

Cost comparison for a standalone residential photovoltaic system between amorphous silicon and cadmium telluride in Malaysia

Abstract

The price of crude oil has risen from a low of USD 2 per barrel to a high of USD 126 (as at 4th June 2008). The present system cannot be maintained for more than one or two generations. This resulted in searching for an alternative energy source. Since Malaysia lies entirely in the equatorial region with an average daily solar radiation of 4,500kWh/with sunshine duration of about 12 hours, solar photovoltaic system is applicable to be used as an alternative primary energy to replace the conventional system. Stand-alone domestic PV systems provide electricity to households in remote areas. The system provides basic electricity for lighting, refrigeration and other domestic electrical equipments. These application have been installed almost everywhere in the world, especially in rural areas of developing countries. The PV is often the most appropriate technology to meet the energy demand of isolated communities. Stand-alone PV systems generally offer an economic alternative to the extension of electricity distribution grid at distance of more than 1 or 2 km from existing power lines.