MAYOR OF LONDON

BUSINESS ENERGY CHALLENGE

ADDLESHAW GODDARD

Milton Gate
60 Chiswell St
London
EC1Y 4AG

ADDLESHAW GODDARD

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Floor space:
26,726 m²

Year built:
2008

Start/finish dates of efficiency project:
October 2013

Lead organisation for efficiency measures:
IncentiveFM

Funding source for efficiency measures:
Addleshaw Goddard

Description:
We looked at how all the plant (boilers/ chillers) within the building interacted and ran. We then made changes to the entire system to make it more efficient (after validating that all plant worked and was maintained).

We used half hourly energy data, and the site Building Management System to analyse data and trends. Based on this, we rolled out the following measures:

1. Grouped smaller areas of lighting to ensure that all lights would turn off, more often and sooner.

2. Linked the control for the pump and fan running times to building demand.

3. Altered the control for specific plant (boilers/chillers). For example, for boilers set it up so that the flow temperature changed with outside air temperature. This allowed a lower return temperature, so that the condenser boilers run 30 per cent more efficient. Altered the demand required to start them and added an outside air hold off, which shuts system down at certain temperature (when not required).

4. Added time schedule to the architectural lighting.

5. Altered control schemes. For example, when the run round coil is in operation, the air handling unit won't run the cooling coil.

6. Time schedules were created. At the same time we took the time to understand how it worked. We also changed the control dead bands and the anti-recycle timers. This eliminated any conflicting actions.

7. Created time schedules so that plant items were run when required, and made changes such as altering the anti-recycle timers.

AG supported the technical team on site with its ideas and approach.

The projects above costed around £200k. Much of the work was done by the in-house technical team. We have been really pleased with the results:

- *Gas* – from 2012 – 2014 there was a 54.7 per cent saving

- *Elec* - From 2012 – 2014 there was a 22 per cent saving

- *Carbon* - 2013 a 15.38 per cent saving – 2014 a 29.81 per cent saving

Technical team managers encouraged onsite engineers to make these changes and embrace the new approach. This helped them learn new skills and understand the building/plant better. The result is fewer breakdowns and a quicker response to plant issues. For the client, the comfort levels are much better. There are fewer complaints and utility bills have fallen.

BUSINESS ENERGY CHALLENGE

ARCOLA THEATRE

24 Ashwin Street
London
E8 3DL

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Ben Todd,
Managing Director at Arcola Energy

Floor space:
1390 m²

Year built:
1865

Start/finish dates of efficiency project:
2007 - ongoing

Lead organisation for efficiency measures:
Arcola Theatre in-house sustainability team

Funding source for efficiency measures:
Various sources – funding received for solar pv panels / sustainable heating system / DC microgrids / capital works and improvements.

Description:
The energy efficiency programme at Arcola started in 2007. Sustainability is one of the main strands of the business, and a major refurbishment was carried out in 2012.

This project has turned a Victorian factory building into a high-tech, carbon-neutral theatre. The new energy saving systems we've installed include:

- automatic space heating fired by a waste-wood biomass boiler. This is a green alternative to gas-powered central heating. There are now four

thermostatically controlled spaces in the building. Our aim is to extend the new heating system to 15 such spaces.

- We encourage our customers to bring in wood for the boiler. In return, we offer them a discount on bar drinks in return. We're also registered with OFGEM's Renewable Heat Incentive.

- solar thermal hot water and space heating to support a bio-mass boiler system. This is for hot water in summer when the boiler is off. This system is also registered with the Renewable Heat Incentive.

