

## CHAPTER

# STRATEGIC MANAGEMENT OF RELOCATED ENERGY ENTERPRISES IN THE WESTERN REGION OF UKRAINE: INSTITUTIONAL AND FINANCIAL MECHANISMS OF ADAPTATION

DOI: <https://doi.org/10.30525/978-9934-26-670-6-12>

**Lesia Gnylianska**

*PhD in Economics, Associate Professor,  
Associate Professor at the Department of Management  
and International Entrepreneurship  
Lviv Polytechnic National University*

### **Summary**

*The article studies the theoretical and methodological foundations of strategic management of relocated energy enterprises in the western region of Ukraine in the context of military challenges and structural transformation of the economy. The role of the institutional environment in the formation of adaptation strategies of energy sector entities, in particular through public-private partnership mechanisms, regional support programs and instruments of intermunicipal cooperation, has been substantiated. Financial mechanisms for ensuring the sustainability of enterprises, including budget incentives, international donor assistance, loan guarantees and investments in renewable energy, are analyzed. The key risks of the functioning of relocated enterprises associated with infrastructure restrictions, personnel shortages and changes in the regulatory field are identified. A conceptual model of strategic adaptation has been developed, which integrates the tools of crisis management, financial planning and innovative development. Particular attention is paid to increasing the energy security of the region and the formation of cluster forms of interaction between enterprises, authorities and scientific institutions. It has been proven that effective strategic management of relocated energy enterprises contributes to the diversification of energy sources, strengthening regional economic resilience and integration of Ukraine into the European energy space.*

### **Introduction**

The full-scale military aggression against Ukraine has led to a profound transformation of the state's economic space, especially in strategically important sectors, which include energy. The destruction of generating capacities, damage to energy infrastructure, disruption of logistics links and forced relocation of enterprises have become determining factors of the new

economic reality. Under these conditions, the western region of Ukraine has turned into a relatively safe territory of concentration of relocated industries, in particular energy enterprises. This necessitates the formation of effective models of strategic management capable of ensuring their adaptation, stable functioning and integration into the regional economic system. The relocation of energy enterprises is a complex multi-level process that combines production, organizational, financial and social aspects. It requires a rethinking of management approaches, revision of strategic priorities and the introduction of new tools for coordinating interaction between state authorities, local governments, business and international partners. Of particular importance is the institutional environment, which determines the rules for access to resources, support mechanisms and conditions for attracting investments. The speed of adaptation of enterprises, the level of their financial stability and the ability to implement long-term modernization projects depend on its quality.

The western region of Ukraine is characterized by specific socio-economic prerequisites for development: border location, active cross-border cooperation with EU countries, the presence of logistics corridors and a relatively more stable security situation. This creates additional opportunities for the integration of relocated energy enterprises into the European energy space, the expansion of electricity exports, the introduction of green transformation standards and the attraction of financial resources from international financial institutions. At the same time, the region is facing challenges of infrastructure overload, shortage of qualified personnel, growing competition for resources, and the need to modernize power grids. Strategic management of relocated enterprises requires a combination of crisis management tools with long-term approaches to sustainable development. It is not only about restoring lost production capacities, but also about forming a new architecture for energy security in the region. An important component is financial adaptation mechanisms – budget incentives, tax preferences, state guarantee programs, grant financing, public-private partnership mechanisms and attracting investments in renewable energy sources. A rational combination of these tools allows minimizing risks, ensuring the liquidity of enterprises and creating prerequisites for their innovative development. In modern conditions, the energy sector is not only a basic sector of the economy, but also a key element of national security. That is why the issue of strategic management of relocated energy enterprises is of systemic importance. It provides for the coordination of corporate strategies with regional development programs, the energy strategy of the state and European integration obligations of Ukraine.

The relevance of the study is due to the need for scientific substantiation of institutional and financial mechanisms for adaptation of relocated energy enterprises to new operating conditions. The development of an effective model of strategic management will contribute to increasing the competitiveness of

enterprises, strengthening the energy resilience of the western region of Ukraine and creating prerequisites for the post-war modernization of the energy infrastructure of the state.

### **1. Theoretical and institutional foundations of strategic management of relocated energy enterprises**

The full-scale war has caused a systemic transformation of Ukraine's energy sector, causing the destruction of generating capacities, damage to main and distribution networks, and disruption of logistics supply chains of fuel and equipment. Under such conditions, the strategic management of energy enterprises acquires signs of anti-crisis and adaptive management, focused on ensuring business continuity, diversification of energy sources and increasing the level of flexibility of organizational structures. War risks actualize the transition from long-term extrapolation planning to a scenario approach, which involves taking into account various options for the development of the security situation. For relocated enterprises, the key issues are rapid integration into new infrastructure, adaptation to regional electricity markets, as well as optimization of production and management processes in the face of resource constraints. The transformation of the sector is also manifested in the growing role of renewable energy sources, the development of distributed generation and microgrids that increase the resilience of the energy system. In this context, the strategic management of relocated enterprises should take into account not only economic, but also safety and environmental parameters of operation.

