

IMPLICATION STUDY OF DAYLIGHTING ON ENERGY EFFICIENCY IN OFFICE BUILDING

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ABSTRACT

Nowadays, the issue of an increase in electricity tariffs has been spun out of proportion. In Malaysia, there is a growing need to review and increase our electricity tariffs, given that they are still one of the lowest rates in the world.

Lighting contributes significantly to business energy use and operating costs. Increasing energy prices highlight the need to reduce the cost of lighting. Energy use associated with lighting systems can be reduced by up to 82% if energy efficient lighting practices are adopted. Efficient lighting systems not only reduce energy consumption but improve the working environment, increase safety and enhance staff well-being.

Energy Efficiency is promoted globally to achieve a healthier economy, a cleaner environment and greater energy security. This is because energy efficiency not only saves costs on utility bills, it also helps to control greenhouse gas emissions, reduce the use of unsustainable energy. Using natural resources like daylighting (natural lighting) is much more productive and efficient. Renewable natural resources are not only profitable and are environmentally friendly.

Daylighting can be classified as an important element for sustainable design. The incorporation of daylight in the design building can be justified for a number of reasons. Daylighting is classified as the controlled admission of natural light by direct sunlight and diffuse skylight penetrating into a building to reduce the usage of artificial lighting and increase energy saving. By providing the dynamic and perpetually evolving patterns of outdoor illumination, daylighting can help to create a visually stimulating and a productive environment for building occupants and can reduce as much as one third of total building energy costs.