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## UK TRAFFIC LIGHTS OFFER QUICK WIN ON CARBON SAVINGS

**Around 57,000 tonnes of carbon dioxide could be saved by converting all UK traffic lights to LED (light emitting diode) lights by 2010, according to new research.**

The report from the UK Energy Research Centre (UKERC) shows the carbon savings that could be made by replacing existing incandescent lightbulbs in traffic signals with LED lights. The move would also offer financial savings to local authorities through lower electricity bills and reduced maintenance time.

The UK currently has an estimated 420,000 traffic and pedestrian signal 'heads'[1], a figure that is rising at around 3% annually. Currently, these use an estimated 101.7m kWh of electricity per year and cause the release of around 50,000 tonnes of CO<sub>2</sub> each year.

LEDs signals, however, are around three times more efficient, with each signal using around 17W, compared to 50W for a standard incandescent light. LEDs also last have a longer life – they are guaranteed for five years, and may last considerably longer than that, compared to 12-18 months for incandescent lightbulbs.

The cost of switching, along with uncertainties over the reliability of the technology, has meant that the introduction of LEDs in traffic lights has has yet to become widespread in Britain. A standard signal head, consisting of one red, amber and green light costs around £150, while the price for an LED head is currently around £600-£700.

Jim Skea, research director of the UKERC, said, "The aim is to show how simple changes can reduce carbon emissions in the short term. LED lighting can be introduced into traffic lights very quickly, as the experience of countries such as the US and Germany has already shown."

However, given both the environmental and cost benefits to highway authorities, one option would be for the Government to establish a fund offering grants or loans to encourage a complete switchover to LED lights by 2010.

[1] Each traffic head consists of a single red, amber and green light, with an arrow (filter) light if applicable. A pedestrian head will consist of just the tow lights (red and green).

### **Editor's notes**

- Quick Hits are a series of proposed initiatives developed by the Demand Reduction theme of the UK Energy Research Centre ([www.ukerc.ac.uk](http://www.ukerc.ac.uk)). They are intended to make a useful contribution towards reducing carbon emissions by the Government's target of a 20% cut by 2010, and are designed to be relatively easy for the Government or local authorities to implement. Legislative changes or expenditure needed would be small in nature, hence the title 'Quick Hits'.
- The UK Energy Research Centre (UKERC) was established in 2004 as a central part of the £28 million cross-Research Councils programme 'Towards a Sustainable Energy Economy' (TSEC). Its mission is to be the UK's pre-eminent centre of research, and source of authoritative information and leadership, on sustainable energy systems. UKERC undertakes world-class research addressing whole-systems aspects of energy supply and use, while developing and maintaining the means to enable cohesive UK research in energy.

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