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DECENTRALISED ENERGY AS A STRATEGIC GUIDELINE FOR COMPREHENSIVE RECOVERY OF TERRITORIAL COMMUNITIES ДЕЦЕНТРАЛІЗОВАНА ЕНЕРГЕТИКА ЯК СТРАТЕГІЧНИЙ ОРІЄНТИР КОМПЛЕКСНОГО ВІДНОВЛЕННЯ ТЕРИТОРІАЛЬНИХ ГРОМАД

In the context of Ukraine's post-war recovery, the key challenge for local communities is to create a sustainable, independent and environmentally friendly energy system. Decentralised energy is a strategic guideline that allows communities to ensure their own energy independence, reduce vulnerability to external risks and promote sustainable development.

The implementation of such systems not only improves the economic performance of communities, but also their digital transformation, as modern technologies allow for effective management of microgrids and optimisation of renewable energy sources.

This creates the preconditions for attracting investment, developing infrastructure and integrating communities into the new green economy.

As a result of Russian aggression, Ukraine's energy infrastructure suffered significant damage, resulting in a 61% reduction in production capacity and losses of over USD 10 billion. These events have highlighted the vulnerability of centralised energy systems and highlighted the need for decentralisation of the energy sector. Decentralised energy systems, such as microgrids and renewable energy sources, can improve the energy security of communities, reduce dependence on centralised supplies and promote sustainable development. The implementation of such systems

allows communities to recover faster from crises, ensuring uninterrupted energy supply for critical infrastructure and the population.

In addition, decentralisation of energy contributes to the economic development of communities by creating new jobs and attracting investment in green technologies. Thus, decentralised energy is a key element in the comprehensive restoration of Ukraine's territorial communities.

Economic feasibility and sources of funding for decentralised energy. The introduction of decentralised energy opens up new economic opportunities for local communities in Ukraine. According to an analysis by Razom We Stand, investments in renewable energy sources can reduce electricity costs by 30-50% in the long term. This reduces the dependence of communities on centralised supplies and volatile fossil fuel prices.

The main sources of funding for such projects are international grant programmes, government subsidies, and private investors. For example, the European Investment Bank (EIB) has already allocated more than €1 billion for energy efficiency projects in Ukraine. In addition, the introduction of public-private partnerships allows for additional funds to be raised for the creation of modern microgrids.

The cost-effectiveness of decentralised energy is also supported by its ability to create jobs, stimulate local businesses and attract innovation. This gives communities an additional impetus for sustainable development.

Recommendations for community recovery through decentralised energy. For the successful implementation of decentralised energy in territorial communities in Ukraine, it is necessary to create favourable conditions, including strategic planning, investment and digital transformation. First of all, communities should develop local energy strategies that take into account their natural resources, infrastructure and needs.

An important step is the introduction of digital solutions for managing microgrids, such as energy monitoring and optimisation systems. Smart Grid

technologies are already being used in some communities to significantly improve the efficiency of energy systems.

In addition, it is important to strengthen international partnerships to attract expertise and financial resources. Grant programmes initiated by the EU, the World Bank, or the UN can provide communities with start-up investments for renewable energy projects.

Training also plays a key role. Training programmes should be organised for local professionals who will be responsible for the operation and management of energy systems. Through a comprehensive approach, communities can achieve energy independence and sustainability.

Conclusions. Decentralised energy is a strategically important element of the comprehensive recovery of Ukraine's communities. It ensures energy independence, reduces vulnerability to external risks and promotes sustainable development. Thanks to digital technologies and innovative solutions, communities are able to effectively manage microgrids, integrate renewable energy sources and optimise resource use.

Despite significant challenges, such as unstable legislation and a shortage of qualified personnel, international partnerships, government support and active citizen engagement are the basis for the successful implementation of decentralised solutions.

This model of energy system restoration can create new investment opportunities, improve the socio-economic situation of communities and lay the foundation for Ukraine's energy sustainability.

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