The western region of Ukraine has become the main center for the relocation of enterprises, including energy ones, due to relative security stability, developed cross-border infrastructure and active cooperation with EU countries. The institutional environment of relocation is formed under the influence of: state policy of business support and relocation programs; regional development strategies and energy plans of communities; public-private partnership mechanisms; international technical assistance and grant funding; processes of harmonization of energy legislation with EU law. An important characteristic of the region is the high level of development of local self-government, which creates conditions for flexible interaction between business and territorial communities. It is at this level that projects in the field of renewable energy, modernization of district heating utilities, and the introduction of energy-efficient technologies are being implemented. Institutional theory allows us to consider relocation as a process of adaptation of an enterprise to new formal (legislation, regulatory policy, tax incentives) and informal (business culture, partner networks, social capital) rules of the game. The effectiveness of strategic management largely depends on the ability of the enterprise to integrate into the new institutional matrix of the region. The theoretical basis for the management of relocated energy enterprises is the

concepts of strategic adaptation, dynamic capabilities and resilience management. According to them, the competitiveness of an enterprise is determined not only by available resources, but by the ability to quickly rebuild the business model, form new competencies and respond to external shocks. In the context of energy, strategic adaptation involves: diversification of energy sources and supplies; implementation of digital management and monitoring systems; development of local generation; integration into the European energy space.

The concept of energy security is considered as a multidimensional category encompassing security of supply, economic availability of resources, environmental sustainability and institutional stability. For the western region of Ukraine, the strategic management of relocated enterprises should contribute to increasing regional energy autonomy, strengthening cross-border cooperation and forming an integrated energy market. Thus, the theoretical and institutional foundations of strategic management of relocated energy enterprises are based on a combination of crisis management, institutional adaptation and ensuring energy security, which forms a methodological basis for further analysis of strategic and financial mechanisms of their development in the western region of Ukraine. In Table 1, we will group the theoretical and institutional foundations of strategic management of relocated energy enterprises in the western region.

The theoretical and institutional foundations of strategic management of relocated energy enterprises form a comprehensive methodological basis for their functioning in the context of the military transformation of the economy. Their systematization allows us to consider relocation not only as a spatial movement of production capacities, but as a deep process of strategic, organizational and institutional restructuring. The combination of crisis management, the concept of dynamic abilities, institutional theory and approaches to ensuring energy security creates the basis for the formation of an adaptive management model focused on long-term sustainability. In the western region of Ukraine, these principles are of particular relevance in view of active integration into the European energy space, the development of renewable energy and the growing role of territorial communities.

Therefore, the strategic management of relocated energy enterprises should be based on the synthesis of institutional adaptation, innovative transformation and integration into regional and international energy networks, which ensures not only the stabilization of activities, but also the formation of prerequisites for sustainable post-war development. Generalization of the theoretical and institutional foundations of strategic management of relocated energy enterprises allows us to form a holistic view of the role of formal and informal institutions, regulatory mechanisms and instruments of state support in ensuring their sustainability. At the same time, institutional conditions alone do

not guarantee effective adaptation without proper strategic tools aimed at integrating enterprises into the new economic environment. That is why the logical continuation of the study is the substantiation of strategic models of adaptation and integration of relocated energy enterprises into the regional energy space of the western region of Ukraine, which take into account the specifics of territorial development, infrastructure opportunities and energy security priorities.

Table 1

**Systematization of Theoretical and Institutional Foundations of Strategic Management of Relocated Energy Enterprises**

<b>№</b>	<b>Theoretical and institutional block</b>	<b>Content characteristics</b>	<b>Key concepts and approaches</b>	<b>Practical importance for relocated enterprises</b>
1	Military-economic challenges	Functioning in the face of physical threats, destruction of infrastructure, instability of markets	Crisis Management, Business Continuity Management (BCM), Risk Management	Ensuring the sustainability of activities and minimizing losses
2	Institutional relocation environment	A system of formal and informal rules governing the activities of enterprises in a new region	Institutional theory (D. North), theory of regulatory influence, public administration	Adapting to regional politics, increasing legitimacy
3	Strategic adaptation	The need to transform the business model and management structure	Dynamic Ability Theory (Teece), Adaptive Control, Scenario Planning	Increased flexibility and competitiveness
4	Energy security	Ensuring reliability, availability and stability of power supply	Energy Security Concept, Resilience Approach	Integration of the enterprise into the regional security system
5	Regional integration	Inclusion of enterprises in local economic and energy networks	Cluster theory (M. Porter), network approach	Strengthening cooperation and innovative development
6	European integration vector	Harmonization of standards and regulatory framework with EU law	Theory of European integration, regulatory convergence	Increased access to markets and financial resources
7	Financial and institutional mechanisms	Formation of Development Support Tools in the Context of a War Economy	PPP, ESG concept, international finance institutions	Attracting investments and upgrading infrastructure

