

Challenges in Protecting and Restoring Critical Infrastructure Through Private Sector Engagement



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# List of abbreviations

Restoration Agency	State Agency for Infrastructure Restoration and Development of Ukraine		
ARMA	Asset Recovery and Management Agency		
Mas	Military administrations		
НРР	Hydroelectric power plant		
DBN	State Construction Regulations		
State Special Communications Service	State Service of Special Communications and Information Protection of Ukraine		
State Emergency Service	State Emergency Service of Ukraine		
EBRD	European Bank for Reconstruction and Development		
EIB	European Investment Bank		
EU	European Union		
CI	Critical infrastructure		
СМИ	Cabinet of Ministers of Ukraine		
Ministry of Economy	Ministry of Economy of Ukraine		
Ministry of Energy	Ministry of Energy of Ukraine		
Ministry of Development	Ministry of Communities and Territories Development of Ukraine		
Ministry of Finance	Ministry of Finance of Ukraine		
Ministry of Digital Transformation	Ministry of Digital Transformation of Ukraine		
MFI	International Financial Institutions		
NBU	National Bank of Ukraine		
UN	United Nations		
Air defence	Air defence		
BOC	Business Ombudsman Council		
Electronic warfare	Radio-electronic warfare		
Register	Critical Infrastructure Facilities Register		
SSU	Security Service of Ukraine		
SPP	Solar power plant		
ТРР	Thermal power plant		
СНРР	Combined Heat and Power plant		
CEA	Central executive authorities		
СРО	Centralized Procurement Organization		
RDNA3	Third Rapid Damage and Needs Assessment		

During preparation of this report, the Business Ombudsman Council consulted the Ukrainian Chamber of Commerce and Industry, the American Chamber of Commerce, the Confederation of Builders of Ukraine, the Federation of Employers of Ukraine, the European Business Association, and the Ukrainian League of Industrialists and Entrepreneurs.

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# Executive Summary

Large-scale destruction caused by war created an emergency situation requiring a comprehensive approach, strategic management and effective cooperation between the state, business and international partners. According to the latest World Bank estimates, Ukraine's need for reconstruction is \$486 bn. At the same time, the amount for its urgent infrastructure restoration accounts for \$5 bn. Critical infrastructure (CI), which has become one of the main goals of the aggressor state, suffered losses of almost \$155 bn.

The report focuses on analyzing the existing problems in the CI facilities restoration area, particularly the energy sector, as well as highlighting key challenges complicating project implementation. Despite considerable attention and international community support, as well as allocating significant financial resources, the effectiveness and pace of CI reconstruction is constrained by a number of factors. Against the background of pressing necessity, funding instability, delay in payments to contractors, administrative barriers, difficulties in resolving land issues, corruption risks in public procurement, personnel shortages and normative regulation downsides - all combine to slow down recovery and put future infrastructure stability under threat. The relevant Ukrainian legislation was not tailored for war conditions, thus causing significant hardships in reconstruction project implementation. It needs urgent changes.

Apart from current challenges, special attention in the report is devoted to insufficient communication between the state and business. With no clear private sector involvement mechanisms in place, companies have to work in conditions of legal and financial uncertainty. This not only reduces their motivation to participate in recovery, but also makes long-term strategic planning impossible.

- The biggest problem in implementing CI facilities restoration projects is the issue of payment for performed works and delivered services. Thus, contractors often perform works first, and when the moment of mutual settlement comes, it turns out the state has no funds to pay for works and materials. It puts business representatives on the verge of survival, since many companies not only used loans to promptly perform commitments under CI facilities restoration projects, but also diverted their working capital to these ends.
- A separate problem with project funding and use of budget funds is ineffective spending of allocated resources mostly happening in the last months of the budget year, creating peak funds spending and problems with the quality of hastily completed works. Territorial communities are often unable to effectively implement reconstruction projects, which leads to non-use of their allocated funds. Besides, there are delays in government decision-making as to using international donor funds, greatly complicating recovery processes. This was the case with energy infrastructure reconstruction projects, when, due to belated government committee convocation, implementation was suspended.
- Creating favorable conditions for investors, particularly through providing state guarantees, war risks insurance and streamlining regulatory procedures, would considerably accelerate project

implementation in the medium-long term. Introducing public-private partnership mechanisms will become an important tool for attracting financial resources required for large-scale reconstruction. In addition, participation of foreign foundations and financial institutions such as the World Bank, the European Bank for Reconstruction and Development, and the International Finance Corporation, can provide stable capital flow for critical projects.

- Up until December 31, 2024, restoration projects were largely implemented as experimental, in accordance with a Cabinet resolution. At the time of these projects' implementation, they were exempted from the requirements of a number of legal acts. In particular, this concerns capital construction state funding rules, state-supported investment project selection, stateowned investment management, and making advance payments for goods, works and services purchased with budget funds. This was intended to simplify and speed up energy CI restoration project implementation. However, companies that embarked on the implementation of these projects later often faced claims from law enforcement bodies (sometimes wellgrounded) regarding non-compliance of structures with standards or norms. With the expiry of the Cabinet resolution, the way in which construction, repair and other engineering and technical projects of fuel and energy sector CI facility protection will be regulated in 2025 remains uncertain, as of the date of preparation of this report.
- A growing shortage of qualified professionals and construction workers negatively affects the implementation of renewable projects, especially in areas close to the front line, where risks to life are much higher. It complicates the work of both contractors and suppliers, thus delaying the reconstruction process. An additional problem is estimated labour costs calculations approved by the Ministry of Development; they are lower by a factor of two or three than actual average salaries in the construction industry. This market distortion hinders

engaging local contractors, and inhibits the participation of compliance-oriented foreign companies in CI facilities recovery.

