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IMPLEMENTATION OF THE ADKAR MODEL FOR THE DEVELOPMENT OF BIOENERGY TECHNOLOGIES IN THE CONTEXT OF INCREASING DEMAND FOR DECARBONIZATION OF THE ECONOMY

The high dependence of the economy on carbon-intensive industries and energy sources has led to a significant increase in greenhouse gas emissions, which has caused global environmental problems and created significant obstacles to achieving sustainable development. Therefore, decarbonization, which is the process of reducing carbon emissions, is considered one of the most important priorities of a sustainable development strategy that benefits the economy and positively affects the overall quality of life. Ukraine, as a signatory to the Paris Agreement, has committed to reducing greenhouse gas emissions by 65% by 2030. [1] This goal reflects the country's reorientation towards the establishment and development of a low-carbon economy.

Decarbonization requires the introduction of new approaches to management, in particular, in the energy sector, such an approach should be the active use of alternative energy sources, for example, the development of bioenergy. Bioenergy is an energy sector based on the use of biofuels produced from biomass. Bioenergy currently holds a leading position in the world in the field of renewable energy, gradually displacing fossil fuels, the share of which in gross domestic consumption still remains significant and reaches 70%. At the same time, the share of renewable energy sources in the EU energy balance is 23%, of which the share of biomass is 54%. [2]

Thus, the energy sector must adapt to new challenges, which emphasizes the relevance of using modern methods for change management, which plays a key role in the implementation of new approaches in the energy sector, since the energy sector is a complex, conservative and regulated industry, where any changes require careful planning, communication and support of key stakeholders. The transformation of the energy sector is a sequence of stages, shown in Figure 1.

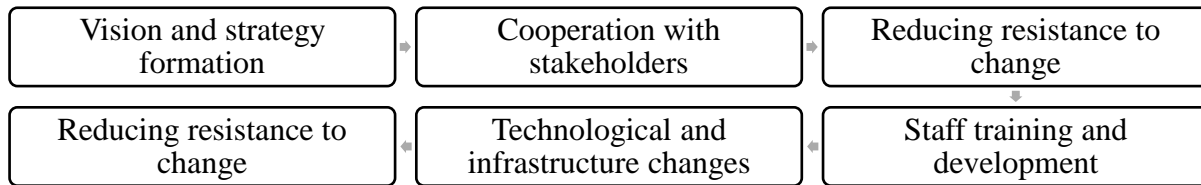


Figure 1 – Energy sector transformation process

Source: developed by authors

Without effective change management, the transition to new efficient bioenergy models may encounter mass resistance, financial risks and technical problems. Therefore, the use of modern change management models is an important tool for implementing the idea of decarbonization through the development of bioenergy enterprises. The ADKAR model, which was developed by J. Hiatt and is part of the organizational change methodology of the Prosci company, can be considered as such a promising tool. [3] As stated in [4], the application of this model allows us to identify the reasons for the failures of changes and resistance, as well as to develop a plan for the development of participants in the process of introducing the relevant change. The conceptual approach to promoting the development of bioenergy as a promising component of the renewable energy industry using the ADKAR model is presented in Figure 2.

