

## Problems and perspectives of solar energy development in Ukraine

Vinnitsia National Technical University

**Анотація:**

В статті розглядаються проблеми та перспективи розвитку сонячної енергетики в Україні.

**Ключові слова:** сонячна енергетика, проблеми, перспективи, причини.

**Abstract:**

The article deals with the problems and perspectives of solar energy development in Ukraine.

**Key words:** solar energy, problems, perspectives, reasons.

Currently, there is a significant development of alternative energy in the world and one of the most popular areas is the solar energy itself. This is not surprising because the energy of the sun is safe for the environment and it can be produced while the sun is shining.

Ukraine did not become an exception. Solar energy is most widely used in heat supply systems. They serve for hot water supply, heating and other needs, which significantly reduces the use of traditional fuel resources.

The current trend is the rapid expansion of solar power use for both centralized power generation at solar power plants and in individual electricity supply systems for public and private buildings.

In countries where there is a high level of solar energy development, there are appropriate state programs that provide favorable conditions, including economic ones, for its use and development. [1]

The average annual amount of total solar energy that enters the territory of Ukraine annually is in the range from 1,070 kWh/m<sup>2</sup> in the northern part of Ukraine up to 1 400 kWh/m<sup>2</sup> and higher in the southern regions.

Photovoltaic equipment can be efficiently operated throughout the year, effectively, for 7 months a year (from April to October).

Transformation of solar energy into electric in Ukraine is oriented in the first place on the use of photovoltaic devices. The presence of significant reserves of raw materials, industrial and scientific and technical base for the production of

photovoltaic devices can provide not only the needs of domestic consumers, but also export more than two thirds of the output. [2]

The above factors led to the rapid development of solar energy in Ukraine. But with all the benefits of solar power plants are not without disadvantages. Relatively high cost of projects, which makes them not promising in the absence of state support and inappropriateness of Ukraine's grid system to the rapid development of this energy sector, which requires parallel and rapid modernization of partly outdated electricity transmission lines are among some of them.

Nevertheless, the development of solar energy opens the country's new prospects for both technical and economic development. In 2019, in the Znamensky district of Kropyvnytska region, the construction of solar power plants with a total capacity of more than 55 MW will begin. In order to accommodate and construct the objects of the alternative energy, solar power stations, a city-planning document is developed: detail drawing of territories between the established settlements on the Dykovsky rural district – LLC Solar Farm-8, full capacity – 50 MW; Bogdanivsky rural village – LLC "Znamianskaya energetic complex", full capacity – 5 MW; Petrovsky Rural District – LLC "Ukrros-trans", full capacity – 550 kW.

In February 2019, DTEK started preparations for the construction of a Pokrovsky Solar Power Plant with a capacity of 240 MW in the Sicheslavsky region, Nikopol district. [3]

## СПИСОК ВИКОРИСТАНОЇ ЛІТЕРАТУРИ

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**Никипорець Світлана Степанівна** – викладач англійської мови, кафедра іноземних мов, Вінницький Національний Технічний Університет, м. Вінниця.

**Дев'ятко Владислав Сергійович** – студент групи ETZ-18м, Вінницький Національний Технічний Університет, м. Вінниця.

**Nykyropets Svitlana S.** – Teacher of English, a department of foreign languages, Vinnytsia National Technical University, Vinnytsia.

**Devyatko Vladuslav S.** – student of ETZ-18m group, Vinnytsia National Technical University, Vinnytsya.