*Source: grouped by the author by [1–3; 5]*

## 2. Strategic models of adaptation and integration of enterprises into the regional energy space

In the process of integration of relocated energy enterprises into the regional economic and infrastructure space, it is advisable to single out a number of basic strategic models reflecting different directions of adaptation and development in the conditions of military turbulence and structural transformation of the energy sector (Table 2).

Table 2

### Strategic models of adaptation and integration of enterprises into the regional energy space of western Ukraine

№	Strategic model	Characteristics of the model	Key implementation mechanisms	Strategic result
1	Anti-crisis stabilization	Aimed at restoring operational capability and minimizing war risks	Scenario planning, capacity reservation, cost optimization, liquidity management	Ensuring business continuity and stability of supply
2	Institutional Integration	Alignment of corporate strategy with regional energy policy	Participation in regional programs, public-private partnerships, cooperation with communities	Increasing legitimacy and integration into the regional system
3	Diversification and innovation	Expansion of activities and introduction of new technologies	RES projects, cogeneration, energy storage, engineering services	Increasing sustainability and competitiveness
4	Cluster-Merezhev	Formation of horizontal links within the regional innovation ecosystem	Creation of energy clusters, partnerships with universities, research institutes, equipment manufacturers	Synergistic effect and growth of innovation
5	Investment and partnership	Active attraction of financial resources for modernization and development	EU grants, MFI loans, green bonds, ESG financing	Technological renewal and increase of investment attractiveness
6	Cross-border integration	Focus on cooperation with EU energy structures	Joint projects, harmonization of standards, participation in international programs	Integration into the European energy market
7	Digital-transformational	Implementation of digital management and monitoring technologies	Smart-grid solutions, automated accounting, digital analytics	Increase efficiency, transparency and manageability of processes

*Source: grouped by the author by [2; 4; 8]*

The identified strategic models are not mutually exclusive. On the contrary, in practice, relocated energy enterprises apply them in combination, forming a hybrid adaptation strategy. At the initial stage of relocation, the anti-crisis stabilization model dominates, which ensures the preservation of the functional capacity of the enterprise and minimization of operational risks. Further development involves the transition to models of institutional integration and diversification and innovative growth, which allow the enterprise not only to adapt to new conditions, but also to strengthen its own competitive positions. Cluster-network and cross-border models are especially relevant for the western region of Ukraine, since geographical location, active cooperation with EU countries and the availability of educational and scientific potential create favorable conditions for the formation of regional energy hubs. The investment-partnership model acts as a financial basis for the implementation of other strategic areas, while the digital-transformation model provides an increase in operational efficiency and management transparency, which is critically important in the context of a war economy.

Thus, the strategic adaptation of relocated energy enterprises in the western region of Ukraine should be considered as a multidimensional process that combines stabilization, institutional, innovation and integration mechanisms aimed at strengthening regional energy security and creating preconditions for post-war sustainable development.

The relocation of energy enterprises in the western region of Ukraine has led to the formation of qualitatively new conditions for their functioning, which require a rethinking of traditional approaches to strategic management. In the context of military instability, structural changes in the electricity market and increased requirements for energy security, the ability of enterprises not only to adapt to the new environment, but also to integrate into the regional energy space as full-fledged and competitive entities is of key importance. The western region of Ukraine is characterized by relative infrastructural stability, active cross-border cooperation with EU countries, the development of renewable energy, and the high role of territorial communities in the implementation of energy projects. This creates prerequisites for the formation of a new configuration of the regional energy space, within which relocated enterprises can act as catalysts for modernization, technological renewal and innovative development.

Strategic models of adaptation and integration in this context should be based on the principles of flexibility, networking, diversification of activities and coordination of corporate strategies with regional energy development programs. At the same time, integration involves not only physical connection to energy infrastructure, but also institutional, financial and organizational interaction with local authorities, distribution system operators, investors and consumers.

Thus, the formation of effective strategic models of adaptation and integration of relocated enterprises is a determining factor in increasing the resilience of the regional energy system, strengthening its competitiveness and ensuring long-term energy security of the western region of Ukraine. Anti-crisis management of relocated energy enterprises in the context of a war economy is becoming systemic and goes beyond traditional financial stabilization mechanisms. Its strategic goal is to ensure business continuity, preserve production potential and form long-term sustainability of the enterprise in conditions of high uncertainty.

