

Wind/solar-powered street light



Exterior lighting design and efficiency standards using wind/solar power for street lighting

Objective:

Using solar and wind to power light source used for exterior lighting.

Approach:

The light source is topped by a wind turbine and two solar panels with a battery to store energy. The 70-watt, 24-volt light can store 100 amp hours at 24 volts in its two batteries. It only turns on at night and is as bright as a normal streetlight, but more energy-efficient. The light uses induction lamp technology, which means the power needed to generate it is transferred from the outside of the lamp via electromagnetic fields. Its life expectancy is about 22 years.

Impact:

- Exterior lighting design and efficiency is explored by the development and application of wind/solar-powered street light.
- The results are used to develop the U-M campus and the city wide use of light for exterior lighting guidelines and standards utilizing solar and wind as sources of energy.

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Facilities and Infrastructure:

A newly hybrid solar-wind-powered streetlight at the entrance to Buhr Park is a collaboration in design and research between the Sustainable Design Research Laboratory within TCAUP and full spectrum solution company and the city of Ann Arbor..