

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ  
КАФЕДРА ІНОЗЕМНИХ МОВ  
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

**МАТЕРІАЛИ XI ВСЕУКРАЇНСЬКОЇ  
НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ  
СТУДЕНТІВ АСПІРАНТІВ ТА ВИКЛАДАЧІВ  
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО  
ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ**

**“TO MAKE THE WORLD SMARTER AND SAFER”**

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MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
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FOREIGN LANGUAGES DEPARTMENT  
LANGUAGE CENTRE

**MATERIALS OF THE ELEVENTH  
ALL UKRAINIAN SCIENTIFIC PRACTICAL  
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## ENERGY RESOURCES: WAVE POWER

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The topic of renewable energy is an evergreen subject, especially, in a world dominated by fossil fuels. Renewable energy is widely discussed in the contemporary world because it is unlimited, which means it's sustainable and does not emit greenhouse gasses that are harmful to the environment and human life. A classic example of renewable energy is wave energy.

Wave energy also known as ocean energy or sea wave energy, which is harnessed from ocean or sea waves. We should distinguish wave power from tidal energy, which is received from underwater equipment that gets the constant movement of ocean currents powered by gravity and the Earth's rotation. Wave energy is caused by wind passing over the surface of the sea or the ocean. A large amount of energy is stored in waves and we are now able to use it to generate electricity.

There are three main types of wave energy technologies. One type uses floats, buoys, or pitching devices to generate electricity using the rise and fall of ocean swells to drive hydraulic pumps. A second type uses oscillating water column (OWC) devices to generate electricity at the shore using the rise and fall of water within a cylindrical shaft. The rising water drives air out of the top of the shaft, powering an air-driven turbine. Third, a tapered channel, or overtopping device can be located either on or offshore. They concentrate waves and drive them into an elevated reservoir, where power is then generated using hydropower turbines as the water is released. The vast majority of recently proposed wave energy projects would use offshore floats, buoys or pitching devices.

But the main problem of these technologies today is cost. The cost of installing and maintaining a large wave plant is too expensive versus other alternatives such as wind farms.

Nevertheless, there is great potential for wave energy to become a major renewable energy source in the future because it is free (no fuel needed, no waste produced) and not expensive to operate and maintain. It can also produce a great deal of energy.