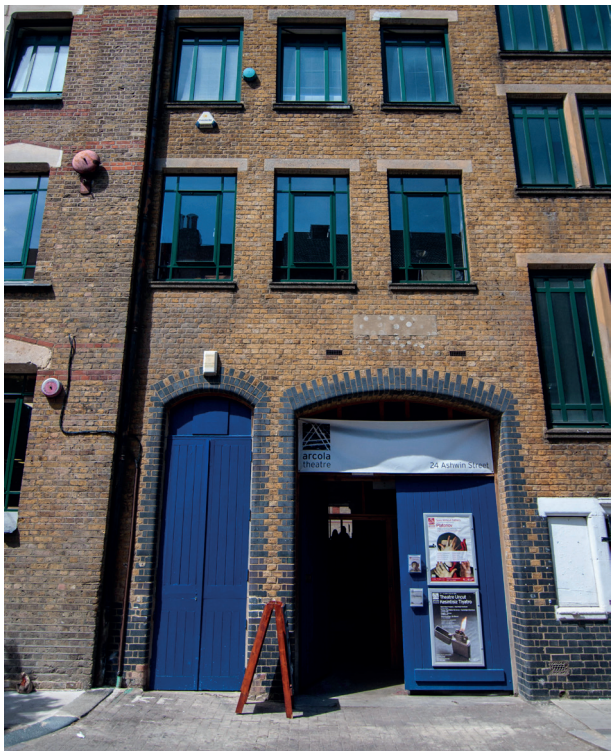
- an automatic natural ventilation system which draws cold air from the building's cellars to cool the theatre. This means we don't need chillers or large air-handling units. It is a low carbon alternative to conventional air conditioning.

- a collection of solar PV to power the office equipment and LED lighting. This DC Microgrids system allows us to make big energy savings and integrates a wide range of advanced power generation technologies.

Many modern appliances like laptops, LED lighting and communications equipment run on DC power. Despite this, we charge them from the AC mains. Similarly many clean power generation technologies – solar PV, small wind turbines and fuel cells generate DC power, which we then convert to AC. By distributing power locally via a DC microgrid we cut out these steps.

At Arcola, we're committed to showcasing our sustainable building improvements. We want to inspire other organisations to do the same.

www.arcolatheatre.com/about/greenarcola



BUSINESS ENERGY CHALLENGE

CAPITAL & REGIONAL

The Mall Walthamstow
45 Selborne Rd
London
E17 7JR

Capital& Regional

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Stuart Laidlaw,
National Technical Facilities Manager

Floor space:

280,000 sq ft

Year built:

1991

Start/finish dates of efficiency project:

March 2014 to March 2015

Lead organisation for efficiency measures:
Capital & Regional

Funding source for efficiency measures:
Funding from Capital & Regional

Description:
This project involves a shopping centre with 65 stores.

The aim of this project was to create a new vibrant personality for Walthamstow that reflects the diverse and changing community. We wanted to genuinely excite the tenants and shoppers.

Lighting is the key to this project. We undertook lighting replacement in the mall as part of a mall refurbishment It is a great opportunity to save energy as the existing lighting was at end of life. We briefed consultants that a 30 per cent saving in energy was essential. In fact, LED lighting and light sensitive controls have made energy savings of over 40 per cent. This has saved around £30,000

each year. The lighting project has been shortlisted for LUX live best retail lighting project 2015.

Other projects at The Mall Walthamstow include 2,000 sqft of photovoltaics, TfL Green Wall clean air initiative and mini Holland cycling routes.

BUSINESS ENERGY CHALLENGE

CAPITAL & REGIONAL

The Mall Shopping City Wood Green
159 High Rd
London
N22 6YQ

Capital& Regional

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Stuart Laidlaw,
National Technical Facilities Manager

Floor space:
540,000 sq ft

Year built:
1970

Start/finish dates of efficiency project:
2004 to 2015

Lead organisation for efficiency measures:
Capital & Regional

Funding source for efficiency measures:
Capital & Regional and Service Charge

Description:
This project involved a shopping centre with 103 shops.

At The Mall shopping city in Wood Green, plant and systems had reached the end of their useful life. A rethink and replace approach was adopted many years ago. This has resulted in more efficient plant, less of it and less to maintain. As a result, we've achieved a reduction in energy use of over 40 per cent in the last decade. That's a saving of 1.3 million kg of CO_2 a year. The replacement projects that have led to the biggest savings are:

- LED lighting throughout the mall and back of house

- improved chiller controls and more efficient chillers
- building management system and plant optimisation control
- local initiatives from the team at Wood Green.

It is the people at The Mall who have pushed through these changes, with maintenance, security and cleaning staff all contributing. This has been through no cost operational changes. For example plant on and off at the right times, cleaning regimes altered and night time loads reduced. We've also encouraged and funded local energy saving initiatives.

