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Use Solar energy to save you money. Check this Out!

<http://tinyurl.com/SOLARfreeEnergy>

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Solar Power, a renewable source of energy, is one of the most available sources on Earth. However, being an intermittent source of energy, it needs to be enhanced by storage or another energy source. Even though solar energy systems nowadays still have low average efficiencies, due to modern technology, research is being put into developing high-efficient and low-cost systems daily. Using solar energy is beneficial because it allows a more environmentally friendly or a "greener" way of living. It is also a freely available resource, which is one of its many advantages as once installed and does not cost more than the cost of setting up and routine maintenance.

Concentrating Solar Energy Systems such as "Stirling Disks" are large solar power plants that use modern technologies to convert light energy into useful electric energy. A direct technology of using solar energy involves the usage of Photovoltaics, which is a system is directed for small appliances and homes.

Solar Power Information

It is important to know of some information about solar power before purchasing it. The definition of solar power is "energy systems that produce energy directly from sunlight". It is the conversion of sunlight to electricity. Most of our energy resources are anyway indirect forms of solar energy. Without the sun, the wind would not blow. Additionally, the sun causes evaporation of water which results in water collecting up in rivers after condensation. This water is used for hydro electrical power. Without the sun, water would be eternally locked in a solid state: ice. Moreover, bio-fuels cannot exist without the sun as well. If you were to go more into depth it is also the sun that allows life, which in turn, would provide fossil fuels. An essential fact about solar energy is that it is a renewable source of energy as sunlight could be used any time.

Solar power is transmitted directly by "photovoltaics" (PV), or indirectly with "concentrating solar power (CSP). Photovoltaics are used to power small to medium sized equipment such as calculators to off-grid homes. CSP involves two methods: the first method is to simply boil water which is then used for providing power; the second and more complicated method entails technology such as the sterling engine dishes which use a sterling cycle engine to power a generator. Another detail to keep in mind that even though installation of solar power is costly, this cost has decreased significantly over the past couple of years making it affordable for almost everyone. Furthermore, small solar applications are also being used to replace other sources in the developing world. Since solar power is a renewable source of energy, this means you can pay up front for the next twenty years or so of energy. However, non-renewable energy sources are purchased as consumed.

Solar Power Efficiency

So how efficient is solar energy in reality? Research states that the current photovoltaic conversion efficiency is about 15% and improving day by day! Additionally, some experimental models are yielding over 40% efficiencies! This shows that solar energy is becoming more superior than what it was about twenty years ago. Solar panel efficiencies are averaged at 20%. However, do not be discouraged. The most advanced solar energy systems are estimated to have an average of 40% efficiencies. However, when converting the resulting electricity (from solar energy) into light the efficiency does reduce by 15%.

Thus, solar panels do have a reduced efficiency when it comes to lighting up our homes. Nevertheless, the most proficient way of making most of solar energy is to utilize as much direct sunlight through day light and passive solar heating technologies and also use the highest efficiency solar panels for the rest of our energy requirements. High efficiency solar cells are a type of solar cell that averages the highest efficiencies in comparison to standard solar cells. Even though solar power systems generally still have low average efficiencies, a lot of research is being put into developing high-efficient and low-cost systems daily.

The Advantages of Solar Energy Technology in Your Life

Even though solar energy does have its downsides, such as intermittency, where it has to be combined with a form of storage or another source of energy, it still has many advantages to it. Such advantages include reliability, cost, environmental friendliness, aesthetics, and sustainability. Solar energy, for one, is more reliable than wind power and hydro power. This is because the sun will continue to rise for the next 4 billion years without fail, whereas, wind and water might not be available daily. In cases such as during the night and cloudy nights, where solar power is not useful the problems are eased as intermittency is 100% predictable. Furthermore, another advantage of solar power is that although clouds diminish solar power it does not eliminate it.

One essential advantage of solar collectors is that they require minimum maintenance once installed and also provides free energy. Additionally, although solar cells do wear out, their lifespan is measured in decades. The durability of photovoltaic cells improves year by year. More importantly, even though solar cells have been an expensive method of generating electricity, this cost is reducing per kilowatt per year. In addition, solar cells also operate cheaply after installation. Furthermore, solar power has its advantages when it comes to environmental friendliness. Nowadays, everyone is going "green" in order to conserve and protect our earth. Solar power is an efficient way of going green, since it produces zero pollution.

