Photovoltaic (PV) cells take the solar energy that is captured and convert it into electricity. Unfortunately they are not as yet a practical solution to our energy needs in the transportation arena due to the limitations inherent in the current designs. The cars are not equipped to store enough electrical power to go more than a short distance when not in direct sunlight.

While occasionally solar powered cars have been built for other purposes, most are created for racing. The solar powered race cars are often sponsored by universities in the engineering or technology departments and sometimes by government agencies. The objective behind these sponsorships is to inspire further research and development of solar technologies. Perhaps one day, solar powered cars will replace the gasoline guzzling machines of today.

With solar powered cars, the work mechanism is basically the same for all versions. Each vehicle has a solar array consisting of many PV cells which captures and converts the solar energy into electricity. There are various solar cell types and technologies that have been used in solar powered car prototypes, including gallium arsenide, poly-crystalline silicon and mono-crystalline silicone. The differences are more due to individual preferences than to any real discernible power differences.

Since solar powered cars are usually made specifically to race, they can come in a variety of unusual shapes and sizes. Designers are always focused on increasing the speed that the car can attain so they strive to make it as strong as possible while still keeping it lightweight and aerodynamic. Most solar powered race cars have room for just the driver in order to keep the weight low and be able to keep the cockpit as small as possible.

The electrical components are the most important part of solar powered cars; how they work is not only for continuous power, but for storage capabilities. The battery pack can be likened to the gas tank of a traditional car. Instead of gasoline, the battery stores electrical power for later use. Unfortunately, while batteries have improved tremendously, they will not hold enough power to run the car for more than short distances.

Although solar powered cars are not yet practical for every day driving needs, the technology shows a lot of promise. Many ideas and experiments are being developed that attempt to address the limitations of solar powered cars. Ideas that are being worked on include incorporating the solar cells into the paint job of the car and batteries with higher storage capabilities.

Solar powered cars are one of the most promising developments in solar technology. Not only would they be cheap to run due to the sun’s power being free, solar powered cars would eliminate enormous amounts of the pollutants emitted by traditional gas powered cars. This would go a long way in stopping and even reversing the ill effects from global warming and greatly reduce air pollution and smog.

With solar powered cars, how they work without burning fossil fuels makes them a possible solution to our energy crisis. Solar energy is clean, renewable and free energy that can supply all the energy needs of the world. This energy is pollutant free with no emissions or greenhouse gases released into the air whatsoever. With the rising concerns over global warming and climate change, this is one of the most important reasons to pursue developing more ways to utilize solar energy.

Saves you money

 \* After the initial investment has been recovered, the energy from the sun is practically FREE.

 \* The recovery/ payback period for this investment can be very short depending on how much electricity your household uses.

 \* Financial incentives are available form the government that will reduce your cost. (visit www.dsireusa.org to find out about incentives available in the state you live in!).

 \* If your system produces more energy than you use, your utility company can buy it from you, building up a credit on your account! This nifty little scheme is called "net-metering".

 \* It will save you money on your electricity bill if you have one at all.

 \* Solar energy does not require any fuel.

 \* It's not affected by the supply and demand of fuel and is therefore not subjected to the ever-increasing price of gasoline.

 \* The savings are immediate and for many years to come.

 \* The use of solar energy indirectly reduces health costs.

Environmentally friendly

 \* Solar Energy is clean, renewable (unlike gas, oil and coal) and sustainable, helping to protect our environment.

 \* It does not pollute our air by releasing carbon dioxide, nitrogen oxide, sulfur dioxide or mercury into the atmosphere like many traditional forms of electrical generation does

 \* Therefore Solar Energy does not contribute to global warming, acid rain or smog.

 \* It actively contributes to the decrease of harmful green house gas emissions.

 \* It's generated where it is needed.

 \* By not using any fuel, Solar Energy does not contribute to the cost and problems of the recovery and transportation of fuel or the storage of radioactive waste.

Independent/ semi-independent

 \* Solar Energy can be utilized to offset utility-supplied energy consumption. It does not only reduce your electricity bill, but will also continue to supply your home/ business with electricity in the event of a power outage.

 \* A Solar Energy system can operate entirely independently, not requiring a connection to a power or gas grid at all. Systems can therefore be installed in remote locations (like holiday log cabins), making it more practical and cost-effective than the supply of utility electricity to a new site.

 \* The use of Solar Energy reduces our dependence on foreign and/or centralized sources of energy, influenced by natural disasters or international events and so contributes to a sustainable future.

 \* Solar Energy supports local job and wealth creation, fuelling local economies.

Low/ no maintenance

\* Solar Energy systems are virtually maintenance free and will last for decades.

 \* Once installed, there are no recurring costs.

 \* They operate silently, have no moving parts, do not release offensive smells and do not require you to add any fuel.

 \* More solar panels can easily be added in the future when your family's needs grow.

