

**АЛЬТЕРНАТИВНА ЕНЕРГЕТИКА В УКРАЇНІ: СТАН ТА ПЕРСПЕКТИВИ РОЗВИТКУ**

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**Анотація**

*Стаття висвітлює питання сучасного стану в галузі нетрадиційної та відновлюваної енергетики в Україні та світі, а також окреслює можливі перспективи розвитку даної галузі. Альтернативна енергетика набуває ознак однієї з ключових галузей світової економіки.*

**Ключові слова:** відновлювані джерела енергії, нетрадиційні джерела енергії, гідроелектростанції, вітрові електростанції, сонячні електростанції.

**Abstract**

*This article describes the current state in the branches of alternative and renewable energy in Ukraine and all over the world and it also outlines the possible prospects of the development of the renewable and alternative energy. Alternative energy becomes one of the key sectors of the global economy.*

**Keywords:** alternative energy sources, hydroelectric power plant, wind power plant, solar power plant.

**ALTERNATIVE ENERGY IN UKRAINE: STATE AND DEVELOPMENT PROSPECTS**

Renewable energy is the energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as the sunlight, wind, rain, tides, waves, and geothermal heat. Renewable energy often provides energy in four important areas: electricity generation, air and water heating/cooling, transportation, and rural (off-grid) energy services [1].

Based on REN21's 2016 report, the renewal of energy contributed 19.2% to humans' global energy consumption and 23.7% of their generation of electricity in 2014 and 2015. This energy consumption is divided into 8.9% coming from traditional biomass, 4.2% of heat energy (modern biomass, geothermal and solar heat), 3.9% of hydroelectricity and 2.2% stands for electricity from the wind, solar, geothermal, and biomass.

Renewable energy systems are rapidly becoming more efficient and cheaper. Their share of total energy consumption is increasing. Growth in consumption of coal and oil could end by 2020 due to increased uptake of renewables and natural gas.

Consider the situation in the field of renewable and alternative energy in Ukraine. Ukraine actively involved in the process of using alternative energy sources and increasing annual growth rates of renewable energy. Legislative acts created a legitimate right for the efficient use of alternative energy. For the first time at the legislative level in Ukraine the 147 Collected articles. Issue 34 term and innovative renewable energy Law of Ukraine "On energy saving" from 1 July 1994. The law not only defined the concept of alternative energy but also established a regulation that applies to businesses and individuals who are working on the construction and reconstruction of renewable energy. Also, this law provides tax benefits to enterprises - manufacturers of energy-saving equipment, machinery and materials, measurement systems, control and power management and enterprises that use equipment that runs on alternative and renewable energy sources. That is at the very beginning of the formation of Ukrainian statehood was granted attention to this issue and created a favorable economic regime for the development and use of alternative energy sources [2]. In 2003 the Parliament of Ukraine adopted the Law "On alternative energy sources", which defines the legal, economic, environmental and organizational basis for the use of alternative energy sources, provided assistance in expanding their use of fuel and energy complex. This law alternative energy is defined as energy, which ensures the production of electricity, heat and mechanical energy from alternative energy sources. The law describes alternative energy sources like renewables, which include solar, wind, geothermal, wave energy and tidal, hydropower, biomass, gas from organic waste, gas, sewage treatment plants, biogas and secondary energy resources, which include blast furnace and coke gas, degassing of methane gas from coal deposits, converting waste energy potential of technological processes [3]. According to the "Energy Strategy of Ukraine till 2030" adopted by the Cabinet of Ministers of Ukraine on 15 March 2006, the development of alternative and renewable energy sources as an important factor in increasing energy security and reducing human impact

of energy on the environment. Large-scale use of the potential of alternative energy in Ukraine is not only domestic but also international importance. For alternative energy appears as a significant factor in combating global climate change of the planet as a whole, improve the general state of energy safety in particular. Therefore ways and directions of strategic development of the industry in our country should contribute to the united efforts of the international community in the field of energy and meet the basic principles of the Green Paper 'A European Strategy for Sustainable, Competitive and Secure Energy "(Brussels, 8 March 2006) The Strategy stipulates that development renewable energy will have a significant effect of reducing the use of traditional energy sources and emissions of greenhouse gases, improve the overall ecological environment [4]

Thus, Ukraine has considerable resources for renewable energy - with powerful river hydrological energy reserves, mountains and coastal areas to install wind machines, a long sunny period of the year, and significant agricultural areas for growing biofuel crops. All this, combined with favorable legislation and "green" public sentiments will allow Ukraine to occupy an important place among the advanced countries.

#### СПИСОК ВИКОРИСТАНОЇ ЛІТЕРАТУРИ

1. Кудря С.О. Нетрадиційні та відновлювані джерела енергії: Підручник / С.О. Кудря. – К.:НТУУ «КПІ», 2012. – 492 с.
2. Закон України «Про енергозбереження» від 01 липня 1994 року (№74/94-ВР).
3. Закон України «Про альтернативні джерела енергії» від 20 лютого 2003 року (№ 555IV).
4. Постанова Національної комісії регулювання електроенергетики України від 22 січня 2009р. № 32 «Про затвердження Порядку встановлення, перегляду та припинення дії «зеленого» тарифу для суб'єктів господарської діяльності»

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