THE CHANGING WORLD OF POWER GENERATION AND CONSUMPTION

Maksym Kyrychok

Faculty of Electrical Engineering and Automation,

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

The production and use of electricity is reaching new levels every year. More and more household and industrial devices require stable and high power, but obtaining the necessary amount of energy is becoming increasingly difficult. Modern science aims to solve this problem.

Coal, oil, and gas are non-renewable resources, so we cannot be sure that they will last for at least fifty years and future generations. For a century now, there has been an alternative in the form of nuclear energy, which is produced in huge quantities, but still depends on radioactive ores. In addition, after several accidents at nuclear power plants, humanity faced the enormous destructive consequences that can arise from poor service have become clear, and the question of abandoning such an effective but unstable technology is increasingly being raised.

Therefore, humanity has several options to solve this problem: to use less electricity, which currently seems simply impossible, or to provide 'green energy', which is renewable and, in the long term, quite cheap. Technological advances and new ways of thinking in society are helping to introduce modern solutions to solve

the global energy problem (Heydari, Heydari, & Amini, 2023, p. 198), which is why this topic is incredibly important.

Overall, global trends in electricity production and usage are constantly changing and require more detailed study, not only for ourselves, but also for our descendants (Ahmad, 2020, p. 1975).

References:

1. Ahmad, T. (2020). *A critical review of comparative global historical energy consumption*. *Energy Reports*, *6*, 1973–1986. https://www.sciencedirect.com/science/article/pii/S2352484720312385

2. Heydari, A., Heydari, M., & Amini, M. H. (2023). Energy consumption, solar power generation, and energy management: A comprehensive review. SSRN Electronic Journal. https://onlinelibrary.wiley.com/doi/abs/10.1002/tee.20109