



*smart consumer*

## Solar power

Kind to the wallet and the environment, solar products and gadgets have become an integral part of the green movement. What do consumers need to be mindful of when shopping for such items?

by Sreerema Banoo

**F**ountains, garden lights, pumps, radios and battery and iPod chargers — these are some of the solar-powered products available on the market today. Driven by consumers' concerns about reducing their carbon footprint, an increasing number of companies, large and small, are churning out such products. In 2009, Energizer announced that it would

introduce new charging devices that use solar energy instead of conventional electricity. NovoThink has also introduced an iPod and iPhone skin that comes with an integrated solar cell capable of charging the Apple devices on 100% solar power.

And while photovoltaic panels (which convert energy from the sun into electricity) and solar thermal systems (for water heating) require significant investments, solar

products and gadgets such as solar lights and chargers don't cost a bomb. Solamas Sdn Bhd general manager's Lionel Yap points out that the big range of solar products on the market means that there's something for every household.

Yap, whose company markets and distributes solar power systems and solar gadgets, lists solar chargers for hand phones and mobile devices as products worth investing in. Though solar chargers may not make sense in terms of offsetting electricity costs given the country's heavily subsidised electricity rates, the environmental impact is significant.

Beyond the environment-friendly argument, Stephen Chin, sales and marketing manager of SC Origin (M) Sdn Bhd, says the wireless nature of solar products is another plus. He lists solar security lights, fountain pumps and solar CCTVs as among the products worth investing in. He says solar products are the ultimate solution in cases where wiring is an issue or if there is no power point available. The company's solar Do It Yourself (DIY) kit for lighting and power generation is a popular item, especially in the kampung where power grids are not available. Chin says the solar DIY kits are also becoming more popular. "These days, home users are more concerned about the environment and these kits help them to learn about solar power. Exploring DIY solar projects with the children on weekends are also green and fun activities."

The company carries a wide range of solar products that are manufactured locally as well as imported from the US, Japan and Germany. They include solar-powered spotlights and floodlights, fountain pumps for water features, garden

lights and ventilation fans.

In general, Chin points out, solar products out can easily be deployed as long as there is sunlight. They are also safe because of the low voltage.

Solar-powered products also offer a good return on investment, he adds. “Wiring in a small garden may cost you few thousand ringgit, but with a small portion of that money, for example, RM1,000, you can purchase nine units of solar spotlights. Not to mention, you also save on light bulbs and there is no electricity bill to pay.”

However, solar products do come with some setbacks, chief being that they don’t work at night. “Solar products must have sun during the day to power or charge the batteries. The length of time that the products stay on is in direct proportion to the amount of sun exposure during the day. Very simply, the more the sun exposure during the day, the longer and better the product performs,” says Chin. He adds that the solar panel must have exposed to the sun. “Overhanging trees, shrubbery, shadows, bad weather like a rainy or cloudy day, are all factors that limit optimum performance.”

The number of solar products in the market and poor quality control are also negative points, says Yap. For example, he says, there are some solar chargers that are very cheap but unreliable because of poor quality control. “This has been the single-biggest factor that has kept this market from booming.”

### Choosing a solar product

“Price isn’t everything,” says Yap. Chin agrees, adding: “If you see something very cheap, it’s better to stay away [from it].” Components used to build solar-powered products are costly and high-tech, he explains. “For instance, one of the major parts is the solar cell or solar panel, which is a very expensive product and a

## GETTING THE MOST OUT OF AN OUTDOOR SOLAR LIGHT

- **Placement of a solar light is all-important. For maximum solar gain, the solar cell should face due south and be positioned at an angle so it is perpendicular to the sun.**
- **The surface of the solar cell should not be shaded by foliage or structures at any time during the day.**
- **If the light has an automatic on-off sensor, it should not be placed near any other bright light source such as a street lamp because it may cause the light to shut off prematurely.**

Source: SC Origin (M) Sdn Bhd

good quality unit will last for 20 years. To build a good solar panel that will last for 20 years won’t be cheap by any means.”

Also be mindful of the product’s country of origin, says Yap. “There is a difference between our products and those from China. Our products are designed to sit on a car dashboard in heat of [as high as] 60°C. The cheaper options from China tend to overheat.”

Chin adds that a good solar-powered product must be equipped with a good charging circuit. “Products that do not have such technology result in a relatively short product life cycle of less than six months,” he says.

When buying a solar-powered light, besides the size and quality of the solar panel, one should also look at the battery. “The solar cells are wired directly to a rechargeable battery that stores the electricity generated by the cell. A diode located between the cell and the battery ensures that electricity flows only one way — into the battery. NiMH batteries are often used because they stand up better to the frequent charge-and-release cycles than standard NiCAD batteries. NiMH

batteries also have a significant environmental benefit as they can be disposed of without harming the environment. The battery is usually the second-most costly component in a solar light,” says Chin.

When buying a solar-powered light, also take notice of the circuitry, he adds. “This is the most crucial component of a solar light. Wiring determines how efficiently the stored electricity is converted into light. High-quality circuitry will give you a longer-lasting, brighter solar light.” He adds that the quality and integration of the components determines how many hours the light can be deployed. “Run times can be as short as an hour or as long as a few days.”

Look out for products that can survive the elements such as rain and extreme heat. Pay attention to the housing, says Chin. “Whether a solar light is strictly functional or highly decorative, its housing needs to be UV-stable and weather-tight. Assembly should be minimal. In most cases, the solar panel will be an integral part of the light itself. Sometimes, the solar panel comes separately, which allows you to mount the light where you need it, and then mount the panel in a place where it will get the best sun exposure.”

When buying a solar charger, look at the fine print, advises Yap. “Some batteries take 12 hours to be fully charged and that you should plug the unit into an AC power point.”

If you’re a frequent traveller, get chargers that are flexible so you don’t worry about breakage,” he adds.

When buying any solar-powered product, says Yap, you should ask yourself whether you would use it. “Do you want to show off? Do you want to make a difference? Answer ‘yes’ to any one of the questions and you’re on your way to buying a personal solar charger.” ■