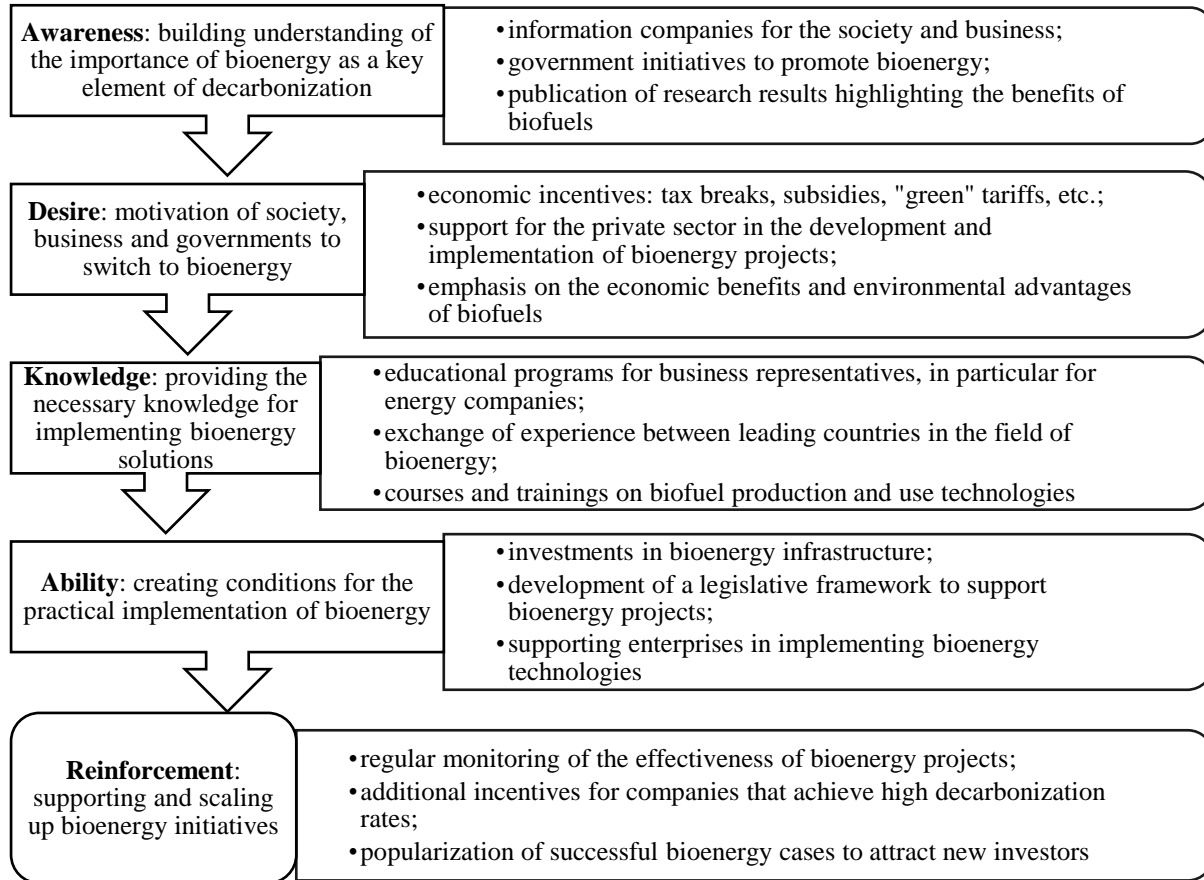


Figure 2 –Bioenergy development management based on change management model ADKAR

Source: developed by authors

Thus, the use of the ADKAR model allows for a systematic approach to the development of bioenergy, overcoming barriers to its widespread implementation in modern business practice, and stimulating the transition to environmentally friendly technologies, strengthening our country's position in the global ranking of achieving sustainable development goals. The proposed approach can be considered as a consistent step on the path to global decarbonization.

References:

1. Гнедіна К.В., Сорокіна А.В. (2023) Декарбонізація економіки як чинник забезпечення кліматично-нейтрального майбутнього: сучасні виклики і перспективи в Україні та світі. *Економіка та суспільство*. № 54. DOI: <https://doi.org/10.32782/2524-0072/2023-54-76>
2. Дергачов С. Біоенергетика в Європі та скорочення викидів парникових газів. *Sustainable Agribusiness Forum*. 30.01.2025. URL: <https://saf.org.ua/news/2225/>
3. Аверкіна М.Ф., Матвеев А.Ю. (2024) Порівняльний аналіз моделей управління організаційними змінами. *Економіка та суспільство*. DOI: <https://doi.org/10.32782/2524-0072/2024-67-83>
4. Гавловська Н., Семенченко В., Яблонський Т., Гуменна Е. (2023) Теоретичний базис управління змінами в організації. *Вісник Хмельницького національного університету*. № 2. С. 161 – 166. DOI: <https://doi.org/10.31891/2307-5740-2023-316-2-25>