4 Unique Ways to Generate Renewable Energy

Finding sources of renewable energy is a growing challenge for the modern world. As we strive for energy efficiency and sustainable resources, avenues are opening up for different and exciting ways to power our lifestyles. Companies across the globe are harnessing the potential of renewable energies, including solar and geothermal methods.

But, there are more novel sources on the horizon that can provide power for many things, from metropolitan buildings to your high-tech lifestyle. Always available, naturally renewing and running at an energy-packed 98.6 degrees Fahrenheit, the human body seems a useful green energy option for the future. Nanotechnology, the frontier of cutting-edge science, is also rapidly becoming a viable way to power our world. Even thermodynamics provides a novel way to get things going, using a carefully balanced system to preserve energy, keeping items hotter for longer periods of time.

Here are some technologies that are changing the way we look at energy generation. Do you think these sources can become a power player like solar energy? Or should they be reserved for sci-fi books and space movies? Let us know in the comments below.

1. Body Heat

Here’s how it works, according to a BBC article: Heat exchangers in the Central Station’s ventilation system convert the excess body heat into hot water. That is then pumped to the heating system in the nearby building to keep it warm. In practice, the system lowers the energy costs of the building by 25%.

A report last February said Jernhusen will expand its environmental projects to include industrial buildings, in addition to offices and homes. But the company’s “industrial hall concept” will use solar panels for energy, not converted body heat.

Rest assured, you don't always need thousands of people to produce enough energy to power technology — one's clothing and accessories can be turned into a personal powerhouse. It may not be the most fashionable item, but researchers at the U.S. Department of Energy's Lawrence Berkeley National Laboratory created a body heat energy-harnessing jacket using silicon nanowire technology. The "personal power-jacket" would use body heat to charge cellphones and other electronic devices on your person.

Beyond your own phone and tablet, body heat could be used to power a number of energy- and fuel-guzzling objects, even airplanes. Last year, Charles Champion, executive vice president for engineering at Airbus, envisioned a plane for the year 2051 that uses body heat to power lights and transparent viewscreens.

2. Nanotechnology

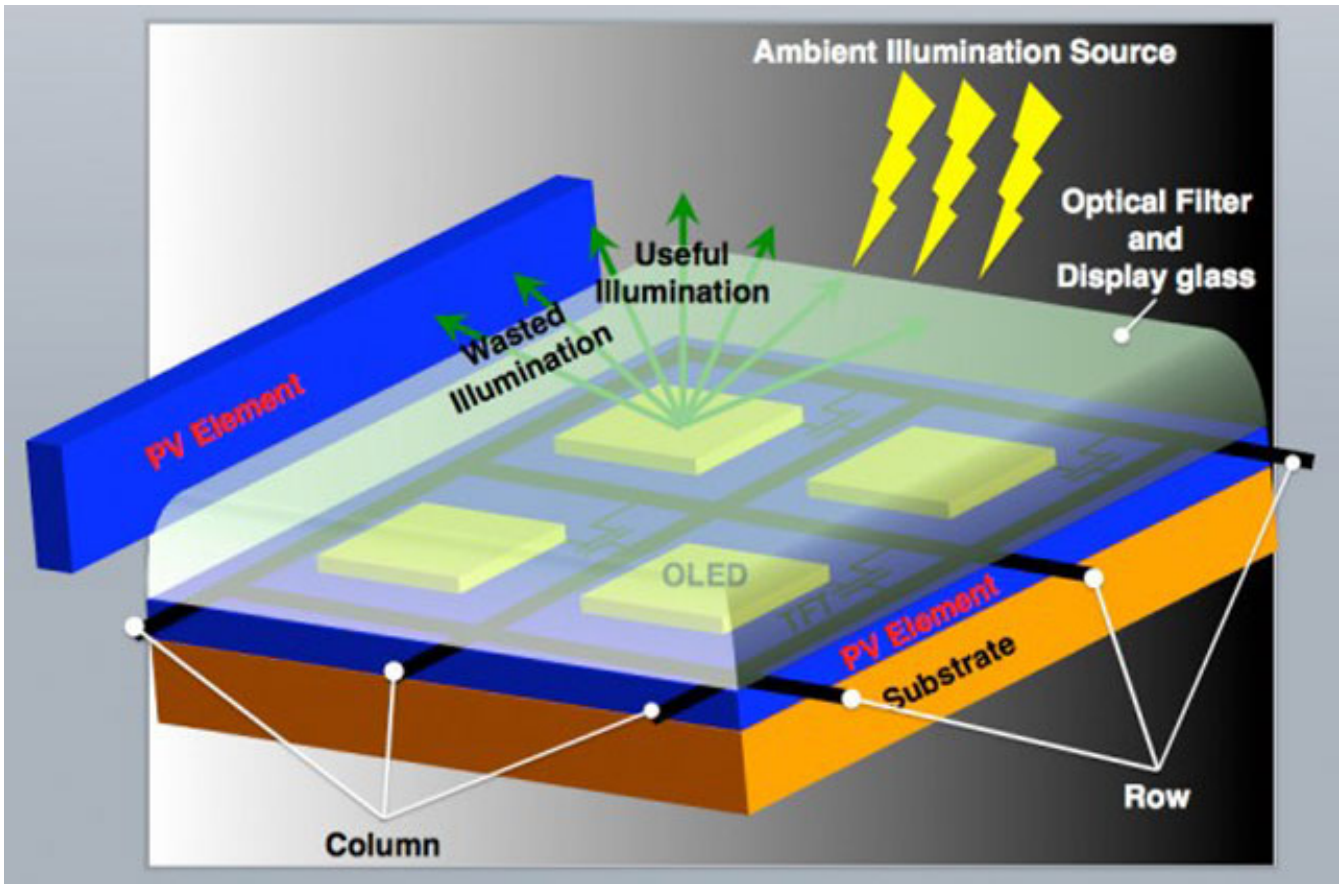

Illustration: Arokia Nathan

Powering objects using nanotechnology has long been a dream of scientists and engineers, and it's inching toward reality. Late in 2011, scientists combined zinc oxide nanoparticles with aluminum and heated the materials in a microwave. They discovered that the zinc oxide conducts electricity, while the aluminum makes it difficult for the molecules to transfer heat — sparking electrons and electrical current. But, how we can use this technology to power consumer products is an ongoing learning experience.

There also are prototypes in place that have major potential for sustainable technology, thanks to nanotechnology that enables energy transfer. A researcher at

the London Centre for Nanotechnology developed a cellphone power source that uses solar cells and light from OLED to produce an overall longer battery life. The power would derive from the “wasted light” in an OLED screen, which would be reabsorbed using photovoltaic cells built into the screen itself. It’s still a long way from producing sustainable returns, but the concept could change the way we power our technology in the near future.

3. Pedal Power

While the sustainability of constant human effort is less promising than other energy-producing resources, the grassroots movement surrounding pedal power is one that cannot be ignored. Its inherent DIY attitude helps citizens focus on novel ways to power everyday electronics, which helps to raise awareness for innovative energy sources.

4. Small-Scale Thermodynamics

From global issues that impact society in a major way to keeping your morning coffee hotter for just a bit longer, novel methods are available to power our lives in new and interesting ways while remaining sustainable.

www.mashable.com [1]

Posted by Janine E. Mooney, Editor

February 15, 2012

Source URL (retrieved on *12/09/2013 - 9:49am*):
http://www.wirelessdesignmag.com/news/2012/02/4-unique-ways-generate-renewable-energy?qt-digital_editions=0

Links:
[1] http://www.mashable.com