

# Essay on solar cells are not effective replacements for fossil fuels

[Environment](#), [Global Warming](#)



## **Introduction**

Presently, it is a matter of common knowledge that global warming is among the most prominent problems affecting all regions of the world in equal measure (Sobey 46). Worth mentioning is the reality that, global warming is usually associated with carbon gases; carbon (IV) oxide, commonly referred to as carbon dioxide, being the most prominent. Scientists and environmentalists have established that 21.3 billion tons of carbon dioxide is released into the atmosphere, thanks to the use of fossil fuels. Research further indicates that natural processes can only consume up to half of the released amount. The net effect is the reality that the carbon dioxide in the atmosphere gets a net increase of 10.65 billion tons per annum. What this means is increased green house effect, and more global warming consequently. Global warming will therefore keep on threatening the human race, until an alternative, which is renewable is found. One of the alternative sources of energy that has been proposed over the years is solar cell. Unfortunately, the solar cell has a number of shortcomings. This paper endeavors to explicate why, and how solar energy is not an effective replacement of the fossil fuels.

## **Background**

In the search for an alternative non renewable fossil energy, scientists, especially those from China and Australia came up with the idea of energy from the sun, a concept they referred to as photo-voltaic energy.

Photovoltaic energy entailed the use of solar cells, commonly referred to as solar panels, to transform solar sunlight into electrical energy. In so doing,

they argued, the problem of having to rely on the non-renewable fossil energy will have been solved. They were wrong. The major reasons why fossil energy is referred to as non renewable energy is because the energy is obtained from compounds, organic fossils, of plants and animals, which have been subjected to natural heat and intense pressure of the earth in the bowels of the planet to form combustible forms (Espinosa 5124). Perhaps the most prominent forms of fossil energy are petroleum and coal. Perhaps, the main reason why they are referred to as non renewable energy is because the fossils have to decompose and undergo various natural processes in the depths of the earth in order to turn into usable fuel. Apparently, science and history have it that the fuel we use today is a result of decomposed animals and plants that died 650 million years ago. Essentially therefore, the world is in search of renewable carbon-free energy. This is how solar cell came into being.

### **Why solar cell is not an effective replacement for fossil fuels**

Apparently, solar cells are considerably costly to install (Whitburn 1). The cost of acquiring a solar cell is considerably high in almost all countries due to the material used, and the technical know-how involved in coming up with the functional unit. Notably, the cost of fixing the cell and performing all the wiring in the house or whatever premises the client wants can be considerably high. Similarly, the cost of maintaining the cells is unjustifiably high, especially in cases where the cell develops unforeseen technical failure. Where the client is a layman, of whom almost 99% are; it becomes quite costly to have the equipment installed. Conversely, fossil fuels require

low initial costs of installation, especially considering that it does not need highly advanced expertise.

Solar cells require a large area for installation and proper functioning.

Apparently, the solar cells need a big space for installation because any obstruction will make the equipment useless. The cell has to be exposed to the sunlight for proper generation of energy (Whitburn 1). Worth mentioning is the actuality that solar panels are exceptionally demanding in the present world, where the populations are rapidly growing prompting high population density in many places. High population density implies closely clustered housing units. Such close range neighborhoods always cause obstruction. Again, they will not work efficiently. This has been a major problem in urban china where the houses are so much clustered that getting a free space for construction is a serious social problem. The problem is not only limited to solar cells designed for domestic use. The industrial cells – the large ones that are used for postmodern highway lights require a bigger place. This becomes a limiting factor in the sense that land is a serious issue currently in all parts of the world, especially in the highly industrialized places.

Notably, the solar cells are only functional when there is sunlight. In straightforward terms, the bitter reality is that a person's expensive equipment will remain lying idle on the roof top during the night, or during the dull season when no sunlight is received (Delconte 1). This makes the equipment less efficient considering that the energy is needed although the day and night now that all countries are turning into 24 hour economies.

Another inefficiency of the solar cell is the actuality that the storage capability of the solar cell is has not been optimally been exploited. As such,

people are unable to store energy for future use. On the contrary, fossil energy is perfectly stored.

### **Alternative argument**

The opponents of the above ideas argue that solar cells do not require much space as they can be placed on the top of the building – a place that has no use at all. Additionally, they argue that the solar cell is the most efficient replacement for fossil energy since solar energy is renewable. Being renewable means it can be used for generations without getting depleted. The argument therefore is that solar cell is more reliable in present circumstances as compared to fossil energy (Li 726). Further, the proponents of solar cell over fossil energy argue that solar cell is among the most effective tools in the war against global warming as they do not produce carbon dioxide, a gas that brings about the green house effect making the temperatures on the earth's surface to rise beyond acceptable levels, hence exposing human race to the dangerous ultraviolet rays. Additionally, the proponents of solar power hold on to the argument that, in the long run, it is a cheaper source of energy.

### **Rebuttals**

The arguments held by the proponents of solar energy can be rebutted in a number of ways. For instance, their strongest argument – that solar energy is renewable, can be rebutted on the grounds that such energy is curtailed by changes in weather and seasons. Again, the energy from solar cell cannot be used to run heavy machinery and equipment. Additionally, the solar energy cannot be said to be a tool against global warming if such energy lacks

sustainability in the sense that it cannot be stored for future use. The sustainability of solar energy is questionable, especially considering how unreliable it is when there is no sunlight. The presumption that the energy is cheaper does not hold water since the average payback period of the cell is 25 years.

## **Conclusion**

In conclusion, it is worth mentioning that solar cell cannot solve the shortcomings of fossil energy efficiently. The main arguments supporting this statement include the fact that solar energy cannot be effectively stored. Similarly, solar cell needs too much space, which is unavailable in the contemporary world. Solar cells are bulky and get affected by clouds and pollution. They are costly to install and maintain, especially for the average earner. The payback period of the panels is 25 years, which is unreasonably long. The seasonality with which the cells work makes them quite unreliable.

## **Works cited**

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