MAYOR OF LONDON

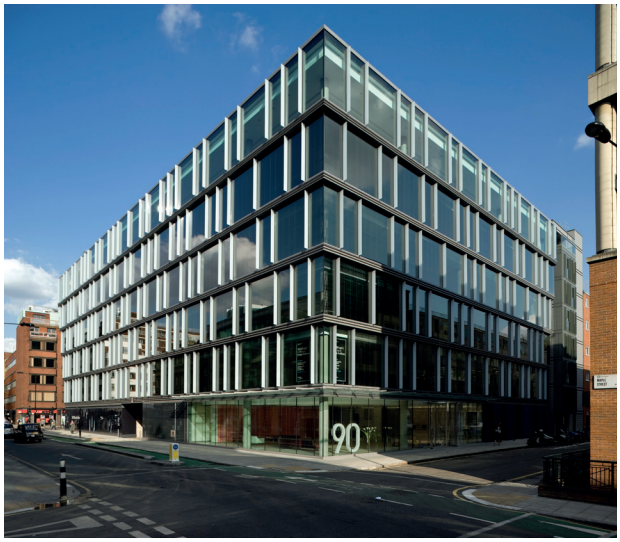
BUSINESS ENERGY CHALLENGE

DERWENT LONDON PLC

Qube
90 Whitfield Street
W1T 4HZ

DERWENT LONDON

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words



Floor space:

14,182 m²

Year built:

2007

Start/finish dates of efficiency project:

1 March 2015 - ongoing

Lead organisation for efficiency measures:
Derwent London Plc

Description:
In 2014, we carried out a market review. Our aim was to find an appropriate energy management and analytics service provider who could help us take our work further. Afterwards, we appointed EP&T to trial their EDGE platform at three of our large multi-let properties – Angel Building, The Buckley Building and Qube.

The EP&T analysts work with our building management and engineering teams every month to identify usage trends and issues. This helps the teams to optimise building performance.

Following the trial, we will assess more properties where this system could help. After such an encouraging start, we want to make further efficiencies. We look forward to reporting our progress.

As part of the development plan, EP&T provide a remote monitoring service, analyse data and find ways to make further savings.

For the purposes of this case study, we're highlighting the savings we've made at the Qube building.

EP&T's EDGE Intelligent system came online at Qube in March 2015.

Installing the equipment had no impact on our building operations. We were able to see clear results just three months later.

The key issues the project address include:

- weekend use observed on base building HVAC
- reduction of chillers operation times
- investigated evening spikes in chillers
- overnight and weekend gas use

So far, we've achieved a four per cent cut in electricity use within landlord areas and a 20 per cent gas reduction across the whole building.

www.derwentlondon.com

BUSINESS ENERGY CHALLENGE

HEATHROW AIRPORT LTD

Heathrow Campus
Nelson Road
Hounslow, Middlesex
TW6 2GW

Heathrow
Making every journey better

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Paul Weal,
Head of Engineering Performance

Floor space:

1,510,021 m²

Start/finish dates of efficiency project:

Since late 2012

Description:

- Heathrow serves 74 million passengers every year. In terms of electricity demand, we're similar to the Isle of Wight. There is a portfolio of 25 buildings across the Heathrow Campus.

- Responsible Heathrow 2020 is our plan to become one of the most responsible airports in the world; since 1990, we've reduced carbon emissions from energy used in our buildings by 19 per cent. At the same time, the airport has increased both in terms of size and the number of passengers it serves. We've cut our electricity use by 70GWh since 2012.

- We've also reduced emissions from our portfolio of 25 buildings, achieving a 16.5 per cent reduction in carbon intensity.

- The Heathrow Energy Centre is a 10MW biomass combined heat and power plant. It provides an on-site

source of zero carbon electricity, heat and cooling for Terminal 2 (T2), which is the world's first BREEAM certified airport terminal.

- Our £20m energy efficiency investment programme focuses mainly on saving electricity as that is our main form of energy. This includes:

    1. *energy-efficient technology;* a huge two-year LED programme that's replaced over 67,000 lights; a sophisticated lighting control system in T2 that minimises energy use by switching off lights when parts of the building are not in use or in bright daylight; a solar PV array on T2; we will be the first EU hub airport to complete LED stand lighting replacement.

