

over
80 %
 annual savings

Carbon Usage
per annum

BEFORE



27 Tonnes

AFTER



5 Tonnes

SAVING

22 Tonnes

Energy Usage
per annum

BEFORE



51,900 kW

AFTER



10,125 kW

SAVING

41,775 kW

Annual Costs
energy and maintenance

BEFORE



£7,189.36

AFTER



£810

SAVING

£6,379.36



Advantages of LED lights

1. More power to light not power to heat = **save on energy bills by up to 90% and reduce carbon emissions.**
2. LED has at least 10 years life = **save on lighting maintenance costs**
3. Zero light overspill = **no light pollution to surrounding areas**
4. Pure white light (close to daylight) = **excellent visual acuity for CCTV**
5. Instant light (100ms switch on time) = **perfect for motion sensors/saving energy when not in use**
6. Impact resistant casing = **safe from vandalism**

case study
British Gas
 Looking after your world

gemma
 lighting

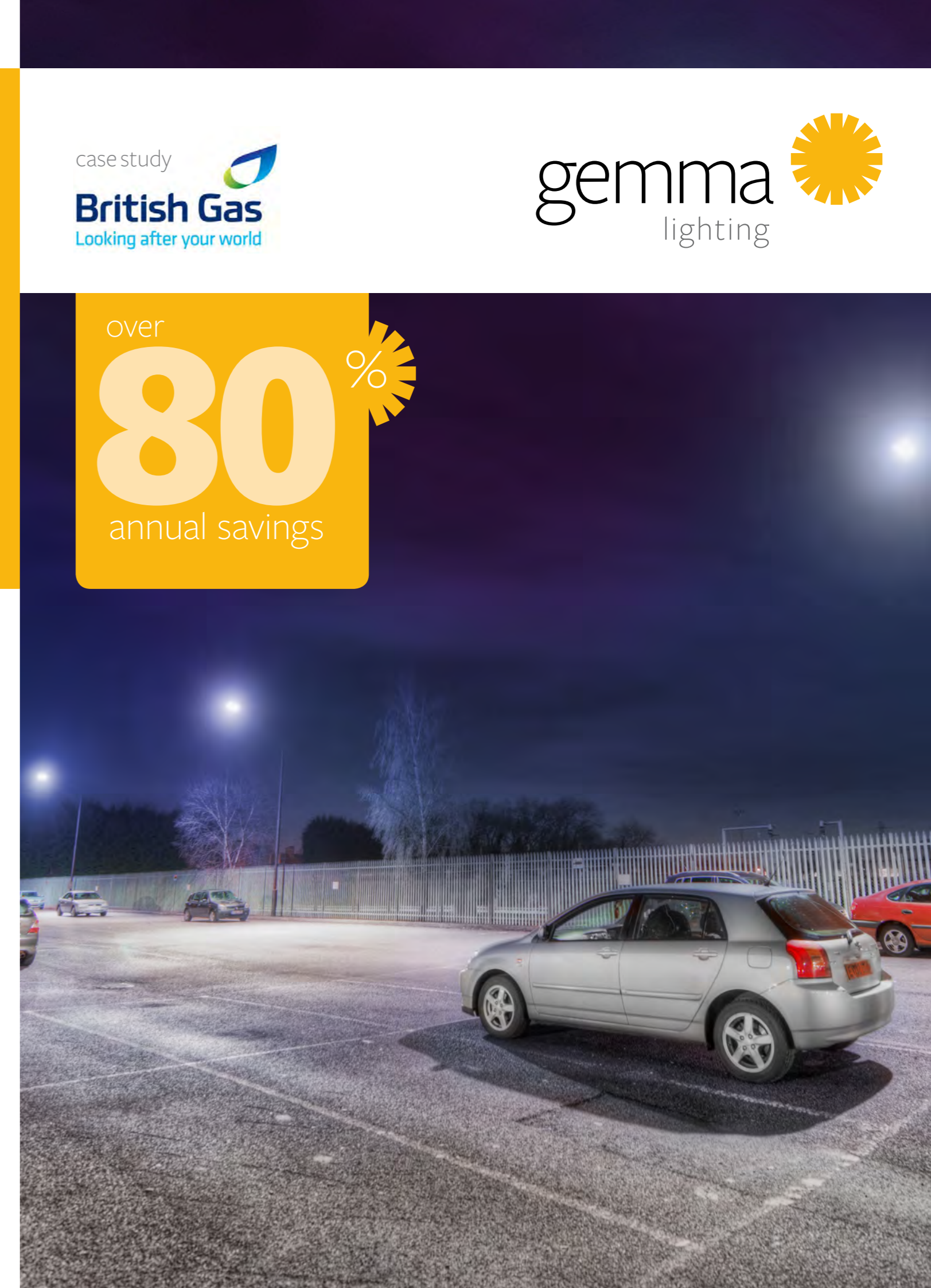
over
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About Gemma

Gemma Lighting LTD was formed to create an innovative concept for everyday lighting requirements. Drawing on 25 years of experience in LED technology, the team at Gemma Lighting LTD continues to design, develop and manufacture a new generation of environmentally friendly LED lighting suited for their customer's individual needs.

LED lighting is Gemma Lighting's only product – giving them a specific knowledge and interest in developing new ideas. Gemma Lighting design and manufacture their LED lights in the UK and can proudly say that they adhere to the high UK standards of manufacturing. Gemma's area account managers provide full project support for end users, wholesalers and distributors alike.

