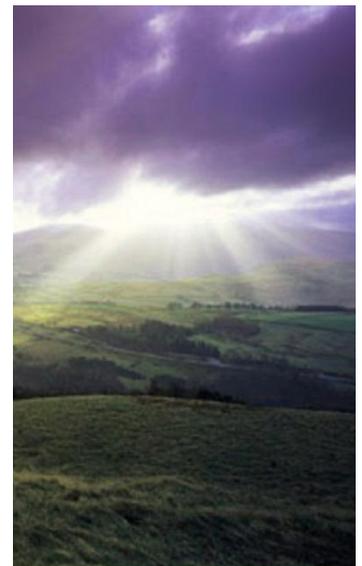


E.ON office lighting saves a huge 82%¹ of energy – using daylight.



SustainableEnergy

E.ON is one of the UK's leading power and gas companies - generating electricity, and retailing power and gas.

Background

As part of the E.ON Energy Efficient Lighting Programme a commercial lighting proposition was developed to deliver energy, carbon and cost savings for our customers.

The proposition included the development to replace internal existing lighting with the most appropriate energy efficient alternative.

The proposition was then put on trial as part of an office refurbishment at the E.ON Technology Centre in Ratcliffe Upon-Soar, Nottinghamshire.

Working with Solatube® and Philips, E.ON signed a contract for the installation of 6 Solatube® 330 DS-C Tubular Daylighting Systems, an automated dimming system and 21 LED luminaires (Philips PowerBalance) into the E.ON office.

The benefits

- Lights are automatically dimmed minimising the need to use artificial lighting during the day
- Reduces carbon, energy and costs
- Easily and quickly installed into existing buildings or new build
- No maintenance required
- Brings natural daylight into working and living environments
- Through providing natural daylight thus minimizing artificial lighting, the lifetime of the LED lights significantly increases from 50,000 to 70,000 hours.



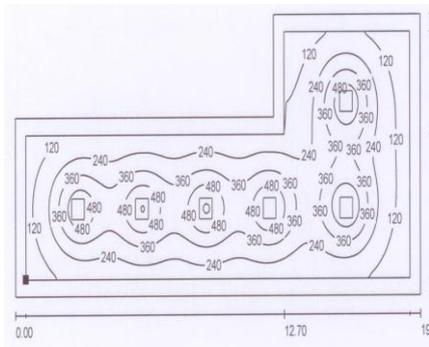
Sustainable Energy - delivering low carbon to business - is building the decentralised energy systems of the future - today. Whether its microgeneration technologies, energy centres and district heating or street lighting; we survey, design, fund, build, operate and maintain low carbon solutions to help our customers meet targets, regulation and provide revenue opportunities.

Case study

The project

The solution was specifically designed to meet the required levels of light for the office.

Lux levels of 400 were required at desk level. The 6 Solatube® 330 DS-C installed delivered an average of 281 lux in this instance, therefore the LED lights automatically adjust to maintain the required levels using the automated Solatube® Daylight Dimmer™ system.



Dialux plot showing the average Lux levels delivered from 6 Solatube® 330 DS-C Tubular Daylighting Systems at the E.ON office.

The new daylighting system was installed in 2 days by Solatube® and Philips as part of E.ON office refurbishment.

The benefits of the project

- 82% energy saving¹
- 92 tonnes carbon savings over 29 years² (predicted life of solution)
- 8.4 years payback³
- Average annual savings of, £1,388 (energy and maintenance), 3,172kg in carbon and 5,820kWh in energy¹

¹Based on the power of the original install being 3kW and the average power of the new LEDs and Solatube® install being 540W.

²Based on LED luminaires lifetime of 70,000hrs at 2340 operating hrs/yr. Energy prices at 12p/kWh and carbon emissions rate of 0.545 kg/kWh.

³Install cost over £11,000 and annual savings are £1,388.

The technology

Solatube® Daylighting Systems use advanced optics and the highest reflective material in the marketplace at 99.7%, which significantly improves the way daylight is harvested.

The Solatube® Tubular Daylighting Systems use technology throughout the system to capture sunlight on the roof, transfer sunlight through its 99.7% reflective Spectralight® Infinity tubing material and effectively diffuse the light in the building interior.

The system is highly effective, simple to install and there are various models available which can accommodate virtually any ceiling configuration.

When light is not required 100% of the time, for example during a presentation or in hospitals the Solatube® Daylight Dimmer™ controls the amount of daylight entering a room operated from a wall-mounted switch.

The Solatube® Daylighting Systems provide significant energy savings, improved environments, and high-quality lighting.



The technology has been featured on Grand Designs 2011 on a home in Herefordshire.

“The installation of Solatube® Tubular Daylighting Systems and LED lighting has transformed the office space into a really modern and comfortable environment to work in. Everyone working in the office has been amazed by the amount of natural daylight that each Solatube® brings into the room. This project has not only enhanced our working conditions but has enabled us to demonstrate and prove the real benefits of the technology”

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