- Problems with the supply of building • materials complicate CI facilities restoration a lot, whether due to production capacities destruction, limitations on the operations of confiscated enterprises, logistic chain disruptions and energy resources cost growth. The destruction of factories and sanctions limitations reduced production volumes, while destroyed transport infrastructure and border restrictions caused delays in delivery and increase in expenses. Meanwhile, energy cost increases affected the price of building materials, making recovery project implementation more expensive.
- CI facility restoration largely depends on public procurement effectiveness. However, fast-track procedures introduced during martial law create corruption risks, abuse and discrimination of participants. Limited access to information about tenders makes competition impossible, while the lion's share of procurement is carried out with one participant (85% in tenders with an electronic system and 97% without it). The lack of clear selection criteria for suppliers and customers' discriminatory requirements often favor lobbying of "convenient" companies, affecting the cost and quality of work. The absence of direct procurement regulations to cover possible legal risks also restrains business from participating in restoration, and some experimental projects show lack of transparency in spending state funds.

In Ukraine, a legal framework has been formed and institutional framework laid down for the functioning of critical infrastructure. There exists an updated legislative framework under which the categorization of facilities depending on the threat posed by their operational disruption was introduced. During martial law, CI facilities' security is increased by military command and administrations, while CI protection management is temporarily entrusted to the State Special Communications Service. (In the future a separate body for managing CI might be established.)

To ensure effective CI management, the CI Register has been created and is currently manually maintained, due to limited access to information. Enterprises on the Register get preferences, but also have to meet the State Special Communications Service requirements. When the war is over, CI facilities operators will be able to use e-document management. Then the filling of the Register and update registration will take place automatically. Such a transition will require introducing multi-level security, including data encryption, system isolation, backup and regular cybersecurity audits.

Special attention is given to protection of energy infrastructure, which is vulnerable to physical, man-made, cyber, and military threats. Multilevel steps, including construction of protective structures, electronic warfare equipment use, and decentralized generation development are taken to protect it. Ukraine is actively working on strengthening CI security, including through international cooperation, particularly with the EU and NATO. The European Union has adopted new recommendations on CI resilience, foreseeing coordination of actions and introducing effective protection mechanisms for vitally important facilities.

To overcome these problems, our report proposes comprehensive recommendations that can change the approach to reconstruction. They include: introducing clear rules for business protection against the risks of non-payment for completed works, creating effective coordination mechanisms among stakeholders, revising state procurement procedures and ensuring funding transparency. For effective critical infrastructure restoration, it is necessary to create favorable conditions for business involvement, to provide for stable financing and building trust through transparent cooperation mechanisms. In the short-term, it is worth introducing **clear** rules regarding awarding and fulfillment of contracts, settling alternative energy depreciation issues, creating a legal framework for CI sustainable construction and developing international standards for contracts. It is essential to simplify land procedures, implement a national price base for construction materials, as well as create expense compensation mechanisms in case of repeated destruction of facilities due to hostilities.

To increase tender procedure effectiveness, it is proposed to create a trusted contractors register, standardize CI facilities and provide for foreign companies' participation. It is necessary to review public procurement approaches, unify them under international standards, to ensure transparency and competitiveness. It is also recommended to create coordination center for rapid response to challenges in CI protection and restoration area.

In the long-term perspective, it is necessary to prepare CI development plans involving the private sector from the start, create tax and investment incentives for business, provide long-term budget planning and energy efficient technology integration. In addition, it is worth unifying information about recovery financing, providing transparent cost monitoring, and enhancing the trust of international partners through open access to fund use data.

# Introduction

1. Since the beginning of russia's full-scale armed aggression against Ukraine, our country has suffered enormous losses. According to the latest World Bank estimates. Ukraine's need for reconstruction is \$486 bn. Meanwhile, Ukraine needs \$5 bn for urgent infrastructure restoration. Critical infrastructure, which has become one of the main targets of the aggressor state, has suffered losses of almost \$155 bn<sup>1</sup>. During 2022 alone, more than 700 CI facilities were hit<sup>2</sup>. Russia continues destroying Ukrainian infrastructure, primarily energy, and even during the Christmas season of 2024, Ukrainian energy was subjected to missile strikes.

For reference: 2024 became the most difficult year for Ukraine's energy system since the beginning of the fullscale war with the russian aggressor.

"It was indeed the most difficult year. If we analyze the strikes of 2022 and 2023, the russians started them in October. In 2024, much earlier, in March" (German Galushchenko, Minister of Energy of Ukraine). The destruction of energy infrastructure was significantly greater than in previous years. The nature of attacks, their complexity, as well as the type of weapons used by the enemy have changed<sup>3</sup>. 1712 missiles and drones were targeted at Ukrainian energy in 2024. 2. Disruption of critical energy infrastructure can directly threaten the stability of other sectors, the economy and national security. For example, electricity is essential for water and sanitation, solid waste management and the cold chain (critical for pharmaceutical products storage). Hospitals, food production and distribution facilities depend on a reliable supply of safe water, sanitation, and electricity. It also influences businesses that cannot grow or effectively respond to threats and risks without CI and a close partnership with the state. It is especially true for businesses providing CI facilities management, repair, and restoration.

**3.** The BOC's experience in interacting with business and the state<sup>4</sup> requires participation in infrastructure restoration issues analysis, identifying weaknesses and promising areas both in operational (separate) processes and in determining the necessary systemic changes.

4. In August 2024, the BOC launched a new **Policy&Recovery focus area**, which aims to promote broader business engagement in recovery processes based on the principles of the rule of law, reasonableness, transparency, and fairness<sup>5</sup>. This report was a logical step to identify possible solutions and develop recommendations to increase the resilience of CI (with the <u>focus on the energy component as a system-shaping for other CI sectors</u>), reduce risks, and promote effective cooperation between the state and the private sector. This is what our recommendations will be aimed at.

<sup>5</sup> Declaration of Fair and Reasonable Administration

<sup>&</sup>lt;sup>1</sup> Follow the link: <u>https://minfin.com.ua/ua/2024/02/12/121386082/</u>

<sup>&</sup>lt;sup>2</sup> Follow the link: <u>https://www.kmu.gov.ua/news/v-ukraini-z-pochatku-povnomasshtabnoho-vtorhnennia-rf-urazheno-ponad-700-obiektiv-krytychnoi-infrastruktury-ievhenii-ienin?utm\_</u>

<sup>&</sup>lt;sup>3</sup> Follow the link: <u>https://ua.news/ua/ukraine/minenergo-mynulyj-rik-vydavsya-najskladnishym-dlya-ukrayinskoyi-energosystemy</u>

<sup>&</sup>lt;sup>4</sup> UAH 27.9 bn saved for companies, 13.557 complaints received, 8.781 cases closed

5. This report examines the issue of CI restoration from two perspectives: Firstly, prompt overcoming the consequences caused by missile and drone attacks, as well as military actions; Secondly, restoring CI facilities and supply chains in the long-term period.

