

[REMODELER'S ROOM]

ON THE BRIGHT SIDE OF HOME TECHNOLOGY



Technology advances a product from a simple idea into a cutting-edge device that changes our life for the better. In regards to Home Technology, one of the most crucial innovations on the market today involves Renewable Energy.

By definition, Renewable Energy is any naturally occurring source of energy, such as solar, wind, tidal, wave, biomass and hydroelectric power – basically, anything that is not derived from fossil or nuclear fuel. In essence, it is non-polluting, abundant and never-ending. This earth-friendly energy is collected & converted directly into useful outputs, most often electricity for homes, businesses & farms.

In the last decade alone, there have been amazing advancements in both Solar and Small Wind technologies. For the purpose of this article, I will focus on improvements within the solar industry. There are 3 types of energy produced by the sun: Solar Thermal Hot Water, Solar Thermal Hot Air, and Solar Photovoltaic (PV) Panels. Solar Thermal systems are so simple that they haven't



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changed much in the last few decades; however, Solar PV continues to make giant strides – much like the old 'bag phones' of the 90's have evolved into the 'smart phones' of today. As the materials and designs improve, the efficiency and energy output continue to increase without affecting the product size. Because more manufacturers are producing & more customers are purchasing, the supply-and-demand is continually lowering the price point. The single greatest progress in Solar PV has been the smart technology of today's In-

verters, Charge Controllers & Remote Monitoring. Instead of a standard grid-tie or off-grid system, the Inverters are now able to actually interact with the power grid. For example, we can program the system to store excess energy in the grid or we can program it to go off-grid during peak loads. Another example would be a grid-assist design which incorporates a Battery Bank and allows the consumer to have continual power even during a 'black-out'. In addition, every system now has the capability for live monitoring of power generation and cur-

Robert Westall

In early 2008, Robert Westall founded Cleaner Greener Energies in Sioux Falls, SD. Having come from years in automotive marketing, he weighed the economic recession with high gas prices, and recognized a need to move toward clean sustainable energy. Putting the power back into the hands of individuals is what drove him to explore small wind and solar solutions and bring them to Sioux Empire residents.



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rent usage. Much like watching the mileage on a vehicle, the more you focus on it - the more efficient you automatically become. A consumer can also monitor and adjust the system remotely via the internet from either a computer or a smart phone.

Civilization has been using solar technol-

ogy in some form or another for thousands of years. Historically, there is always resurgence in exploring energy alternatives in times of worry. For example, Solar saw a rebirth in the 1970's with the oil embargo and in the 1990's when the GulfWar made people take note of our dependence on

foreign countries for our oil supplies. And once again, with the last few years of economic recession, the threat of terrorism and rising fuel prices, people are seeking out alternative energy options. Americans inherently desire freedom in everything they do – so it's no surprise that there has

been a push towards energy independence & sustainability.

The sun always has been, and always will be a viable source of Renewable Energy. Our abundance of sunlight actually ranks South Dakota 14th in the nation for Solar Power Potential and with the current financial incentives Solar PV is an economically-sound decision. Evolving Solar Technology will only continue to help us more efficiently harness the tremendous power of the sun and provide clean, green energy to the masses. ■

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