    2. *installing 3,000 automatic meters.* This means we can easily track and deal with any issues. The £3m metering programme gives management information on the energy performance of all buildings. This has helped us reduce energy use by six per cent year on year.

    3. *setting energy reduction targets for third parties in areas outside our direct control;* in 2014, with World Duty Free Group, we launched an energy code of practice. This helps companies understand the benefits of energy reduction. It's since been adopted by five of the top ten electricity consumers.

- Linking energy savings with cost savings. By raising awareness of the issues, we've made sure that Heathrow colleagues feel involved and responsible for the change.

- We're involved in the launch of an energy management platform, enabling the world's major airports to share knowledge and we are currently seeking ISO50001 certification.

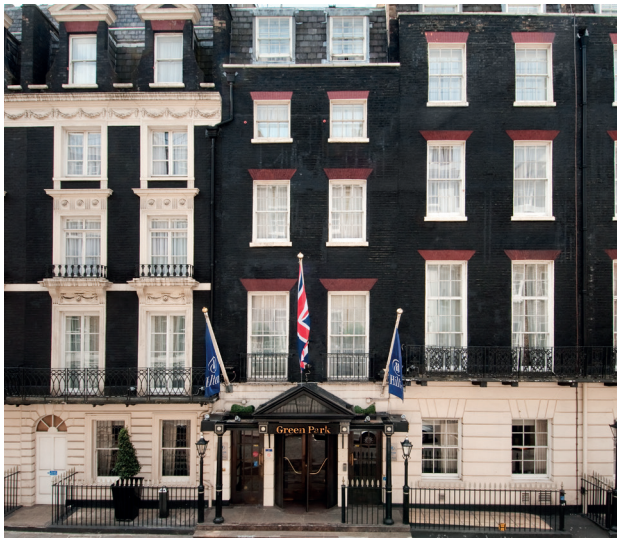
www.heathrow.com/responsibleheathrow

BUSINESS ENERGY CHALLENGE

HILTON WORLDWIDE

Canary Wharf, Euston, Green Park, Heathrow Airport, Hyde Park, Kensington, Olympia, Paddington, Tower Bridge, Trafalgar, Hilton Waldorf

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words



Floor space:

7,379 m² - 22,020 m²

Year built:

1753 - 2006

Start/finish dates of efficiency project:

Since late 2012

Lead organisation for efficiency measures:
Hilton, Hilton key partners and solution providers

Funding source for efficiency measures:
Internal Capital

Description:
Energy is essential to operate a hotel and carries a notable cost. We're continually looking for ways to make our hotels more energy efficient. New technology is helping us manage our resources more effectively and provide value to our owners.

All our hotels must report on their sustainability performance. This includes logging energy use in LightStay, our in-house measurement system. The system was recently upgraded. This means it now offers three-month forecasting of energy use for each property. It also identifies any unusual patterns in use. Hotels can see their year-on-year progress. They

can also compare it to the performance of our other hotels.

Every year, all our properties must also implement and track environmental improvement projects. In London, our energy efficiency initiatives include:

- optimising control and building management systems
- optimising plant equipment
- installing LED lighting across various hotel areas

We've also run energy demand response trials across London.

Each hotel is set and measured against environmental targets. To help hotels reach these targets we created an internal engagement campaign 'Living Sustainably' with core focus areas (energy, water and waste). This campaign includes tools such as online training courses and start-up guides to help hotels collectively and team members individually reduce their environmental impacts. There is also a strong emphasis on their most geographically relevant focus areas for action.

The roll-out of these energy saving initiatives, and the upgrade of LightStay, has helped us achieve ISO 50001 certification for energy management across our global portfolio. It adds to the ISO 14001 (environmental management) and 9001 (quality management) levels we previously achieved. Hilton Worldwide is the first global hospitality company to be awarded this certificate. Of the 11,500 properties across the globe that are IS0 50001 certified, over 4,500 are in the Hilton Worldwide portfolio.