6. The Business Ombudsman Council conducted a survey among leading business associations, including those of the Supervisory Board of the BOC and companies involved in CI restoration projects, on issues hindering their effective implementation. Survey participants, including the Ukrainian League of Industrialists and Entrepreneurs (ULIE), the American Chamber of Commerce (ACC), the European Business Association (EBA), and the Federation of Employers of Ukraine (FEU), outlined a number of key issues, including: communication delays with local authorities; discriminatory technical requirements in tenders creating barriers for suppliers; administrative obstacles, such as delays and difficulties in complying with procedures; and security risks of collecting data on critical infrastructure restoration projects during wartime.

7. Unfortunately, nowadays there is no clear public communication in Ukraine regarding reconstruction projects prioritization, thus complicating both the implementation of important initiatives and the wide range of stakeholders' access to necessary resources and services.

The goal of the report is to identify problems and prepare recommendations for stakeholders, particularly on legal and administrative processes, to involve the private sector in CI restoration and modernization processes.



On June 6, 2023, russian forces blew up the Kakhovka HPP



On March 22, 2024, the Zmiiv TPP in Kharkiv Oblast was completely destroyed by an occupant strike



The Trypilska TPP after being hit by the occupants on April 11, 2024



Photo of the aftermath of russian missile strikes on the Kremenchuk TPP on April 28, 2024



Missile strike on Odesa on September 25, 2023: part of the civilian infrastructure of the seaport and a hotel was destroyed



Bridget Brink, U.S. Ambassador to Ukraine: At 07:00, a massive attack on Ukraine's critical infrastructure (December 13, 2024)



As of 0700 Kyiv time, Ukraine's critical infrastructure is under another massive attack. Russia has launched a barrage of ballistic missiles, targeting energy systems, transport networks, and key facilities across the country.



# Chapter 1. State Cl facilities policy

8. The Law of Ukraine "On Critical Infrastructure" defines critical infrastructure facilities as infrastructure facilities, systems, their parts and aggregates being important for the economy, national security and defence, the disruption of which may harm vital national interests<sup>6</sup>.

**9.** The categorization of critical infrastructure facilities is carried out by sectoral bodies in the field of critical infrastructure protection in accordance with sectoral specifics and legislative requirements. This process involves assessing the potential consequences of a disruption to the facility's operation for the population, economy, and national security. The CMU Resolution No.1109 of October 9, 2020, approves the Procedure for classifying facilities as critical infrastructure, the list of critical infrastructure sectors, and the Methodology for their categorization<sup>7</sup>.

### Infrastructure criticality levels in Ukraine<sup>8</sup>:

**Criticality level I:** particularly important facilities of national importance, malfunction of which may cause a national crisis.

**Criticality level II:** vital facilities, the malfunction of which will cause a regional crisis.

**Criticality level III:** important facilities, malfunction of which will cause a local crisis.

**Criticality level IV**: essential facilities, disruption of which will cause a community crisis.

<sup>6</sup> Cl.13, Part 1, Art 1 of the Law of Ukraine "On Critical Infrastructure" No. 1882-IX of November 16, 2021 (<u>https://zakon.rada.gov.ua/laws/show/1882-20#n32</u>)

Follow the link: https://www.kmu.gov.ua/npas/deyaki-pitannya-obyektiv-kritichnoyi-infrastrukturi-i091020-1109?utm\_

<sup>8</sup> Art.10 of the Law of Ukraine "On Critical Infrastructure" No.1882-IX of November 16, 2021 (<u>https://zakon.rada.gov.ua/laws/show/1882-20#n32</u>) 10. During the martial law legal regime, establishing or strengthening security of military facilities and those ensuring daily living activities of people, as well as introducing a special regime for their operation, falls within the competence of the military-command and administration. The procedure for protecting such facilities, their list, as well as the procedure for a special regime for their operation are approved by the Cabinet of Ministers. The General Staff of the Armed Forces of Ukraine, regional state administrations (if established) direct, coordinate and control the activities of district MAs in relation to the protection of CI, while the Cabinet of Ministers and regional state administrations within their powers deal with other issues9. Other sectors of the national CI protection systems are given in Appendix 1.

11. According to the law<sup>10</sup>, the State Service of Special Communications and Information Protection of Ukraine (State Special Communications Service) is the authorized body in the CI protection field for the period of martial law and within 12 months after its termination or cancellation. Thus, the State Service of Special Communications temporarily performs the functions of the authorized body for protecting Ukraine's CI, ensuring the national protection system bodies activities coordination and state policy implementation in this area. At the same time, it is a temporary decision taken in the context of a crisis situation. In the long term, a need may arise to create a dedicated body that can further fully focus on managing CI protection<sup>11</sup>.

**12.** Key tasks for protecting CI and shaping relevant state policy in the long term include:

• Preventing unauthorized interference in its functioning, forecasting, and

forestalling crisis situations at critical infrastructure facilities;

- Preventing crisis situations threatening the critical infrastructure security;
- Creating, implementing, developing and ensuring operation of the national critical infrastructure protection system, including designation of the authorized body in the field of critical infrastructure protection in Ukraine, as well as defining powers of other entities within the national critical infrastructure protection system;
- Developing the regulatory and technical framework for ensuring critical infrastructure facilities security;
- Developing a set of measures to control risks, detect, prevent, and eliminate security incidents consequences at critical infrastructure facilities;
- Establishing mandatory security requirements for critical infrastructure facilities, ensuring their protection at all stages of their life cycle, including creation, commissioning, and modernization;
- Analyzing challenges and threats affecting the critical infrastructure resilience and its security status assessment;
- Developing a methodology for analyzing the state policy effectiveness in the critical infrastructure protection field;
- Training, retraining, professional development, and educating personnel within the national critical infrastructure protection system;
- Ensuring interaction between the national critical infrastructure protection system and relevant international systems, primarily European and Euro-Atlantic ones.