In the energy sector, crisis management includes:

- operational assessment of losses of assets and production capacities;
- relocation or modernization of equipment, taking into account new technical conditions;
- diversification of sources of supply of resources;
- formation of backup sales channels and alternative logistics routes;
- strengthening cyber protection and physical security of energy infrastructure facilities.

At the same time, adaptive management is based on the concept of organizational flexibility and dynamic abilities of the enterprise. It is about the ability to quickly revise strategies, transform business models and change management structures in accordance with new market and security conditions. For relocated enterprises, this means:

- transition to decentralized management models;
- reduction of hierarchical levels and strengthening of project management;
- implementation of digital systems for monitoring production and finance;
- application of scenario planning and stress-testing for risk assessment.

In the western region of Ukraine, adaptability is also associated with integration into regional energy strategies, participation in local energy efficiency programs and coordination with local governments. The relocation of the enterprise actually creates the prerequisites for a deep transformation of its operating model. In this context, business process reengineering is not only a tool for cost optimization, but also a mechanism for strategic renewal.

Reengineering involves:

- revision of production cycles taking into account new technological capabilities;
- automation and digitalization of accounting, dispatching and control processes;
- implementation of lean management principles;
- optimization of logistics flows for the supply of equipment and materials;
- integration of modern standards of environmental and energy efficiency.

For energy enterprises, the modernization of generating capacities and the transition to distributed generation are of particular importance. In the context

of war risks, centralized large facilities are more vulnerable, so the strategic emphasis is shifting towards local, flexible and rapidly recoverable systems.

Diversification of activities is a logical continuation of reengineering. It can be implemented through:

- expansion of the portfolio of energy products (solar, wind, bioenergy, cogeneration);
- provision of engineering and service services;
- participation in energy service programs (ESCO mechanisms);
- development of energy storage systems;
- entering related markets (energy audit, community energy consumption management).

Thus, reengineering and diversification contribute to the formation of a more sustainable business model, reduce dependence on one market segment and increase the investment attractiveness of the enterprise.

In modern conditions, the strategic development of relocated energy enterprises is impossible without integration into network structures and the formation of horizontal connections. The cluster approach involves the unification of enterprises, scientific institutions, authorities and financial institutions within a regional innovation ecosystem.

For the western region of Ukraine, potential areas of clustering are:

- renewable energy clusters;
- clusters of power equipment production;
- innovative energy hubs at universities;
- partner platforms for the implementation of projects to modernize heat supply to communities.

Cluster initiatives allow:

- reduce transaction costs;
- ensure the exchange of technology and knowledge;
- to increase innovation activity;
- create synergy between producers, consumers and investors.

Cross-border cooperation with the countries of the European Union is of particular importance. The geographical location of the western regions of Ukraine creates opportunities for:

- participation in joint energy projects;
- attracting funding from European funds;
- integration into European energy markets;
- exchange of experience in the field of decarbonization and green transformation.

Partnership models can be implemented in the format of public-private partnership, intermunicipal cooperation, joint ventures or consortia. For relocated enterprises, participation in such structures is not only a mechanism for access to resources, but also a way to legitimize their activities in the new

regional environment. Summing up, the strategic adaptation models of relocated energy enterprises in the western region of Ukraine are based on a combination of crisis management, deep transformation of business processes and active integration into cluster and cross-border cooperation networks. It is this comprehensive model that allows us to ensure long-term economic sustainability, competitiveness and contribution to strengthening the energy security of the region.

Thus, the identified strategic models of adaptation and integration of relocated energy enterprises into the regional energy space create an organizational and managerial basis for their functioning in the new conditions. However, the effectiveness of the implementation of these models directly depends on the availability of sufficient financial support capable of supporting operational activities, infrastructure modernization and innovative development. In this context, the study of financial mechanisms for ensuring the sustainability and development of enterprises, in particular budget support instruments, credit and guarantee programs, international financial assistance, investments in renewable energy and public-private partnership mechanisms, is of particular importance. It is the financial component that determines the feasibility of strategic decisions and forms the economic basis for the long-term stabilization and growth of relocated energy enterprises in the western region of Ukraine.

### **3. Financial mechanisms for ensuring sustainability and development**

Effective financial support for relocated energy enterprises is a key factor in their stability, the possibility of adaptation in conditions of military uncertainty and long-term development. In the context of the western region of Ukraine, it is important to analyze not only the amount of financial resources, but also their sources, instruments of attraction, as well as mechanisms for minimizing financial risks. Sources of financing for relocated energy enterprises can be classified into three main groups: *state-owned*, *private* and *international*.

