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## **SOLAR BATTERY: ADVANTAGES AND DISADVANTAGES**

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To date, the issue of solar energy is discussed by many scientists. It is mainly the pros and cons, advantages and disadvantages, paying much attention to the environmental friendliness of this equipment, etc. Yet, there are both good and bad sides, and all this must be carefully weighed and pondered over to make the decision of exploitation of solar power plants.

Let's consider this topical issue in more detail. The main resource of the solar battery is sunlight, which leads to a number of advantages, such as: renewability, unlike fossil fuels - coal, oil, gas, which are not restored. According to NASA data, for about 6.5 billion years, the inhabitants of the Earth have nothing to worry about - as much as the Sun will warm our planet with its rays until it explodes.

Abundant, since the potential of solar energy is enormous - the surface of the Earth is irradiated with 120 thousand terawatts of sunlight, which is 20 thousand times higher than the world's need for it. In addition to other advantages of solar energy, it is available in every point of the world - not only in the equatorial zone, but also in the northern latitudes. Due to the fact that in systems on the solar resource there are no moving nodes, as, for example, in generators, the generation of electricity is noiseless.

Moving to solar panels as an autonomous energy source, the owners of frequent houses receive tangible savings. It is also important that the maintenance of solar energy systems is characterized by low costs - it is only necessary to clean the solar cells several times a year, and the manufacturer's warranty on them is usually 20-25 years. Such energy has a wide range of applications - it also produces electricity in regions where there is no connection to a centralized power supply system, and desal-

ination of water in Africa, and even the supply of energy to satellites in the near-earth orbit.

Not in vain, the solar energy has been recently called "people's" - this name reflects its integration into the electricity supply system at home, both in the case of photovoltaic and thermal elements. Every year, technologies in the production of solar cells are becoming more sophisticated - thin-film modules are introduced directly into the building materials at the stage of erection of structures. The Japanese Sharp company - the leader in the production of solar panels, has recently introduced an innovative system of transparent storage elements for window glazing. Modern achievements in the field of nanotechnology and quantum physics allow us to talk about a possible increase in the power of solar panels 3 times.

However, despite this, solar energy belongs to the category of an expensive resource – perhaps, this is the most contentious issue of all the positive and negative aspects of its use, and also sunlight is not available at night, on cloudy and rainy days. One of the important parameters of the electric power source is the average power density, measured in  $W / m^2$  and characterizing the amount of energy that can be obtained from a unit of energy source area.

In conclusion, I would like to note that solar energy is one of the most promising sources of alternative energy. At the moment, the technology of manufacturing and accumulation of sunlight is far from perfect, but developments are under way and in the near future, the people can get an environmentally clean, powerful source of energy that will replace all natural resources.

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