**13.** To organize effective security and stability, **CI sectors are defined.** The list of CI sectors and entities responsible for shaping and implementing the state policy

<sup>&</sup>lt;sup>9</sup> The Law of Ukraine "On the Legal Regime of Martial Law" No.389-VIII of May 12, 2015 (<u>https://zakon.rada.gov.ua/laws/show/389-19#Text</u>)

<sup>&</sup>lt;sup>10</sup> Follow the link: <u>https://zakon.rada.gov.ua/laws/show/2684-20#Text</u>

<sup>&</sup>lt;sup>11</sup> Follow the link: <u>https://zakon.rada.gov.ua/laws/show/787-2022-%D0%BF#Text</u>

in the respective sectors of the national CI protection system (hereinafter – the List) is determined by the CMU. Thus, the government<sup>12</sup> has defined 24 sectors (Appendix 2).

**14.** For the purposes of coordinating the actions of entities within the national critical infrastructure protection system. the Critical Infrastructure Register is being formed<sup>13</sup>. According to the law, sectoral bodies in the field of CI protection collect and analyze information on the need to include a particular object in the Register (these, inter alia, also include the Ministry of Energy, the Ministry of Digital Transformation, the Ministry of Health, the Ministry of Finance, the Ministry of Economy). Currently, the work on creating the Register is being carried out by a unit within the State Service of Special Communications<sup>14</sup>. Originally, another body was to form and maintain the Register the State Service for Critical Infrastructure Protection. So, the CMU resolution text on setting up a relevant body can be found in open access<sup>15</sup>. At the same time, as stated in the document itself: it has not entered into force.

**15.** In the conditions of a full-scale war, it was decided not to create an additional state body, but to delegate the relevant powers to the State Service of Special Communications. Yet, there is no information in open sources on the assessment of sufficiency of human and material resources of the State Service of Special Communications for getting work on CI protection management done. However, the website of the State Service of Special Communications states that the service has all the necessary tools, technical facilities and sufficient personnel potential to effectively perform new tasks assigned to it to ensure systemic work in the field of CI and critical information infrastructure facilities protection<sup>16</sup>.

#### For reference:

"The team immediately focused on creating a CI protection system, without wasting time on organizational issues related to establishing a new body. It would take the new body about a year to launch the relevant Register," the former Head of the State Special Communications Service pointed out<sup>17</sup>.

**16.** The Register is the most protected register in the country, but for security reasons it does not have access to the Internet. The State Service of Special Communications has to use manual operations, because the register contains the most sensitive information in the country<sup>18</sup>. After the end of the war, CI facilities operators will be able to use e-document management. Then the process of filling and updating the Register will take place in an automated mode<sup>19</sup>. Such a transition will require the implementation of multi-level security measures, including data encryption, system isolation, redundancy, and regular cyber defence auditing.

<sup>&</sup>lt;sup>12</sup> Follow the link: <u>https://zakon.rada.gov.ua/laws/show/1109-2020-n#Text</u>

<sup>&</sup>lt;sup>13</sup> Article 11, Part 1 of the Law of Ukraine 'On Critical Infrastructure' No.1882-IX dated November 16, 2021 (<u>https://zakon.rada.gov.ua/laws/show/1882-20#n32</u>)

<sup>&</sup>lt;sup>14</sup> Follow the link: <u>https://www.kyivpost.com/uk/post/28283</u>

<sup>&</sup>lt;sup>15</sup> CMU Resolution "On the Establishment of the State Service for Critical Infrastructure Protection and Support of the National Resilience System of Ukraine" dated July 12, 2022 No.787 (<u>https://zakon.rada.gov.ua/laws/show/787-2022-%D0%BF#n13</u>)

<sup>&</sup>lt;sup>16</sup> Follow the link: <u>https://cip.gov.ua/ua/news/zakhist-ob-yektiv-kritichnoyi-infrastrukturi-bude-posilenii</u>

<sup>&</sup>lt;sup>17</sup> Follow the link: <u>https://interfax.com.ua/news/interview/947864.html</u>

<sup>&</sup>lt;sup>18</sup> Follow the link: <u>https://interfax.com.ua/news/interview/947864.html</u>

<sup>&</sup>lt;sup>19</sup> Follow the link: <u>https://interfax.com.ua/news/interview/947864.html</u>

#### For reference:

The Procedure for Maintaining the Register<sup>20</sup> also states that during martial law and a year after its termination/ cancellation, access to information in the Register is limited. Information from it is provided only to officials of the national CI protection system bodies. Such information can be obtained upon a written request sent to the State Service of Special Communications.

Enterprises whose facilities are included in the Critical Infrastructure Facilities **Register have significant advantages.** In particular, they are provided with electricity on a priority basis and have the opportunity to conduct simplified procurement procedures for energy sector facilities restoration. Meanwhile, inclusion in the Register means not only advantages, but also implies certain obligations. A particular critical infrastructure facility must be ready to implement the recommendations of the State Service of Special **Communications to strengthen** protection at the facility<sup>21</sup>.

Automation, which will become possible after the end of martial law, will not only optimize processes, but also ensure compliance with international standards. It should be accompanied by staff training, creation of secure internal networks, and a gradual transition to the use of modern technologies, taking into account the best EU practices. **17.** Energy remains a priority area for the government. Thus, restoration, repairs, and expansion of decentralized generation goes on round the clock<sup>22</sup>.

In search of a strategy for the best protection of energy facilities, Ukraine went to many countries for an advice, however, it did not receive any specific hint, since no one had the appropriate competencies. So, in fact, energy facility protection systems were created from scratch<sup>23</sup>.

**18.** The threats to which the energy infrastructure is exposed include natural threats (natural disasters), man-made (accidents, explosions, fires), cyber threats (hacker attacks, system hacking), illegal actions (sabotage, terrorist acts) and military threats (shelling, air strikes). To organize energy facilities protection, a security passport containing a risk analysis, a list of potential threats and measures to eliminate them is being developed. This approach allows for a comprehensive assessment of the vulnerabilities of each facility and to take the necessary steps to protect it, combining physical fortifications, technological solutions and means such as electronic warfare.