State sources are, first of all, funds from the State Budget, targeted support programs at the level of central government, as well as local budgets that finance the development of energy efficiency or infrastructure. A significant role is played by state investment projects and guarantees for business loans that support the modernization of production and renewable energy technologies.

Private sources of financing are attracted through the enterprises' own resources, commercial loans, bond issuance and partnership financial agreements between businesses and financial institutions. Part of this financing is directed directly to the development of production capacities, innovations and modernization of equipment.

International sources of financing play a critical role in maintaining the resilience of Ukraine's energy sector in times of war. They include loans, grants

and technical assistance from international financial institutions (EU, European Bank for Reconstruction and Development, World Bank, IMF), donor programs and specialized support funds. In 2024, the total amount of external financing of the state from development partners amounted to more than USD 41 billion, some of which were directed to strategic sectors of the economy [6].

Investment instruments for the energy sector include the attraction of soft loans, the issuance of bonds, public-private partnerships, as well as special funds to support innovative projects. One of the key instruments is government lending programs at reduced rates (for example, “Affordable Loans 5–7–9%”), which allow enterprises to receive resources for development without significant financial burden.

International financial institutions also provide significant support. Thus, in 2025, the European Bank for Reconstruction and Development (EBRD) increased financing for Ukraine to a record €2.9 billion, with more than €1.2 billion directed to energy security and projects involving renewable energy sources. Grant programs are an important component of supporting small and medium-sized enterprises in the field of energy efficiency and renewable energy. For example, in 2025, grants in the amount of UAH 63 million were provided to 140 enterprises for the implementation of technologies to increase energy resistance, in particular for the installation of solar panels and energy-efficient equipment [7].

Financial risk management for relocated energy companies includes diversification of funding sources, the use of insurance mechanisms and hedging currency risks. It is also important to plan liquidity with reserve funds, which allows you to minimize the negative impact of unforeseen events.

Access to international support increases the financial stability of companies, but at the same time, these tools require appropriate risk management, including coordination with donor requirements, currency risk management, and ensuring transparency in the use of funds in difficult war conditions.

Between 2022 and 2025, there has been a significant increase in Ukraine's external financing, reflecting active international support in response to the economic and infrastructural challenges of the war.

In 2024, external funds raised over \$41 billion became an important component of the budget and contributed to financial stability. In 2025, total external financing increased to approximately USD 52.4 billion, reflecting increased international support and the critical role of external resources in the functioning of the economy. EBRD investments also showed positive dynamics: the total amount of financing increased from €2.4 billion in 2024 to €2.9 billion in 2025, with a significant part directed specifically to energy projects. This underscores the importance of international banks in supporting the energy sector in the face of war uncertainty and reconstruction.

Table 3

**The main sources of funding and support for the period 2022–2025**

Year	Public funding (UAH billion)	International funding (billion USD/EUR)	Main investment instruments / programs	Granty (billion UAH/USD)
2022	–	EBRD Initial Investment	Energy Efficiency Programs	~0.25 (government programs)
2023	–	EBRD portfolio growth, SvitBank	Affordable loans, state guarantees	–
2024	–	~41 billion USD of external finance	Ukraine Facility (~17.3 млрд USD)	–
2025	~569 (government bonds attracted)	~52.4 billion USD external. Finnish; EBRR – €2.9 billion	Affordable loans, state guarantees	63 million. UAH.

*Source: grouped by the author by [6–8]*

Below is a systematized (Table 4) of the main programs of public-private partnerships, grants and investment instruments of the EBRD and the EU, which were applied or actively implemented in Ukraine in 2022–2025 and are of direct importance for relocated energy enterprises in the western region.

Table 4

**EBRD-EU public-private partnerships and grant programs in the energy sector for the period 2022–2025**

№	Program/Mechanism Name	Institution	Amount of funding	Support form	Main beneficiaries	Scope of application
1	2	3	4	5	6	7
1	Energy Security Support Facility (ESSF)	EBRD	up to €2 billion	Loans through partner banks + technical assistance	SMEs, municipalities, energy companies	Decentralized generation, RES, energy storage
2	Risk-shared financing with Ukrgasbank	EBRD + Ukrgasbank	up to €300 million	Distribution of credit risks	Business, energy companies	Investments in RES, energy efficiency
3	Partnership with PrivatBank and Ukrgasbank	EBRD	~€700 million	Credit lines with partial guarantees	Private companies, municipalities	Energy security, micro-generation

