

More light for a better quality of life

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The importance of artificial light to society has long been recognized with the utilization of fire thought of as the quintessential human invention. Now scientists have found that emerging, more energy efficient lighting technologies could be the key to a better quality of life.

New research published today, Thursday, 19 August, in a special issue of IOP Publishing's [Journal of Physics D: Applied Physics](#) shows that solid-state lighting (SSL), a new technology based on [semiconductor](#) light-emitting diodes (LEDs), has the potential to increase our consumption of [light](#) and therefore our quality of life.

The team of US-based researchers has provided estimates of our energy and light consumption in the future by looking at past behaviour patterns and have come to the conclusion that SSL -- with its cheap manufacturing and operating costs -- may have an impact not just on [energy consumption](#) but also on human productivity, and that the two impacts are linked.

As the researchers write, "Thus, an increase in the cost of energy associated with lighting, which would normally reduce both human productivity and energy consumption, can be mitigated by an increase in the efficiency in lighting: energy consumption can be held constant while maintaining some human productivity increase or energy consumption can be reduced without a decrease in human productivity."

The findings will be beneficial for governments and local authorities who are implementing legislated regulations in energy consumption or

instigating incentive schemes to use more energy efficient light sources.

More information: "Solid-state lighting: an energy-economics perspective", Tsao et al 2010 J. Phys. D: Appl. Phys. 43 354001.
iopscience.iop.org/0022-3727/43/35/354001

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