<sup>23</sup> Follow the link: <u>https://interfax.com.ua/news/interview/947864.html</u>

<sup>&</sup>lt;sup>20</sup> CMU Resolution "On Approval of the Procedure for Maintaining the Critical Infrastructure Facilities Register, Entering Such Facilities in the Register, Accessing and Providing Information from It" dated April 28, 2023 No.415 (<u>https://zakon.rada.gov.ua/laws/show/415-2023-%D0%BF#n15</u>)

<sup>&</sup>lt;sup>21</sup> Follow the link: <u>https://interfax.com.ua/news/interview/947864.html</u>

<sup>&</sup>lt;sup>22</sup> Follow the link: <u>https://www.kmu.gov.ua/news/promova-premier-ministra-ukrainy-denysa-shmyhalia-na-zasidanni-uriadu81024</u>

#### For reference:

Energy facilities protection in the context of war with the russian federation remains one of the most pressing issues for our country. This is evidenced, in particular, by the recent decision of the Ukrainian government, according to which it is planned to allocate an additional EUR 86 mn for protection systems construction around energy facilities to protect them against russian attacks.

There are several energy infrastructure facilities protection levels. The first one involves physical protection of facilities, including installation of nets, gabions, sandbags, and other structures placed around key transformers and critical components within substations. According to a representative from one of the companies involved in such projects, this level has partially fulfilled its functions, particularly in protecting against drone attacks. However, most of these elements were implemented during 2022–2023, and a significant part has already been destroyed. Moreover, the lack of approved projects led to nonpayment for completed works.

The second one is concrete structures designed to protect against "Shaheds" (Iranian drones), while the third one is capable of withstanding impacts from any type of missile, as confirmed through testing. This level essentially involves constructing new substations, some of which are sometimes located underground. In addition to physical protection, electronic warfare means can also be used to protect energy facilities. There are private manufacturers in Ukraine who are implementing electronic warfare developments to protect facilities. During the war, a large number of new developments appeared in this area<sup>24</sup>.

**19.** NPC Ukrenergo reports that the project dealing with the construction of protective structures at energy facilities, is being implemented in three stages. It is, in particular, due to the fact that the construction of protective structures requires temporary shutdown of equipment. Accordingly, the simultaneous implementation of the project at all facilities could cause a complete blackout in the country. NPC Ukrenergo notes in its press release of August 2024, that it is finalizing construction of the first stage of high-voltage equipment anti-drone protection at 41 of the company's facilities. The Restoration Agency is completing construction of the first stage of protection at another 22 facilities. Also, according to NPC Ukrenergo, protective structures have already been built at the vast majority of substations. According to calculations, without protective structures, the damage caused by russian drone strikes on electricity transmission system facilities would have been 5–6 times greater<sup>25</sup>.

#### For reference:

"Power plants we have today were inherited from the Soviet Union. These are highly concentrated facilities in terms of their installed capacity, these are machine rooms 30-40 m high and 100-200 m long, and these are essentially huge facilities over which it is impossible and impractical to build any protection elements, only air defence is needed", Kudrytsky, a former Head of NPC Ukrenergo, explained.

**20.** According to the government, in early September 2024, protective structures at the facilities of NPC Ukrenergo were more than 85% ready<sup>26</sup>. According to the Restoration Agency, at the facilities where it is carrying out works, the main construction works on arranging more than 30 out of 46 top-priority Level II protective

<sup>&</sup>lt;sup>24</sup> Follow the link: <u>https://interfax.com.ua/news/interview/947864.html</u>

<sup>&</sup>lt;sup>25</sup> Follow the link: <u>https://ua.energy/zagalni-novyny/ukrenergo-publikuye-koshtorysnu-vartist-osnovnyh-materialiv-zahysnyh-sporud-pobudovanyh-na-vysokovoltnyh-pidstantsiyah/</u>

<sup>&</sup>lt;sup>26</sup> Follow the link: <u>https://www.ukrinform.ua/rubric-economy/3902902-gotovnist-zahistu-obektiv-ukrenergo-stanovit-ponad-85-smigal.html</u>

structures at key elements of electrical substations have already been largely completed. At present, most of these structures are operational and protect critical electrical substation equipment from drone attacks and missile strikes.

In addition, the Restoration Agency is currently implementing the process of establishing a Centralized Procurement Organization (CPO). This initiative aims to enhance transparency in recovery-related procurement and open horizons for foreign companies and businesses participation in the reconstruction efforts.

#### For reference:

Strengthening EU critical infrastructure resilience through policy and coordination

In December 2022, the EU Council adopted Recommendations on a coordinated approach to the resilience of critical infrastructure. In particular, it recommended introducing the necessary tools and ensuring coordination of actions at the EU level to increase preparedness and response to security incidents threatening to disrupt provision of vital services in the EU internal market.

At the same time, the EU Council adopted a new Critical Entities Resilience Directive (CER Directive). In early 2023, it was announced that the EU and NATO would synchronize their efforts to ensure critical infrastructure resilience.

Overview of the EU Council recommendations on the objectives and measures for developing policies in the field of CI sustainability based on materials from the National Institute for Strategic Studies<sup>27</sup>.



### Chapter 2.

# Current situation in the country.

Parties to CI facilities restoration process. Basic problems and challenges during CI facilities restoration

#### 2.1. General problems with implementing CI facilities restoration projects

#### **Challenges scale**

**21.** The war in Ukraine has caused massive destruction, unseen in Europe since World War II. The critical infrastructure protection and restoration is taking place for the first time, and most solutions are innovative. Constant changes in russian tactics make Ukraine develop new approaches and implement modern technologies. According to the Third Rapid Damage and Needs Assessment (RDNA3), as of December 31, 2023, the total direct damage in Ukraine reached nearly \$152 bn, with the most affected sectors being housing, transport, trade and industry, energy, and agriculture. The RDNA3 report states that Ukraine's total recovery and reconstruction needs over the next decade amount to \$486 bn. In particular, 10% of this amount, which is approximately \$48.6 bn, is allocated for the energy sector recovery<sup>28</sup>. In winter, Ukraine fought back critical infrastructure attacks while working to restore and modernize them, as well as to attract international support.

