

Light-emitting 'wallpaper' could replace light bulbs

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Energy-saving light bulbs could be redundant according to company developing organic light emitting diode technology

Revolutionary low energy 'light emitting wallpaper' could start to replace light bulbs in 2012.

The wallpaper, which uses ultra thin – down to 1mm - organic light emitting diode (OLED) technology has been developed by Lomox and has now received a £454,000 grant funding from the Carbon Trust to develop it further.

Lighting in buildings accounts for around 16% of total electricity use in the UK. Organic LEDs consume significantly less energy and so can help reduce CO² emissions compared with conventional lights.

The OLED materials, being pioneered by Lomox, have a wide variety of potential applications and when coated onto a film could be used to cover walls creating a light-emitting wallpaper which replaces the need for traditional light bulbs.

As well as being flexible, OLED film will require a very low operating voltage - between 3V to 5V - so it can be powered by solar panels and batteries making it suitable for applications where mains power is not available such as roadside traffic warning signs.

The OLED technology is claimed to be 2.5 times more efficient than standard energy saving bulbs.

Operating lifetime has traditionally been a problem with OLED technology, but the firm says it has found a way to achieve significantly longer lifetimes than fluorescent lamps. The technology will also be more efficient (producing 150 lumens/watt) as it only emits light along one axis.

OLEDs can produce a more 'natural' looking light than other forms of lighting.

Ken Lacey, chief executive of Lomox, said: "This technology has the potential to produce ultra efficient lighting for a wide range of applications, tapping into a huge global market. It's a great example of the kind of innovation that makes the UK a hotbed of clean technology development."

The Carbon Trust is currently on the lookout for other technologies with significant carbon saving potential to receive up to £500k of grant funding through its Applied Research scheme.

It has recently launched an open call for applications which will close on 18th February 2010.

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