

## Case Study of Oxford Instruments approach to the Carbon Reduction Commitment Energy Efficiency Scheme.

Oxford Instruments plc provides high technology tools, systems and service for industrial and research markets, based on our ability to analyse and manipulate matter at the smallest scale. We are a leading company in our markets and our growth, both organically and through acquisitions, has led to our promotion to the FTSE 250 Index on the London Stock Exchange this year.

When the CRC Energy Efficiency Scheme (CRC) was first announced in 2008, Oxford Instruments took a proactive approach and introduced a Group-wide energy saving initiative. This initiative was driven by Chief Executive, Jonathan Flint, who set energy reduction targets for the worldwide Oxford Instruments Group in relation to the revenue being generated. Last year we reduced our energy consumption globally by 15% in relation to revenue. The current target is to reduce energy use by another 15% relative to revenue over the next three years.

To achieve these reductions in energy use Oxford Instruments began by appointing Energy Champions at every site around the World. To increase the visibility of our energy use we set up a Sustainability webpage on our Intranet, which now holds four years worth of data on our global energy consumption.

In the UK, the focus was on energy consumption at three of the Group's largest sites: High Wycombe, Buckinghamshire; Yatton, near Bristol; and the Headquarters site in Tubney Woods, Oxfordshire.

The energy consumption of the three UK sites is shown below:

Year	Electricity (kWh)	Natural Gas (kWh)	Oil (kWh)	Total energy used (kWh)
<b>2008 reference</b>	6142992	1383812	666400	8193204
<b>2009-10</b>	5904835	693196	579041	7177072
<b>2010-11</b>	6204474	735819	586635	7526928

Although actual UK energy consumption rose slightly last year, this was due to large growth in production output.

The energy usage in relation to revenue for the UK sites over the last three years is detailed below and is presented as the number of kilowatt hours of energy used per £million of revenue generated.

Year	Total energy used kWh	Total revenue £million	Energy used / £million revenue
<b>2008 reference</b>	8193204	107.023	76556 kWh/£m
<b>2009-10</b>	7177072	104.156	68907 kWh/£m
<b>2010-11</b>	7526928	122.485	61452 kWh/£m

The figures show an impressive improvement and is the result of the commitment to sustainability and hard work of many teams around the Group.

## Investment

Oxford Instruments has replaced older equipment with new energy efficient versions that have cut energy use and also eliminated those cases where the business was using equipment containing ozone depleting gases. In total Oxford Instruments has invested over £300,000 in upgrading into energy efficient equipment. The theme has been to understand and monitor consumption, then use the data to determine improvements.

Examples include:

- Two of the three UK sites have new air conditioning chillers and compressors that are 30% more efficient than the old compressors;
- Voltage power optimisation has been installed at one of our UK sites and this will be rolled out to further sites starting in December 2011;
- We have removed a 1000litre hot water calorifier and installed two instant heat boilers to provide hot water at our High Wycombe site. This reduces the need to fire the main gas boiler;
- In 2010 Oxford Instruments was certified to the Carbon Trust Standard, which gave external confirmation that energy data capture was in good shape;
- Automatic Meter Reading (AMR) was installed in 2010 at all three UK sites. This gives the ability to monitor closely electricity, gas, oil and water usage;
- The High Wycombe site installed a further 20 sub-meters connected to the AMR system to give more detailed visibility and thus control of consumption;
- Chilled water requirements have been assessed and as a result larger capacity water chillers have been installed to replace several smaller, less efficient chillers;
- Each member of our staff contributes in his or her own way to save energy by taking care to do the housekeeping: switching lights off when they leave a room; turning equipment off (or the use of automatic timers to do so) when they leave at the end of the day etc.; and,
- PIR detectors have been installed in meeting rooms resulting in improved lighting controls.

## Where do we go from here?

There have been some major strides along the long march to reducing our energy use in relation to revenue. Success in the marketplace has meant strong demand for increased production. Acquisitions will increase the number of businesses that need to be reported under the CRC. The Group continues to evaluate the potential for further energy savings, including:

- Biomass combined heat and power at our Tubney Woods site;
- Solar power at the Tubney Woods and High Wycombe sites;
- Use of LED lighting at the High Wycombe site;
- Improvement in lighting controls

The CRC has focused the mind on the cost of utilities. We will continue to play our part by reducing the consumption of energy so that we help in passing on a less polluted planet to future generations.

Dave Wales  
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Oxford Instruments plc.