### Problems with financing CI facilities restoration

**22.** In 2024, Ukraine directed significant efforts to restore the CI, combining state funding, international aid, and grants. UAH 10.9 bn was allocated from the state budget used for key programs. In particular, UAH 4.5 bn has been allocated as subsidies to local budgets within the framework of the Ukraine Recovery Program, which made it possible to finance social and transport infrastructure reconstruction projects. UAH 3.2 bn has been allocated to the "Support for Rapid Recovery of Ukraine" program, and UAH 2.3 bn – for critical infrastructure facilities restoration<sup>29</sup>.

23. International partners have also contributed significantly. The European Investment Bank (EIB) has provided €340 mn under the Ukraine Recovery Programme<sup>30</sup> for projects to restore hospitals, social housing, educational institutions, and water supply facilities in over 100 communities in Ukraine<sup>31</sup>. France has supported Ukraine with a €200 million

<sup>&</sup>lt;sup>28</sup> Follow the link: <u>https://www.worldbank.org/en/news/press-release/2024/02/15/updated-ukraine-recovery-and-reconstruction-needs-assessment-released</u>

<sup>&</sup>lt;sup>29</sup> Follow the link: <u>https://statewatch.org.ua/publications/ponad-10-mlrd-hrn-biudzhetnykh-koshtiv-planuietsia-vytratyty-na-vidbudovu-u-2024-r/</u>

 $<sup>^{\</sup>scriptscriptstyle 30}$  Equivalent to UAH 14.918 bn at the official NBU exchange rate as of January 8, 2025.

<sup>&</sup>lt;sup>31</sup> Follow the link: <u>https://www.eib.org/en/press/all/2024-101-eib-backed-ukraine-recovery-programme-kicks-off-as-critical-infrastructure-projects-get-underway</u>

grant<sup>32</sup> to modernize energy infrastructure and water supply systems<sup>33</sup>.

24. As a result of these efforts, in 2024, over 200 social infrastructure facilities, including schools, hospitals and hostels, were restored, more than 150 km of transport arteries modernized, and pilot energy efficiency projects implemented for critical water and electricity facilities. Joint consultations with international partners helped shape a long-term financing and recovery strategy.

25. Parties involved in the CI restoration

**process** include entities with different statuses: government bodies shaping and implementing policy in this area, institutions acting as customers of works and services, the private sector carrying out works and providing related services, as well as financial organizations ensuring resource support and funding. Coordinating efforts between all participants is essential for effective and timely restoration.

26. Perhaps, the biggest issue in implementing CI restoration projects is **the problem of payment for works performed and services provided**. Thus, often contractors perform the work first, and when the moment of mutual settlements comes, it turns out that the state does not have the funds to pay for this work and materials. It puts business representatives on the verge of the entity survival, as many companies not only use credit funds to promptly fulfil obligations under CI restoration projects, but also divert the working capital of enterprises. Among the main groups of participants in the CI restoration process, the following can be distinguished:

- 1. State and local government bodies. Most often act as direct customers of projects, set restoration priorities and coordinate the process.
- 2. Private sector. Construction companies perform the main works on CI facilities restoration. Subcontractors are involved to perform specialized works (electricity, communications, water supply, etc.). Technology companies, equipment suppliers, investors provide innovative solutions, resources and support for long-term projects.
- **3. Design and architectural engineering companies.** They develop design documentation and provide architectural supervision over execution of works under the project.
- 4. Consulting engineers. They ensure construction projects management, control the expenditure of funds, and compliance with state standards and construction regulations. They also participate in preparing contractual documents, approving changes to project documentation, analysing claims between project participants, and coordinating interaction between the client and contractors<sup>34</sup>.

**Financing and technical support entities.** Financing is provided from state and local budgets, as well as through governments of other countries, international organizations (EBRD, World Bank, UN) and private or charitable foundations.

<sup>32</sup> Equivalent of UAH 8.775 bn at the official NBU exchange rate as of January 8, 2025.

<sup>34</sup> Follow the link: <u>https://auc.org.ua/sites/default/files/inzhener-konsultant.pdf</u>

<sup>&</sup>lt;sup>33</sup> Follow the link: <u>https://espreso.tv/ekonomika-vidnovlennya-kritichnoi-infrastrukturi-ta-rozminuvannya-ukraina-</u> <u>ta-frantsiya-pidpisali-grantovu-ugodu-na-200-mln</u>



#### For reference:

The problem of delayed payments to contractors involved in the restoration of Ukraine's infrastructure is serious and systemic. According to the UNITE Ukrainian Infrastructure Association, as of April 2024, the Ministry of Finance owed more than UAH 20 bn to companies restoring damaged infrastructure. This poses a threat to suspension of works on infrastructure facilities restoration and protection<sup>35</sup>.

In addition, an audit by the Accounting Chamber of Ukraine found that 63.1% (UAH 5.9 bn) of the UAH 9.3 bn subvention allocated in 2023 for social and critical infrastructure facilities restoration was not used. It shows problems with the use of allocated funds and may affect timely payment of contractors<sup>36</sup>. **27.** On a separate note, it is worth mentioning problematic aspects in project financing and the use of budget funds:

- The use of budget funds and works performance for funds allocated in the budget take place in the last months of the budget year<sup>37</sup>;
- There is a problem of territorial communities being incapable of spending funds allocated to them and implementing reconstruction projects<sup>38</sup>;
- Delays in making government decisions on the procedure for using allocated funds provided by international donors. For example, due to the delay in convening the relevant government CMU committee, which was supposed to agree on the procedure for using funds accumulated for the energy infrastructure restoration, the implementation of these projects by the Restoration Agency was significantly complicated.

