Solar Power Modules and Green Energy

by HK Chaudhary

Article published on December 14th 2011 | Technology

We are burdening our planet with more than it can sustain. Our planet has a limit of providing us with natural resources. But somehow, mankind has forgotten that the planet has a life in our race for industrialization. While using the natural resources is practical and necessary, the rampant thoughtlessness in our methods has pushed the environment to the point of collapse. This is why there has been massive research and development towards eco-friendly energy production like crystalline silicon PV modules. The history of solar power modules is nearly 100 years old, but sadly, in comparison to other technology, photovoltaic solar module manufacturers are still far behind. If the planet is to safely sustain healthy life to the next century, our efforts need to be more radical and immediate.

There are two main forms of solar modules in use today. While one form is only practical for industrial uses; the other form is more affordable for using in our daily lives. Let us study their specifics and try understanding how they apply to our world:

Mono crystalline Silicon Panels

Pure Silicon is rare, but the element itself is the second most abundant material on the planet. Our crust is made up of almost 28% of this metalloid. It exists in sand, mud, stone, plants, within our bodies, and in almost everything you see. Glass is one of the most common products made of this element. Incidentally, it is also a semi-conductor and has various uses in electronics and integrated circuits. Much of the technology that runs our modern life today is based on the inventions and developments of the â€˜Silicon Ageâ€™ since 1955. Today, mono crystalline Silicon is used on solar pane of the highest quality. They are the most efficient of all solar modules, but are quite astronomically costly to manufacture! This is why mono crystalline silicon panels are used for industrial purposes and space technology. Our satellites and in-space energy production units are all using this form of crystalline silicon PV modules.

Polycrystalline Solar Modules

The polycrystalline silicon is less efficient in generating electricity from the sun, but by far more practical in its usage. Most of the photovoltaic solar module manufacturers make products of this material. These types of solar panels are also more manageable because they can be shaped and integrated into smaller units (like calculators and watches). Beyond just their utility factors, there is a huge socio-economic range to their practicality. Polycrystalline solar modules are much more affordable and cheaper to manufacture compared to mono crystalline units. This allows us to make eco-friendly energy production available to the masses at an affordable rate. Thinking practically, the development and manufacture of mono crystalline silicon is too costly to make them of any use for general consumption. People simply wouldnâ€™t be able to afford those solutions, no matter how beneficial. But poly or multi crystalline panels are cheap enough to integrate into home energy solutions. This is why government bodies and international agencies provide special financial and resource grants to photovoltaic solar module manufacturers around the world.

Article Source:
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HK Chaudhary (a photovoltaic solar modules manufacturer) is a prolific writer and an environmentalist. He often discusses topics that concern with global ecological betterment and awareness.

Article Keywords:
photovoltaic solar module manufacturers, solar power modules, crystalline silicon PV modules, polycrystalline solar modules, solar modules

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