1	2	3	4	5	6	7
4	Financing of private wind farms	EBRD, IFC, BSTDB, EU	€157 million	Project financing + EU guarantees	Private investors	Wind energy
5	SME Support Programme (EU-EBRD SME Programme)	EU + EBRD	€30 million grants	Grants + technical assistance	SMEs	Modernization, energy efficiency
6	EU guarantee program through the EBRD	EU	€150 million guarantees + €7.5 million TD	Warranties + Technical Assistance	Municipalities, businesses	Infrastructure, critical energy
7	E5P (Eastern Europe Energy Efficiency and Environment Partnership)	EU, EIB, donors	tens of millions of euros (multi-donor fund)	Investment Grants	Local self-government bodies	Energy efficiency of public buildings
8	IKI Renewable Energy Solutions	Government of Germany + EIB	€20 million grant	Grant funding	Municipal facilities	Installation of RES at social facilities
9	Ukraine Facility (investment component)	EU	€17.3 billion (2024.)	Macro-finance + investment component	State, strategic sectors	Energy and infrastructure recovery

*Source: grouped by the author by [6–8]*

The largest energy support program is the ESSF, which allows financing decentralized generation and energy storage systems through partner banks. For relocated enterprises, this means the possibility of quick access to resources without direct dependence on the state budget. Risk-sharing financing mechanisms are extremely important in the face of military uncertainty. They reduce credit risk for banks and make loans more affordable for businesses. EU guarantee instruments actually perform the function of insuring war risks, which encourages the private sector to invest even in conditions of increased danger. Grant programs (E5P, IKI, SME Programme) reduce the debt burden on enterprises, since part of the funding is provided irrevocably or compensates for the costs of energy audit, modernization and installation of RES. Ukraine Facility forms a systemic macro-financial basis for budget stability, which

indirectly ensures the functioning of the entire energy system, including regional enterprises. The analysis of public-private partnerships and grant programs of the EBRD and the EU shows that the financial architecture of support for the energy sector of Ukraine in 2022-2025 is multi-level and is based on a combination of credit, guarantee and grant mechanisms. For relocated energy enterprises in the western region of Ukraine, these instruments create opportunities to: diversify sources of financing; minimize credit and war risks; introduce innovative and "green" technologies; integrate into the European Energy Space. The financial mechanisms that ensure the sustainability and development of relocated energy enterprises in the western region of Ukraine are a combination of public resources, private finance and significant international support. State lending programs and state guarantees help support enterprises in accessing preferential resources. International investments and grant programs stimulate modernization, energy efficiency and adaptation to European standards. Managing financial risks in these conditions remains a challenge, but at the same time a driving force for stability and long-term growth in an uncertain environment.

Thus, the established system of financial mechanisms – from public-private partnerships to grant and guarantee instruments of the EBRD and the EU – creates a resource basis for stabilizing and modernizing relocated energy enterprises in the western region of Ukraine. However, the availability of funding and institutional support does not automatically indicate the achievement of strategic development goals. Of decisive importance is the assessment of the effectiveness of strategic management, which allows you to determine the degree of implementation of adaptation models, the level of financial stability of enterprises and the effectiveness of the use of attracted resources. In this context, a logical continuation of the study is to analyze indicators of economic, investment and innovation performance, as well as to determine the regional socio-economic effect, which is manifested in employment growth, tax revenues, infrastructure development and energy security. It is a comprehensive assessment of managerial decisions and their impact on regional development that makes it possible to form reasonable conclusions about the strategic feasibility of the selected models and their contribution to the resilience of the western region of Ukraine in the context of the military transformation of the economy.

#### **4. Evaluation of the effectiveness of strategic management and regional socio-economic effect**

It is advisable to assess the effectiveness of strategic management of relocated energy enterprises in the western region of Ukraine through a system of complex indicators reflecting financial stability, operational effectiveness, level of integration into the regional energy space and socio-economic impact.

In wartime, strategic management acquires an adaptive character, and its effectiveness is determined by the ability of enterprises not only to maintain business continuity, but also to ensure development and modernization. It is advisable to assess the financial and operational stability of relocated enterprises on the basis of an integrated system of financial, production and investment indicators.

