

Technology: City bus electrification supported by PV

What?

Installation of PV panels on the roof of city buses in order to provide renewable electricity for use on board of the bus.



Why?

City buses are equipped with an increasing number of electrical devices that are designed to improve the driver work and increase passengers' comfort. The alternator must therefore meet the requirements of increased levels of electric energy demand. The PV panels will decrease the buses' alternators load, leading to lower fuel consumption and bringing both economic and ecological profits.

Where?

As one of the first cities in the world, the Polish city of Lublin has installed photovoltaic thin film CIGS solar panels on its buses' roofs. Thin film CIGS solar panels are thinner and lighter than traditional silicon solar cells made of glass. They are also non-toxic (no cadmium) and can be made frameless, thus ideal for buildings and moving vehicles in cities. They are flexible and can be bent [1].

Cost

Potential savings for the city of Lublin are estimated at up to 2,400€ per bus per year. The system's payback period is estimated at a mere two years, taking into consideration only the fuel consumption reduction and not the overall environmental benefits. After two years, the solar energy solution will create compound surpluses for the remainder of the panels' life span that will outlast the lifetime of the bus [1].

Manufacturers:

- Midsummer [1]

Want to learn more?

[1] <http://midsummer.se/press/city-of-lublin-eng-news-2014>