Since 2009, we've reduced our global energy use by 13.6 per cent. This has helped us save $388 million on utility costs in 5 years. In our 11 London properties, we achieved an average reduction in CO2 emissions of seven per cent from power use, and 32 per cent from gas use (2010-2011 against 2014-2015).

http://cr.hiltonworldwide.com/

MAYOR OF LONDON

BUSINESS ENERGY CHALLENGE

LINKLATERS

1 Silk St,
London
EC2Y 8HQ

Linklaters

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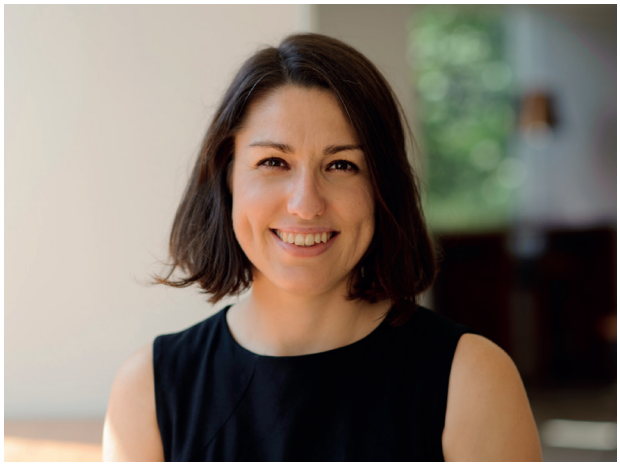

Leilani Weier, Global Environment and Sustainability Manager

Floor space:

54,288 m²

Year built:

1978

Start/finish dates of efficiency project:

2005 to date

Lead organisation for efficiency measures:
Linklaters

Funding source for efficiency measures:
Linklaters full funded

Description:
At Linklaters, we've been doing all we can to get better at using energy and reduce our carbon emissions for ten years. As a business, being energy efficient is about a long-term commitment. That means investing both in terms of technology and our staff.

Over the years, Linklaters' One Silk Street HQ in the City of London has had several retrofits. Since 2005, we've invested almost £3.5m in a range of upgrades to boost energy efficiency. This includes: five new chillers; works to the boilers; new lighting and controls; new air handling units; linking the building management system to both the lighting and comfort cooling systems (IQ controllers); and IT upgrades. While some

of these upgrades were essential, they were all done with energy efficiency in mind.

The peak of this investment has been in our people and contractors. We've developed a successful partnership with on-site engineering contractor, NG Bailey. By adopting what our Engineering services manager has named the 'energy focused maintenance' approach, the on-site engineers can think differently. In particular, how they see planned, preventive and reactive maintenance. The team now delivers a complete energy management service. This is proactive rather than preventive. All energy data is measured and monitored by the firm's energy analyst. If any inconsistencies are found, this can be taken to the engineering team who can then solve the issue.

The result of this is that since our baseline year of 2006/07, our energy use at One Silk Street has decreased by 40 per cent, as well as resulting emissions. In 2011, this building was also the first in London to achieve a BREEAM In-Use Excellent rating. We've made huge financial savings too. Our energy spend for One Silk Street in 2014/15 was £750,000 less, compared to 2006/07 (based on today's energy prices). It means we've already paid back the capital investments we've made in this area too.

http://www.breeam.com/page.jsp?id=434

https://www.youtube.com/watch?v=Dzpgw-24ZJ0

MAYOR OF LONDON

BUSINESS ENERGY CHALLENGE

ROYAL BANK OF SCOTLAND

250 Bishopsgate
London
EC2M 4AA

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Lead organisation for efficiency measures:
RBS Energy Team and Select Control

Description:
New Control System – We completed a new upgrade of the existing BMS system. This allowed us to review the existing control and put in place new plant control ideas. These include free cooling and wider tolerances for heating/cooling control. Various heating and cooling valves were exercised and then fixed to stop areas fighting against each other. The main energy saving was made by changing the plant from running 24-7 to new time zones that matched occupancy. We then trained all the onsite engineers to allow them to only alter occupancy request rather than the main time zone. This prevented plant being left on when not needed.

Mismatch Alarms – We created a mismatch alarm system. It raises an alarm on a graphic page that shows any major plant that's been left in hand by

the maintenance team. This allows us to monitor plant left in hand and prevent equipment running when it should be off.

Thermal Wheels – The thermal wheels were overhauled and fixed. These units reclaim heat/cooling on the return to be reused on the supply.