<sup>35</sup> Follow the link: <u>https://unite.org.ua/press\_center/zatrymky-vyplat-minfinom-zagrozhuyut-zryvu-zusyl-z-vidnovlennya-krytychnoyi-infrastruktury/</u>

- <sup>36</sup> Follow the link: <u>https://rp.gov.ua/PressCenter/News/?id=2276&utm\_</u>
- <sup>37</sup> It is due to the following: Late receipt of funds: The allocation of budget funds sometimes occurs with delays due to difficulties with filling the budget, reviewing funding programs, or redistributing resources. A common approach is "spend everything by the end of the year": Budget funds that will not be used by the end of the year are usually returned to the state budget. It makes local authorities actively spend resources in December. Project documentation development: Delays in creating or approving projects and estimate documentation cause postponement of work commencement. Revision of cost estimates: Changes in the economic situation (inflation, exchange rate fluctuations) force budgets to be revised, which delays the start of the implementation.
- <sup>38</sup> According to the Report of the Accounting Chamber entitled "Territorial Communities at War: Restoration of Social and Critical Infrastructure" approved by the Decision of the Accounting Chamber of December 10, 2024 No.55-2 (https://rp.gov.ua/upload-files/Activity/Collegium/2024/55-2 2024/Zvit 55-2 2024.pdf): in 2023, UAH 9.3 bn was allocated from the Fund for the Elimination of the Consequences of Armed Aggression to restore territorial communities infrastructure for 336 reconstruction projects that were to be implemented during 2023-2025. These projects mainly deal with restoration of water supply and sewage, destroyed apartment buildings, social and critical infrastructure facilities, general secondary education institutions, kindergartens, etc. The audit showed that some territorial communities were unable to spend these funds and implement projects. Thus, out of 172 projects planned to be completed in 2023, only 73 were completed. A similar situation is observed in 2024. The government allocated another UAH 7.7 bn from the Liquidation Fund to continue the implementation of 199 projects launched in 2023. At the time of this audit, 130 of these projects were planned to be completed in 2024, but only 10 had been finalized by July. Another 69 projects were planned to be completed in 2025 (as of July 1, 2024, their funding sources had not been identified).

#### For reference:

The Verkhovna Rada adopted the state budget for 2025 with record figures – UAH 3.94 tn. As part of public investment management (PIM) measures, a Unified Project Portfolio was formed, including 787 projects with a total cost of UAH 2.6 tn. For 2025, financing of UAH 224.2 bn is provided and distributed as follows:

- UAH 115 bn will be attracted under state guarantees for infrastructure restoration, particularly transport and energy facilities.
- UAH 71.8 bn will come from MFIs in the form of loans and grants, which will allow financing projects in transport, industry, healthcare, education and energy areas.
- UAH 36.4 bn is allocated from the general budget fund for key social and infrastructure projects, including educational institutions, hospitals and water supply systems restoration in the affected regions<sup>39</sup>.

In addition to the state budget, high hopes for obtaining funds for restoration are put on alienation of seized assets of the russian federation through ARMA and donor funds.

Due to limited financial resources, unlike 2024, when there was a significant dispersion of projects, the approach to recovery in 2025 will be based on prioritizing projects complying with the Ukraine Facility Plan. Key priorities are: energy, housing, social infrastructure facilities and roads in separately selected regions<sup>40</sup>.



# Problems of business participation in recovery projects

**28.** Rapid and effective restoration of CI facilities is impossible without involving the private sector. However, this process currently faces a number of challenges. Formally, business participation in recovery efforts is based on voluntary principles and tender procedures. In practice, however, significant pressure from the state often turns this participation into a "voluntary-compulsory" engagement.

The state and local authorities often approach companies with requests to participate in reconstruction efforts, yet actually there is no option to decline such proposals. Businesses are frequently forced to take financial and operational risks without proper guarantees. As a result, companies are left alone with postproject challenges, including payment delays, document signing troubles and other obstacles. The state has yet to introduce effective mechanisms to protect businesses from such situations.

#### <sup>39</sup> Follow the link:

https://business.diia.gov.ua/news/verkhovna-rada-ukrainy-ukhvalyla-derzhavnyi-biudzhet-na-2025-rik
From the speech of D.Ulyutin on November 5, 2024, at the event "Costs Control for Reconstruction of Ukraine No.14. Is There a Room for Reconstruction in the Military Budget-2025?"
https://brp.org.ua/analytics/kontrol-vitrat-na-vidnovlennya-ukrayini-14.-chi-ye-misce-dlya-vidnovlennya-u-voyennomu-byudzheti-2025

#### Example 1:

The BOC was approached by a construction company that had significant difficulties after implementing a project to restore a CI facility. At the time of works commencement, the company signed all the necessary contractual documents and began implementing the project, when the counterparty was privately owned. However, while performing work, that party was nationalized and the company was not properly informed of. It resulted in serious problems, particularly with receiving payment for the works performed and processing the relevant documents.

Despite all efforts to resolve the situation, the construction company suffered losses and found itself in a situation of claims risks regarding proper drawing up of documents: it was only able to receive part of funds and with a significant delay from the agreed deadlines, not including inflationary losses. The issue of proper documenting remained unresolved.

It is worth noting that the company completed a large amount of works in a time frame that other market participants could not guarantee. It shows its high professionalism and responsibility. However, problems that arose after the implementation of this project made the company decide to no longer participate in restoration projects involving the state.

## The problem of the lack of a full-fledged legal framework

29. Construction projects, repair and other engineering and technical measures to protect fuel and energy sector facilities till December 31, 2024, were largely implemented as experimental projects in accordance with the CMU **Resolution.** During experimental projects implementation, the requirements of a number of regulatory legal acts were restrictively applied to them. They concerned capital construction state financing issues, investment projects selection for which state support was provided, issues of managing state investments and budget funds advance payment by recipients for goods, works, and services purchased with budget funds<sup>41</sup>.

**30.** It was also determined that pilot construction projects, repair and other engineering and technical measures to protect fuel and energy sector CI facilities will be implemented by December 31, 2024. It would simplify and accelerate the implementation of energy CI restoration projects, but companies that joined the implementation of projects later often had claims from law enforcement bodies (sometimes reasonable) regarding noncompliance of structures with standards or norms. As of the date of preparation of this report, it is still unclear how construction, repair and other engineering and technical measures to protect fuel and energy sector CI facilities will be implemented in 2025.

<sup>&</sup>lt;sup>41</sup> 1) Resolution of the Cabinet of Ministers of Ukraine dated December 27, 2001 No.1764 "On Approval of the Procedure for State Financing of Capital Construction"; 2) CMU Resolution dated November 13, 2013 No.835 "On Approval of the Procedure for Selecting Investment Projects for Implementation of which State Support is Provided"; 3) CMU Resolution dated July 22, 2015 No. 571 "Some Issues of Public Investment Management"; 4) CMU Resolution dated December 4, 2019 No.1070 "Some Issues of Prepayment by Administrators (Recipients) of Budget Funds for Goods, Works and Services Purchased with Budget Funds" (Official bulletin of Ukraine, 2020, No.2, p. 64); 5) Clauses 3, 6-11 and 15 of the Procedure for the Use of Funds for Elimination of the Consequences of Armed Aggression, approved by the CMU Resolution dated February 10, 2023 No.118.

