RENEWABLE ENERGY SOURCES

Yana Baliaba

Faculty of Chemical Technology,

National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

Renewable energy sources are an important resource for the modern energy

sector. In 2013, about 21% of global energy consumption was provided by renewable energy sources ("ECOTECHNIC Ukraine", 2019). We know that the well-known and easy-to-use deposits of gas and oil will last for 50 years according to approximate data, and another natural source of energy - nuclear - is considered dangerous for society. Ideal for human survival would be sustainable development, a concept in which production and consumption in society are balanced so as not to depend on resources that are only temporarily available (Panwar, N. L., Kaushik, S. C., & Kothari, S., 2011). The question arises - how to balance our energy system and how renewable energy sources will help here.

In this situation, it is necessary to look for other options for energy sources. So, the technology of production of renewable energy sources is a very attractive prospect because clean sources of energy and optimal use of these resources minimize environmental impacts, produce minimum secondary wastes and are sustainable based on current and future economic and social societal needs (Department of EP, 2022). Work on this issue has already begun and four natural sources of energy are being used - the sun, wind, water, and Earth's heat. It is a smart decision to produce energy from something that will not run out and will not harm a person, but there is a problem - this energy is not enough for a comfortable life. It should be noted that we still have many natural, ecologically clean and little-used sources. For example, biomass, agricultural and industrial waste, biogas, hydrogen, etc. Biogas is a gas produced during the decomposition of solid and liquid organic waste. During fermentation, a mixture of gases is released, among them methane (60-70%) ("ECOTECHNIC Ukraine", 2019). Biogas can be used to generate electricity, as well as for heating homes and cooking. Another interesting source of energy is hydrogen. This substance is harmless and can be a substitute for fuel for cars and energy to meet human needs. An important advantage of the waves is the technology of its production without the release of carbon dioxide, using only water and electricity.

So, in this way, the energy sector has something to focus on. Renewable energy sources have many advantages that need to be worked on:

- reducing carbon dioxide emissions
- becoming energy independent,
- saving fossil fuels
- preserving nature
- safety for society

In general, renewable energy sources will provide a significant effect of reducing the use of traditional energy sources, emissions of harmful greenhouse gases, which means that they have better indicators relative to environmental standards. In addition, the awareness of the lack of energy sources should influence the perception of the need to conserve resources.

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