General House Keeping – We have a weekly energy call to highlight any issues and review the week's energy load. We use this meeting to highlight any training required for Carillion and making sure that the building occupancy matches the plant time zones. The maintenance team were given training which they appreciated and meant there were no issues.

BUSINESS ENERGY CHALLENGE

ROYAL BANK OF SCOTLAND

280 Bishopsgate
London
EC2M 4RB

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Lead organisation for efficiency measures:
RBS Energy Team and Select Control

Description:
Auditorium air handling unit (AHU) control – We created a remote on/off switch for the AV technicians to turn the auditorium AHU on and off. Previously the AHU would run 24-7. Now the plant only runs when an event is scheduled.

Chiller control – We created a new control strategy based on demand control from the floors to load up the chillers. The aim was to load up the lead chillers to 100 per cent before enabling a second chiller. High level interfacing was used to get detailed information directly from the chillers.

One issue was that the chillers were going off more often and the engineers weren't used to this happening. We had to train the engineers and teach them that the chillers were expected to go off during the evenings and weekends. We often

found they'd manually put the chillers on because they expected them to run. A few training sessions solved the problem

Chiller back end control – Three brand new back end valves were installed to prevent water from passing through non running chillers. Therefore water only then passes through the running chillers and prevents mixing of cooling water and results in a reduction of pump speeds.

Key issues – We had some technical commissioning issues at the weekend however this project was extremely successful.

Result – This resulted in an 8.9 per cent saving.

General housekeeping – We have a weekly energy call to highlight any issues and review the week's energy load. We use this meeting to highlight any training required for Carillion and making sure that the building occupancy matches the plant time zones. This means there have been no issues.

MAYOR OF LONDON

BUSINESS ENERGY CHALLENGE

ROYAL BANK OF SCOTLAND

RBS Premier Place
2½ Devonshire Square
London
EC2M 4BA

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Floor space:
18,984 m²

Year built:
2000

Start/finish dates of efficiency project:
2012 - 2013 onwards

Lead organisation for efficiency measures:
RBS Energy Team and Select Control, RBS Property Team

Description:
We completed projects on chiller controls and mismatch alarms. We also have ongoing training for maintenance teams.

We also installed Propelair toilets to save water. The 25 toilets on floors 6 and 8 were consuming 65,000 litres of clean water in just seven working days.

Problems – The average flush volume across both floors was 7.9 Litres per flush.

Solution – We installed nine Propelair toilets to save 1,634 Litres of water per day.

The average flush volume is now 1.47 litres – this compares to 8.11 litres per flush of the old toilets.

People were reportedly avoiding the Propelair toilets and going to floor 7. However, usage on floor 8 has actually risen from 25 flushes per day to 26. On top of this, water consumption has fallen from 7.67 litres per flush to 1.48.

The calculations show a 50 per cent saving on the water use at Premier Place. Assuming usage on the others floors stays at it has on floor 8, we should halve the water bill for Premier Place.

Propelair is a new type of water saving toilet that uses a patented air-based operating principle. It delivers BIG savings, with potential payback in less than a year, and offers the following benefits:

- *save 84 per cent water* – 1.5 litre flush is the lowest end-of-pipe solution available
- *save 80 per cent energy* – through less processing of water and sewage
- *save money* – can reduce water bills by over 50 per cent - quick payback period
- *reduce queuing* – quick flush and refill means less waiting (good for theatres, venues and busy offices)
- *improve health and wellbeing of staff* – it reduces the spread of germs by over 95 per cent
- *less blocking* – powerful and consistent single air flush gives excellent performance
- *easy to fit* – air flush is compatible with existing drains
- *good design* – incorporating a robust, easy to clean side hinge system
- made in England with WRAS and BSI Kitemark product approvals and ISO9001 and AS9100 manufacturing approvals.