For more information on Gemma Lighting's products please contact the sales team
0844 8565201, info@gemmalighting.com or www.gemmalighting.com



British Gas site makes the switch to LED and saves tens of thousands of pounds annually with lighting solutions from Gemma Lighting

Summary

- Providing energy-efficient external LED lighting to main site of energy supplier
- Over 80% savings in energy consumption
- Huge maintenance cost savings of over £3,000 per year
- 22 tonnes of carbon saved annually
- Tailor made solution from a UK manufacturer
- Customer benefitted from five different Gemma LED lighting products



The challenge

To provide a lighting upgrade programme in-keeping with a company-wide carbon reduction scheme

Centrica is one of the largest integrated energy companies in the UK and North America, and a top 30 FTSE100 company. Incorporating British Gas, Dyno, Direct Energy and many more well-known brand names, Centrica aim to be the market leader in their sector, and are heavily involved in every stage of the energy supply chain from generating and sourcing energy right up to supplying and servicing. Carillion are the managing agents for Centrica, offering service management for buildings across the portfolio with over twenty years experience in this market. Operating across the UK, Ireland, the Middle East and Canada, Carillion count BT, Network Rail and Zurich amongst their other top clients.

Centrica embarked on a carbon reduction programme in 2010, to reduce CO₂ by 25% by 2015. As part of a 5 year programme, supported by Carillion, British Gas highlighted the site at Aylestone Road, Leicester as a prime candidate for more energy efficient lighting schemes, which included LED lighting. Both organisations have won awards for their commitment to reducing their carbon footprint, and both Centrica and Carillion recognised LED lighting as an ideal way to achieve large annual reductions in carbon emissions, as well as lowering energy and year on year maintenance costs.

The project revolved around the external lighting setup at the Aylestone Road site, which was initially equipped with outdated SOX, SON and Metal Halide lights that were not providing a high enough quality of lighting to the roadways, staff, and visitors' car parks on the site. The challenge was for the LED lighting replacements to improve on this whilst saving energy and carbon.



The solution

Gemma Lighting's tailored solution.

Centrica and Carillion began the process looking for energy efficient lighting that matched their needs by assessing the options in the LED market, and after using a trial system to scrutinise the products, the Gemma Lighting team were asked to visit the site. The team surveyed Aylestone Road and drew up a series of lighting plans to demonstrate what Gemma's LED lighting products could do in terms of lighting levels, and submitted energy reports that demonstrated the potential savings that could be made in energy, maintenance, and most importantly carbon emissions.

Five of Gemma's LED external lighting products were selected to perform the roles required for this project – the Jupiter 30 and Jupiter 72 LED Street Light, the Trafalgar 24 LED post top, and Spitfire 48 and Spitfire 72 LED Flood Light. The Spitfire LED Flood Light range can grant users massive energy savings compared to typical lighting solutions such as sodium, mercury and halogen style flood lights. Adaptable for several applications such as warehouses, car parks and areas requiring security, the Spitfire is manufactured to a high quality standard here in the UK, as with all of Gemma Lighting's products, offering reliability and peace of mind.

The Jupiter range of LED Street Lights offers high lumen output with excellent efficiency that on average saves 70% of energy when compared to traditional lighting methods. The Jupiter offers significant benefits in maintenance both with its IP66 protection rating and long lifespan of up to 100,000 hours, whilst the Trafalgar post top offers an aesthetically pleasing means of effective light distribution with minimal light pollution and low carbon emissions.

The Jupiter 30 replaced 100w low pressure sodium lighting on the main roadway of the site, whilst the high pressure sodium 400w flood lights in the staff car park were changed out for the Spitfire 72. Jupiter 72s were also added to the staff car park to replace 250w SON street lights whilst the 70w globe lights in the visitors' car park were replaced with the Trafalgar 24. Spitfire 48s were fitted on the surrounding roadways of the site, and the installation of six Jupiter 72s on 20m masts were particularly successful in replacing 400w high pressure sodium street lights.



From left to right: Richard Carpenter, Facilities Manager, Carillion with Gemma Lighting Sales Director Mark Major



The future

LED lighting levels improved whilst carbon emissions and costs fall

The LED lighting solutions offered by Gemma Lighting achieved the goals of improving lighting levels whilst reducing carbon emissions, energy costs and maintenance costs at the British Gas site.

With the lighting on-site running for an average of ten hours a day, seven days a week, 52 weeks of the year, the Aylestone Road site was running up energy costs of more than £4,000 per annum - with the installation of Gemma Lighting's LED products, their annual energy bill decreased to £810 giving a saving of more than 80%. With the carbon reduction programme of Centrica and Carillion in mind, the LED lighting replacement reduced the on-site carbon emissions by 22 tonnes per year, and with maintenance costs reduced by over £3,000 per annum the total savings over a ten year period due to the LED switchover would amount to almost £75,000.

The 20m mast-mounted Jupiters provided a much better quality of light to that of the old 400w SON street light and was a particular highlight of the installation project. The improved reliability offered by Gemma Lighting's LED street light removed the need to use high access equipment for expensive and time-consuming lamp changes, and allowed a maintained light level to be put out across the site as at least half of the existing SON lights were out. The effective light distribution also meant minimal light pollution spilling into neighbouring houses, as was also the case with the staff car park whereby residents no longer had their rear windows intruded by the light from the SONs.

"The install with Gemma was robust and efficient with no issues encountered during the project. The new external LED has added more aesthetics to the building and I am looking forward to seeing the significant reduction in maintenance and energy savings which will aid in Centrica's commitment to reduce CO₂ by % by 2015."

Ian Brook,
Project Manager, Carillion