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ANALYSIS FEASIBILITY OF USING PHOTOVOLTAIC CELLS DEPENDING ON CLIMATIC CONDITIONS PLACEMENT AND CONSUMER POWER

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In recent years, Ukraine is widely distributed construction of individual houses in suburban areas where there is no central heating and gas supply. In these conditions, promising is the use of energy from renewable energy sources. Using such systems provide significant savings in both natural gas and other traditional energy sources.

Given the wide variety of equipment for renewable energy installations (wind turbines, photovoltaic batteries, solar panels, batteries, etc.), you can develop a lot of energy systems [1-4] diverse combination of sources. Thus, the main ostentatious to be taken into account for the calculation of the efficiency of solar systems is the number of hours of sunshine, which depends on the season and geographical location of the facility, the average daily intake of solar radiation on a horizontal surface, the average cloudiness and temperature.

To assess the feasibility and efficiency of photovoltaic cells depending on climatic conditions and power consumer, the calculations were necessary operating parameters and defines the number of photovoltaic cells (at the base capacity 100 W), which is necessary to cover the burden of the consumer, which is for example, 100; 500; 750, 1000, 2000, 5000 and 10000 watts.

As a result of the studies determined that the efficiency of photovoltaic cells greatly depends on climatic conditions and power consumers. Thus, to meet the electrical load capacity of 1000 watts required number of photovoltaic cells, respectively, for summer, autumn and winter periods The Spring and reach 7, 5 and 6 pcs. The calculated payback of the solar system, which for residential

consumers (population) was within 6-8 years depending on the plan, and the contract of sale of electricity.

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