MAYOR OF LONDON

BUSINESS ENERGY CHALLENGE

SAVILLS (UK) LTD

33 Margaret Street
London
W1G 0JD

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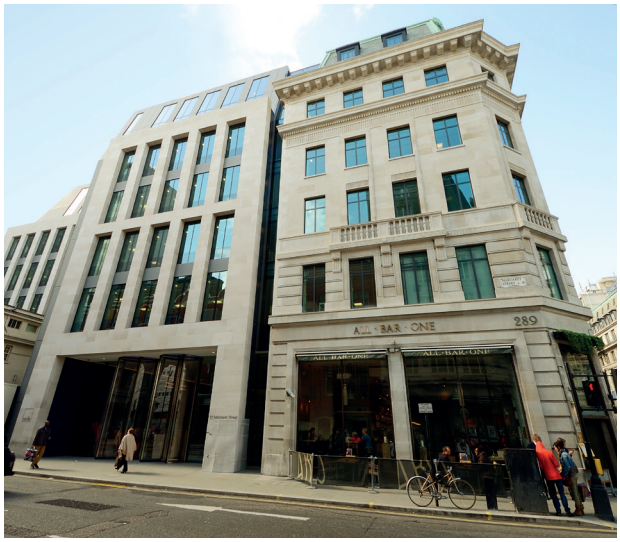


Floor space:

95,000 sq ft

Year built:

2012

Start/finish dates of efficiency project:

July 2013 - early 2014

Lead organisation for efficiency measures:
Savills (UK) Ltd

Funding source for efficiency measures:
Capital Expenditure

Description:

- In 2013, we decided to move our two offices in London's West End to one new head office at 33 Margaret Street W1.
- The new office achieved a BREEAM New Construction rating of Excellent (81.1 per cent). It was awarded an energy performance certificate (EPC) asset rating of B (40) on completion.
- The building incorporates measures designed to improve energy efficiency and reduce environmental impacts. These include:
  - Green roof designed to reduce cooling load

- Roof mounted PV array (rated power 23.75kW) which generates electricity for the building

- Combined cooling, heating and power plant. This is the main means of generating hot water, electricity and chilled water (via an absorption chiller)

- High efficiency LED lighting combined with zoned lighting controls with PIR sensors

- High efficiency gas boilers

- The main motivation for the move was financial savings of merging two offices into one. However, this has brought major environmental benefits. This is down to a big improvement in building fabric and services. There's also the practical advantage of managing energy use in one building rather than two.

- Since Savills moved in, we've experienced technical issues with both the PV and CHP systems. This has increased the overall grid supplied energy use. Our facilities management team has worked closely with its M&E partner and landlord (Great Portland Estates) to re-commission these systems for full use.

- Human factors still play a big part in energy use. Savills recently appointed a consultancy to carry out a full energy audit of the building. This found lots of energy was being wasted through plant runtimes and IT equipment use. The latter problem's now been fixed. To ensure that non-essential IT equipment is turned off when not in use, we will run a staff engagement project.

http://pdf.savills.com/documents/1_33MargaretStreetCaseStudy-30072014.pdf?_ga=1.37589287.643866651.1446132485

http://pdf.savills.com/documents/Wormery-Savills_Margaret_StreetHQ.pdf?_ga=1.223369884.643866651.1446132485

MAYOR OF LONDON

BUSINESS ENERGY CHALLENGE

UBM PLC

Ludgate House
245 Blackfriars Road
W1T 4HZ

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words

Floor space:
162,039 sq ft

Year built:
1989

Start/finish dates of efficiency project:
2010 - 2014

Lead organisation for efficiency measures:
Facilities Management

Funding source for efficiency measures:
Capex and Opex

Description:
UBM is a global media and events company. At our London HQ, we've been working hard to reduce carbon and manage our energy use better.

Measurement – in 2010 we started installing 'smart meters' in all our buildings. This means we now have real time data analysis of energy use, including both peak and base load data. It means managers can monitor energy use and where savings can be best made.

Monitoring and targeting – at Ludgate House we put in a smart meter for gas supply in 2010. In terms of electricity, data analysis showed the baseload

was high. We set targets to ensure the baseload didn't go over 350kW. This was later reduced to 300kW.

Ageing plant – variable speed drives had been installed over a number of years to make the pumps and ancillary plant run more efficiently. In 2008, we ran a major project to replace two old chillers with two energy efficient turbo core chillers. The project was a big success. So in 2012, we replaced the two remaining centrifugal chillers with one turbo core chiller. We also designed a control strategy to optimise use of the chillers in sequence. This meant distributing the load so that the chillers ran at less than maximum capacity. This saved energy and boosted performance.

