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PROSPECTS FOR USING SOLAR PANELS

A solar battery is a combination of photoelectric converters (photocells) - semiconductor devices that directly convert solar energy into direct electric current. Then it accumulates in batteries and is used for domestic purposes.

The energy received through the sun is a renewable resource, which means that the potential from this method of generating electricity is eternal. In the sunny day we can almost completely supply electricity to our homes. Also they are very durable and serve from 25 years or more.

For the most efficient use of solar panels, we need: solar panels, a controller (distributes the charge between the consumer and the battery), batteries and inverter (converts 12 V from the battery into 220 V for the operation of the devices).

There are such types of solar batteries: Monocrystalline, Polycrystalline, Amorphous, Cadmium Telluride panels, Copper-Indium Selenide panels, Polymeric.

So why solar panels are not widespread now? One of the problems is low efficiency. The most effective solar batteries nowadays are Monocrystalline (17...22 %) and Copper-Indium Selenide solar batteries (15...20 %). This problem can be particularly solved by using swivel mechanism at the dawn and sunset or mirrors that slightly increase the efficiency and energy released. Also we can use lenses. And the second problem is high cost. But over time and simplification of production, they will naturally become cheaper, but now this is still a problem.

Difficulties in using electricity from solar panels:

– the produced current is direct and nearby to 12-48 volts, to use it in everyday life, it needed to be convert;

- on cloudy days, efficiency drops significantly;
- need a lot of territory.

The advantages in using solar panels are much more than the disadvantages. This way of generating electricity does not pollute nature, works automatically, is an endless resource.