More about Solar energy advantages disadvantages

Solar Energy Disadvantages

 \* The initial cost is the main disadvantage of installing a solar energy system, largely because of the high cost of the semi-conducting materials used in building one.

 \* The cost of solar energy is also high compared to non-renewable utility-supplied electricity. As energy shortages are becoming more common, solar energy is becoming more price-competitive.

 \* Solar panels require quite a large area for installation to achieve a good level of efficiency.

 \* The efficiency of the system also relies on the location of the sun, although this problem can be overcome with the installation of certain components.

 \* The production of solar energy is influenced by the presence of clouds or pollution in the air.

 \* Similarly, no solar energy will be produced during nighttime although a battery backup system and/or net metering will solve this problem. See www.dsireusa.org for details on how net metering allows you to save electricity and money.

 \* As far as solar powered cars go - their slower speed might not appeal to everyone caught up in today's rat race.

Solar Powered Cars – Information

The first solar cars made their appearance in the late 1970′s. According to the Guinness Book of World Records, the first completely powered solar car was developed in 1984 by Greg Johanson and Joel Davidson.

Since then, the public has had an on again/off again love affair with solar powered cars. The idea of using the sun’s energy as fuel is inherently appealing. However many people have also raised valid questions about the usefulness of the solar powered car as a reliable means of transportation.

Solar cars use photovoltaic cells (PVCs) to convert the sun’s rays into electricity. In newer designs, the electricity is used in two ways. First, it powers the motor so that the car will move. Second, some of the electricity is stored in a battery so that the car will be able to function on cloudy days, at night, and in dark spaces like parking garages.

Photovoltaic cells cost anywhere from $10 to $400 per cell. The more expensive the cells, the more efficient they are at gathering and converting the sun’s energy. This means that constructing a solar powered car may be way beyond your budget.

Do solar powered cars have an effect on the environment?

This question can be answered in one of two ways depending on how you look at it so I will attempt to answer these questions on both fronts. Naturally the answer to both is yes, solar powered cars do have an impact on the earths environment. In the good sense the solar paneled car runs off the power generated by our extremely useful sun and therefore requires little to no energy to run after the initial build. This saves on fuel, the making of fuels which is not so environmentally friendly and also saves carbon emissions being released into the atmosphere making the ozone layer hole even bigger.

On the other hand when the solar powered cars are being built they are often made out of plastics which are not great for our environment. The plastics take many years if not hundreds of years to break down and are usually not a recyclable plastic type. Oils are used in the making of plastics and these oils are taken from the earth at a great cost to the overall environment. The plastics are used because they are lighter than most metals and therefor the cars will travel further and faster using the energy source they have.

Rubber and other metals are also used and even though these are better than the plastic they are still products of industry which are all harmful to the environment since they are produced in factories. So to answer the question you could say that the solar powered cars are good for the environment in the long run however their building techniques could be refined.

Do Solar Powered Cars Have an Effect on Earth?

Solar powered cars are becoming a thing of today. With the increasing need to save our planet against global warming, more and more people are using solar energy to power their houses. There are solar powered cell phone covers (for the iPhone that I know of) as well as flashlights and many other necessary things. Some people, as well as major car manufacturers, have created or are working on the creation of solar powered vehicles.

Solar powered cars do not run on the standard gas and diesel rather an alternative fuel that is safe for our environment. The rays from the sun would power these cars. Since the sun’s rays power it, there is an unlimited supply of “fuel” for the vehicle.

These solar powered cars are not yet available on the market but they will be sometime in the near future. There are options for solar panels to be placed on the roof of a vehicle so that it can get direct sunlight and there are even options for solar panels to charge electric vehicles.

Solar powered cars are a huge advantage to anyone and simply could not harm the Earth – or at least I don’t see how they could. They are safe for the environment in every way that I can see possible. When car manufacturers get past their prototypes and researchers figure out a way to get a solar powered car on the market and on the road, I will buy one. Hopefully, these cars will be affordable for everyone.

Solar Powered Cars: An Effective Way To Eliminate Rising Gas Prices at the same time it is good in the environment.

The vehicles are extremely lightweight are extremely practical. They are both safe and convenient. Solar powered cars are able to produce their full rated power at any speed which is a huge advantage. Going this route will help you save thousands on gas year in and year out. Plus you’ll be helping to improve environmental conditions by reducing your personal carbon footprint. Dramatically reducing the use of fossil fuels will have an astounding impact on the world.

New designs are constantly being introduced to world, while technological advances make solar powered cars more and more attractive. Solar energy is renewable and not endanger of running out like fossil fuels. There’s a race against time to create solar powered vehicles that will be affordable and practical for everyone no matter what their budget. They are a great way to begin reversing some of the damage caused to the planet through the use of fossil fuels. You owe it to yourself to learn as much as possible about solar powered cars. Just give it some thought.