Table 5

**Key indicators for evaluating the effectiveness of strategic management**

Indicator group	Indicator	Economic content	Significance for relocated enterprises
Financial stability (F) $F = \frac{1}{\sum_{i=1}^n fi}$ where (fi) is normalized financial indicators (1)	Autonomy coefficient	Share of equity in total assets	Reflects independence from external creditors
	Current Ratio	Ratio of current assets to current liabilities	Characterizes the ability to fulfill short-term obligations
	Return on assets (ROA)	Profitability of the use of assets	Shows the effectiveness of strategic decisions
	EBITDA margin	Operational efficiency	Determines the ability to generate cash flows
Investment and innovation activity (I) $I = \frac{1}{\sum_{k=1}^k ik}$ (2)	Share of investments in RES	Share of investments in renewable energy	Indicates a strategic focus on decarbonization
	Capital investment per 1 MW	Intensity of modernization	Reflects the pace of technical renewal
Operational resilience (O) $O = \frac{1}{\sum_{j=1}^m oj}$ (3)	Installed power utilization rate	Actual equipment load	Shows the efficiency of production processes
	Share of decentralized generation	Level of diversification of sources	Reduces the risk of failures due to network disruption
	Duration of emergency shutdowns	Indicator of reliability of energy supply	Affects the energy security of the region
Socio-economic Impact (S) $S = \frac{1}{\sum_{p=1}^p sp}$ (4)	Employment Rate	Number of jobs created/saved	Stabilizes the regional labor market
	Tax revenues	Amount of taxes paid	Forms the financial basis of local budgets

Source: grouped by the author

A comprehensive analysis of these indicators allows to determine not only the financial stability of enterprises, but also the effectiveness of the implementation of strategic adaptation models. In particular, the increase in the share of investments in renewable energy sources and the reduction of emergency shutdowns indicates a qualitative modernization of the energy infrastructure.

For a comprehensive assessment, it is advisable to use *the Integral Strategic Sustainability Index (ICS)*, which aggregates financial, operational, investment and socio-economic indicators into a single generalized value. This approach allows you to quantify the effectiveness of strategic management and compare enterprises with each other or assess the dynamics over time for the period 2022 – 2025. The integral index is formed according to four blocks of indicators: financial stability (F); operational stability (O); investment and innovation activity (I); socioeconomic impact (S).

It can be calculated using the formula:

$$ICS = w_1F + w_2O + w_3I + w_4S, \quad (5)$$

where: (w1, w2, w3, w4) are the weighting factors (the sum is 1);

F, O, I, S are the normalized integrated values of the corresponding blocks.

To ensure comparability, *the min-max normalization method is used*:  $X_{\{norm\}} = \frac{X - X_{\{min\}}}{X_{\{max\}} - X_{\{min\}}}$  (6)

For disincentive indicators (e.g. duration of emergency shutdowns):

$$X_{\{norm\}} = \frac{X_{\{max\}} - X}{X_{\{max\}} - X_{\{min\}}} \quad (7)$$

As a result, all indicators acquire a value from 0 to 1. The recommended weight coefficients (for the war period) are (Table 6). In the post-war period, it is advisable to increase the weight of the innovation and investment block.

Table 6

**Recommended weighting factors (for the war period)**

Block	Weight
Financial stability (F)	0,30
Operational efficiency (O)	0,25
Investment development (I)	0,25
Socio-economic effect (S)	0,20

Table 7

**Interpretation of the integral index**

Meaning of ICS	Level of strategic sustainability
0,80 – 1,00	High level of adaptability and efficiency
0,60 – 0,79	Sufficient level of stability
0,40 – 0,59	Moderate resilience, requires strategy adjustment
< 0,40	State of crisis

The proposed integral model allows: evaluate the effectiveness of the implementation of strategic programs; identify weaknesses in management; to form investment priorities; justify the need for state or international support; monitor the impact of relocation on the regional economy.

The Integral Strategic Sustainability Index is a universal analytical tool that allows you to systematically assess the effectiveness of management of relocated energy enterprises in the western region of Ukraine. Its application provides an objective quantitative basis for managerial decision-making, the formation of regional energy policy and the determination of priorities for post-war recovery and European integration transformation.

The relocation of energy enterprises to the western region of Ukraine has significantly strengthened its role as a relatively stable energy hub of the state. Strategic management in this context is aimed at: diversification of generation sources (solar, wind, bioenergy); development of local and microgeneration; integration of energy storage systems; synchronization with the European ENTSO-E network.

Increasing the share of decentralized generation reduces the region's vulnerability to massive attacks on large energy facilities. In addition, integration into the European energy area increases the stability of balancing the energy system and expands the opportunities for electricity exports. Strategic management decisions aimed at modernizing networks, introducing smart-grid technologies and digital monitoring systems increase the reliability of supply and reduce technical losses of electricity. Thus, the effectiveness of management is directly transformed into strengthening regional energy security. Relocated energy enterprises play a strategic role in shaping the economic foundation of Ukraine's post-war recovery.

Their development provides:

- ❖ Multiplicative economic effect – stimulation of related industries (construction, mechanical engineering, IT sector, logistics).

- ❖ The growth of the regional GRP is due to investment activity and tax revenues.

- ❖ Creation of new jobs – especially for internally displaced persons and highly qualified specialists.

- ❖ Energy modernization in accordance with EU standards – implementation of the norms of the Third Energy Package, ESG principles and decarbonization.