Short lease life – with the building lease at Ludgate House due to expire in 2015, capital expenditure projects had to show quick payback results. That meant a T5/T8 lighting retrofit project was preferred to new LED fittings, as these were more expensive in 2011 than they are today.

Management buy-in – the head of FM runs an energy forum and meets with building, sustainability and maintenance managers every month.

Engagement – getting staff involved is a crucial part of using energy better. We've run a number of initiatives at Ludgate House including energy saving competitions.

Compliance – UBM has always worked to meet environmental and energy legislation. For example, energy performance certificates, air conditioning inspections and the Carbon Reduction Commitment (CRC). Thanks to these energy savings, we left the CRC at the start of phase 2. We've achieved ISO 14001 Environmental Management certification and the Carbon Trust Standard. We also take part in the Carbon Disclosure Project.

http://sustainability.ubm.com/environment-overview

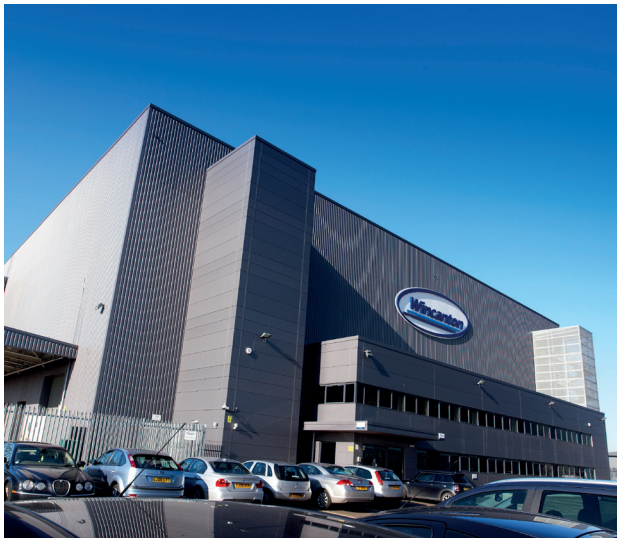
MAYOR OF LONDON

BUSINESS ENERGY CHALLENGE

WINCANTON RECORDS MANAGEMENT

Site 8 Beam Reach,
Coldharbour Lane
Rainham, Essex
RM13 9YB

The Business Energy Challenge has invited businesses to share their projects and strategies on energy efficiency. In this series you can hear from businesses in their own words



Floor space:

10,218 m²

Year built:

2005

Start/finish dates of efficiency project:

April 2010 - ongoing

Lead organisation for efficiency measures:
Facilities department

Funding source for efficiency measures:
Self funded

Description:
We installed a building management system to run the close control systems in our secure storage vaults. These systems are installed to maintain the temperature and humidity to the required British Standard. There are two systems in each of the four vaults which used to run 24/7. The system switches the systems on and off as required on a lead and lag basis. This installation significantly reduced the total running time for the systems. Due to the huge energy savings associated with this system the payback period was just ten months, so we didn't require senior approval.

Our current layout for the main aisles in our warehouse produced a very high lighting output. We questioned whether

his level of lighting was required. When tested it was much higher than that recommended for these type of areas. We then removed every other light and were still able to maintain the lighting above the recommended level. This was a cheap fix as our onsite staff were able to carry out the amendment.

We looked at the shifts being run by our warehouse operative. We were able to start our late shift earlier. As a result, we were able to close the site two hours earlier. This had the benefit of saving on lighting for the site. It also cost nothing. It also had the added benefit of pleasing staff as they could now leave work earlier in the evening.

We've sent out email messages and posters advertising our switch off campaign, as well as what people can do to save energy. We continually send out reminders of these campaigns to keep up the momentum. Our aim is to achieve a culture change. This was the hardest of all of our initiatives as it relies on others. Again it was cost-free.

We installed movement sensors to all of our general office areas, toilets and secure storage vault areas. The benefits from this were very good. We've not only saved energy use, we've also cut our maintenance and renewal costs.

We're now looking at the high cost longer payback period initiatives. These require a lot more input as a much higher justification is required.