

## Section 02. Geotechnical Systems Stability

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### **Alternative source of electricity**

The sun is a source of very high power. 22 days of sunshine coming to Earth are equal to all the reserves of organic fuel on Earth. Solar panels are really an effective and alternative source of electricity.

The solar battery/panel is a set of photoelectric converters connected to each other in a single system. They convert solar energy into electric current.

Modern solar batteries can be conditionally divided into:

— solar batteries of low power. They are used to recharge mobile phones and small electronic devices. In such batteries there is a small area of photocells, but they have a fairly high price;

— solar panels, which are used during travel. The price and quality of this type of battery varies widely and for this reason, when buying such batteries, each model should be considered separately;

— solar photovoltaic cells in panels are the elements typed and fixed on the substrate and used as a blank, from which modern and convenient devices are made. They are installed on roofs or in another convenient place.

The advantages of using solar panels:

1. The sun is almost everywhere. Electricity can be obtained if there is access to solar lighting.

2. Autonomy. There is no need to connect to a centralized power supply system. There is no dependence on the price policy of local energy tycoons.

3. Costs economy. It is much cheaper to install solar panels for connecting an electric cable to remote villages and farms.

4. Ecological compatibility. There is no necessity of using fossil resources, which are not being renewed. Photocells don't produce carcinogenic emissions, they don't increase the level of greenhouse gases. For their constant work, there is no need to destroy already shabby forest tracts.

The main disadvantage of solar batteries is that they produce electricity only during the daytime. This problem is solved by installing a battery system that charges in the afternoon and returns/radiates electricity at night.

Modern batteries are really an effective source of electricity. They can achieve 40% efficiency. However, this requires appropriate conditions. As a rule, it makes sense to install the system data in areas where sunny days are most of the year. It is also necessary to take into account the geographical breadth on which your home is located, because when approaching the poles, the sunlight loses some of its power.