The European integration vector provides for the harmonization of legislation, the development of a competitive energy market and the attraction of investments in accordance with the EU climate policy (Green Deal). Strategic management focused on environmental transformation and energy efficiency contributes to the gradual inclusion of Ukrainian enterprises in European value chains. Assessment of the effectiveness of strategic management of relocated energy enterprises should be based on a systematic

approach that combines financial, operational and socio-economic indicators. In the western region of Ukraine, such enterprises act not only as business entities, but also as elements of regional energy security and catalysts for economic stabilization.

The effective implementation of strategic adaptation models ensures an increase in financial stability, diversification of energy sources, infrastructure development and the formation of prerequisites for post-war reconstruction. In the long term, this creates the basis for Ukraine's integration into the European energy space and strengthening its competitiveness in the context of the global transformation of the energy sector.

### **Conclusions**

The study of strategic management of relocated energy enterprises in the western region of Ukraine allows us to formulate key conclusions on institutional, financial and socio-economic aspects of their adaptation and development.

Firstly, the theoretical and institutional foundations of strategic management demonstrate the need to integrate the principles of adaptability, risk management and innovation orientation into decision-making processes. The relocation of enterprises to the western region provided an opportunity to maintain operational activities, diversify generation sources and strengthen regional energy security.

Secondly, strategic adaptation and integration models have proven their effectiveness through the optimization of production processes, the introduction of decentralized generation, digitalization and infrastructure modernization. These models allow enterprises to quickly respond to war and economic shocks, provide management flexibility and integration into the European energy space.

Thirdly, financial mechanisms, including public-private partnerships, credit lines, grants and guarantees from the EBRD and the EU, have created a resource basis for the stable functioning of enterprises. infrastructure.

Fourthly, the assessment of the effectiveness of strategic management on the basis of financial, operational and socio-economic indicators demonstrates the high sustainability of relocated enterprises. The proposed integral model of strategic sustainability allows to systematically measure the effectiveness of managerial decisions and assess their impact on the regional economy.

Fifth, the socio-economic effect is manifested in the growth of employment, tax revenues, the development of municipal infrastructure and the improvement of energy security. Enterprises act as catalysts for post-war recovery and European integration transformation, contributing to the implementation of EU standards in the field of energy efficiency and green energy.

Thus, the comprehensive strategic management of relocated energy enterprises in the western region of Ukraine ensures the synergy of institutional, financial and socio-economic mechanisms, increases the resilience of business models in crisis conditions and forms the foundation for sustainable development and integration into the European energy space.

### References:

1. Zaverbnyi A., Kis M., Bilous Yu. (2023). Problemy i perspektyvy zaluchennia zovnishnikh investytsii u proekty vidnovliuvalnoi enerhetyky ukrainy u voiennyi ta pisliavoiennyi periody [Problems and prospects of attracting foreign investment in renewable energy projects in Ukraine during the war and post-war periods]. *Ekonomika ta suspilstvo*, no. 51. DOI: <https://doi.org/10.32782/2524-0072/2023-51-10>
2. Kot T., Petrenko K. (2023) Vplyv voiennoho stanu na mizhnarodnu innovatsiinu diialnist pidpriemstv enerhetyky Ukrainy [The impact of martial law on the international innovation activity of energy enterprises of Ukraine]. *Ekonomichniy prostir – Economic Space*, no. 184, pp. 43–49. DOI: <https://doi.org/10.32782/2224-6282/184-7>
3. Konechenkov A., Omelchenko V. (2022). Sektor vidnovlyuvalnoji energetyky Ukrainy do, pid chas ta pislya vijny [Ukraine's renewable energy sector before, during and after the war]. Razumkov tsentr. Available at: <https://razumkov.org.ua/statti/sektor-vidnovlyuvanoyi-energetyky-ukrainy-do-pid-chas-ta-pislya-viyny> (in Ukrainian)
4. Ofitsiinyi sait Yevropeiskoi ekonomichnoi komisii OON [Official website of the United Nations Economic Commission for Europe]. Available at: <https://unece.org/> (accessed: February 10, 2026).
5. Ofitsiinyi sait Yevropeiskoho Soiuzu [Official website of the European Union]. Available at: <https://commission.europa.eu/> (accessed: February 07, 2026).
6. Ofitsiinyi sait NEK “Ukrenerho” [Official website of NEK “Ukrenergo”]. Available at: <https://ua.energy/> (accessed: February 12, 2026).
7. Ofitsiinyi sait Natsionalnoho banku Ukrainy [Official website of the National Bank of Ukraine]. Available at: <https://bank.gov.ua/> (accessed: February 10, 2026).
8. Ofitsiinyi sait Energy Map [Official website of Energy Map]. Available at: <https://energy-map.info/uk> (accessed: February 10, 2026).