



The hybrid lighting solar system | Photo source [Monash University](#)

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CONCEPT FOR HYBRID LIGHTING SOLAR SYSTEM COULD POWER HOUSES



AGRICULTURE & ENERGY

The design aims to save energy and reduce the cost per kWh by having cheaper solar panels installed and utilising a lighting system that uses the sun as its source

Spotted: A team of students at Monash University, Malaysia have designed a hybrid lighting solar system that could make clean energy more affordable. The design uses two distinct lighting sources: solar energy from sunlight and electrical energy from solar panels. The solar panels will be self-adjusting based on the light intensity and direction of the Sun.

Compared to previous solar inventions, the team's design presents the following innovations: firstly, it includes sensors that can measure light intensity and adjust the solar panels' angle towards the sun. Secondly, the solar panels are fixed together using strong magnetic attractions based on the concept of kanawa-tsugi. Thirdly, a screen-protector-like protection for solar panels would increase durability. The film could act like a sacrificial damage absorber that peels off upon receiving heat impact.

The proposed concept consists of multiple solar panels on a slider which can be attached to a roof using premade magnetic joints. The solar lighting system consists of a convex lens and a system of reflective tubes which will transport reflection, lighting up the interior of buildings during the daytime without using any electricity.

During the night or a heavy downpour, the slider will be activated and the solar panels will cover the convex lens. The solar panels and the convex lens can also be cleaned using a wiper installed on the side of the solar panel.

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cost savings.

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g system is expected to be integrated into buildings
Using the natural lighting already present during the
lings, rather than electricity, would enable significant

The design has been selected in this year's James Dyson Award.

Written By: Katrina Lane

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Takeaway:

Electricity production generates the second largest share of greenhouse gas emissions (25 per cent of 2019 greenhouse gas emissions), with around 62 per cent of electricity coming from burning fossil fuels. It is possible that the hybrid lighting system would not only provide household lighting, but could also power all electrical appliances. This opens up a future of houses running entirely on clean, renewable energy.

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