Solar powered generators are known not to even produce any noise! Moreover, even though solar energy requires a lot of space, space that is found on rooftops of existing structures is more than enough to produce an adequate amount of solar energy without occupying any extra land area. One of the advantages of solar power is that it is estimated that our earth is continually flooded with 175 trillion Kilowatts of solar power per day. This means that there is an extraordinarily reliable annual energy supply of 1,530,000 Terrawatt hours daily. On the other hand, resources such as oil, coal, gas, nuclear power and wood produce 15 times LESS than this. So presuming that the sun is going to keep on shining for another estimated 4 billion years, solar power is a highly sustainable resource.

However, you might be discouraged by the look of many solar cells. Do not worry. Due to the

advantage of modern technology photovoltaic cells are becoming available in many colours such as black or brown, to match roof top colours. Additionally, how often is it that we would look at the rooftops of a house anyway?

Solar Power and its Benefits

This renewable source of energy has many benefits. This is the reason it is being advertised increasingly due to the combination of modern technology and simple sunlight. So what makes solar power beneficial to our lives? Well most importantly, since solar power is intermittent it is not advisable to run a solar power system in areas with low sunlight level. It is helpful to have a backup system in the events that the sun does not shine for a few days. However, on the good side, if there is a power outage you will still have electricity if you run on solar power. If more energy is required simply add more solar panels.

Solar energy is useful because it can be used for many day to day tasks, such as heating water, drying clothes, powering attic fans and small appliances, produce lighting for both the indoors and outdoors of a building, and better yet power cars! Additionally when using solar energy, you eliminate the cost of foreign and other sources of energy in your home. Even better, utility companies might buy that extra energy from you if you solar power system produces more energy than you require.

A further benefit of solar power is that gas or power grids are not required to run solar power systems, so even if the installation is initially expensive, running the system does not cost a thing! Another vital benefit to keep in mind is that solar power technology is constantly improving in an effort to decrease cost and increase efficiency. Using solar power is beneficial because it allows a more environmentally friendly or a "greener" way of living with zero pollution. It is also a freely available resource, which is one of its many advantages as once installed , it does not cost more than the cost of setting up and routine maintenance.

Solar Power Technology

Due to the rapid improvement in solar technology lately many homes are solely dependent on solar power globally. This leads to the question of how solar energy is put to use. It is claimed that most solar systems can collect heat created by sunlight striking an object. An example of this is to simply concentrate light with mirrors or lenses to produce enough heat to start a fire. This indirect method of producing solar power is known as "Concentrating Solar Power" (CSP). As briefly mentioned earlier, CSP systems use the simple technology of lenses or mirrors and tracking systems to focus a large area of sunlight into a small beam. The consequential heat is then used as the heat source for a conventional power plant. The "Parabolic Trough" and the "Stirling Dish" are two examples of concentrating technologies. In all concentrating solar power systems a working fluid is heated by the concentrated sunlight.

It is then used for either power generation or energy storage. Furthermore, it is important to provide the continuous availability of energy since solar energy is not available during the night. Since solar power is an intermittent energy source, all available energy made available should be taken when available, stored, or transported via transmission lines to where it can be used. In storage solar energy is stored at high temperatures using molten salts. These molten salts have low-cost, high specific heat capacity and can distribute heat at temperatures compatible with

conventional power systems. This expertise helps increase efficiency of the system.

A direct method of solar technology involves the "Photoelectric Effect". It was in 1839 that Edmund Becquerel discovered the technique of producing an electric current in a solid material using sunlight. Once this method developed it was found out that photoelectric or photovoltaic effects caused certain materials to switch light energy to electrical energy at an atomic level. The Photoelectric Effect uses the simple method of reflecting, absorbing or direct pass of light. However, it is only the absorbed light that actually generates electricity.

Hopefully this information should be useful if you are considering using solar power as an energy source for your home. Just remember even though there are certain disadvantages to think about, the number of advantages outweigh the number of disadvantages. These disadvantages can be improved vastly as technology improves. Additionally, it is important to keep in mind that solar powered appliances have vastly changed for the better when compared to ten years ago.

Keep in mind that solar energy systems are suitable in regions with a lot of available sunlight. So do not opt out to get a solar panel system unless you are completely sure of the surroundings. Again, as suggested earlier, it is best to have an alternate energy source in case of low availability of sunlight. Although solar power is an energy source that has only been recently utilized, it might just become the most crucial energy source of the future.

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