#### The problem of land plots

31. Often, performing works on CI facilities protection requires carrying out these works on land plots owned by third parties, which in turn requires seizure of land plots from the owner or obtaining the right of servitude or superficies, which is a lengthy process. And if there is property or crops on such land plots, then there is also the need for compensation. It is important to properly regulate the issue of alienation of land plots or obtaining the rights of servitude or superficies for such plots, so that it ensures effectiveness, but at the same time neither contains abuses, nor violates the rights of legal owners. Practice shows that the fastest and most appropriate way to ensure the right to use a land plot for such needs is to establish an easement. It is because superficies grants only the right to build, which is not always suitable for temporary measures aimed at restoring critical infrastructure facilities.

### The problem of staff shortage and turnover

**32. The ever-growing shortage of both professional staff and ordinary workers** is negatively affecting the ability to carry out reconstruction works. This situation is particularly acute in regions close to the contact line, where risks to life and health of personnel have greatly increased. It significantly complicates reconstruction works implementation and affects not only contractors but also suppliers, which further delays and complicates the entire process.

**33.** The problem of setting market salaries also hinders attraction of professional personnel and deters businesses from voluntarily participation in CI restoration

projects. Currently, construction estimates are calculated according to the Methodology approved by the Ministry of Development. However, according to participants in the construction industry, salaries in cost estimates when submitting a tender are calculated as follows:

According to the Procedure, the estimated salary amount is determined by the customer when preparing project documentation. In 2024, this amount should have been at least UAH 13,707.89 (UAH 12.634 × 108.5%). However, it is considerably lower than actual salaries in the industry, which averaged UAH 18.000–20.000 depending on the region and specialization<sup>42</sup>. According to the Pension Fund of Ukraine, the average salary in construction in June 2024 reached UAH 18,806.6343. This gap makes it impossible to bring estimated salaries to real indicators, as customers avoid reviewing them. This also makes it difficult to attract contractors to state-funded reconstruction projects and deters foreign companies that could contribute to developing the national construction industry.

#### The problem with coordinating work on CI facilities protection and restoration implementation with stakeholders

**34.** Effective coordination of efforts of all stakeholders is a key point for ensuring CI objects protection and their timely restoration. Harmonious interaction allows to minimize risks, avoid duplication of functions and ensure the most optimal use of resources. At the same time, achieving this goal requires solving a number of problems related to actions coherence, processes transparency and effective communication between all participants.

Follow the link: <u>https://finance.novyny.live/analiz-rinku-pratsi-v-ukrayini-u-chervni-top-vakansii-u-budivnitstvi-z-naibilshimi-zarplatami-179767.html</u>

<sup>&</sup>lt;sup>43</sup> Follow the link: <u>https://www.pfu.gov.ua/2165179-pokaznyk-serednoyi-zarobitnoyi-platy-za-2024-rik/?utm\_</u>

#### Key issues in coordinating work to protect and restore CI facilities include:

#### 1. Lack of a unified communication field

- The country lacks a centralized platform for data exchange between different stakeholders. As it became clear during discussions with stakeholders, the state-run DREAM platform only partially meets this goal, as it is mostly focused on the work of the multi-donor platform and does not cover issues related to critical infrastructure.
- Efforts duplication: Due to poor information sharing, different departments or organizations may perform the same tasks, resulting in a waste of resources.
- Unclear roles and responsibilities: It is not clearly defined who is responsible for what in a critical situation.

#### 2. Technical complexity of CI facilities

- Systems interdependence: CI often functions as a single complex, and damage to one element affects others.
- Restoration complexity: The need for highly specialized expertise and resources to repair complex facilities, such as the energy grid or transportation systems.
- Cyber threats: CI is subject to cyberattacks, making it difficult to protect.

#### 3. Political and administrative obstacles

- Diverse stakeholders' interests: Conflict between economic, political, and security goals of different participants in the process.
- Lack of political will: Delays due to approval procedures complexity even with allocated funds, there are cases when a decision-making process on their distribution takes several months.
- Another factor affecting coordination of work on cultural heritage sites protection and restoration is decentralization of power and the issue of financing works on of cultural heritage sites protection and restoration there are not always enough funds to finance protection and restoration works at the local budget level.

#### Verifying Construction Materials and Services Cost

**35.** Verifying construction materials cost and subcontractor services remains a widespread issue, particularly in the field of recovery projects. Law enforcement and regulatory bodies often accuse businesses of inflating material or service pricing, which frequently leads to ungrounded criminal investigations. These accusations often fail to consider key factors, such as special conditions or discounts that individual companies might receive during procurement. Furthermore, specific circumstances, including shortages of certain goods or market price fluctuations, can also affect final cost.

#### Example 2:

While implementing one of recovery projects, a leading Ukrainian infrastructure construction company procured metal under conditions of severe shortages in the domestic market, thus having to purchase it at higher prices. Additionally, the metal was sold with a payment deferral of up to 180 days, which further influenced the final cost of the material. Regulatory bodies suspected price inflation, despite the fact that the price had been determined by the objective market conditions at that time.

Procurement of metal under conditions of significant market shortages, combined with factors such as deferred payment terms, objectively led to an increase in costs. However, such circumstances are not always taken into account by regulatory authorities, which can result in unfounded allegations of price inflation. To prevent such situations, it is essential to consider actual (rather than hypothetical) market conditions when evaluating costs.

### The problem with supplying building materials

**36.** The problem of supplying building materials required for CI restoration also complicates the processes of rapid and long-term restoration and includes several key aspects:

- 1. Production facilities destruction: Many building materials factories were damaged or destroyed as a result of hostilities resulting in a significant reduction in domestic production<sup>44</sup>.
- 2. Problems of managing confiscated assets: Some enterprises owned by russians were closed or limited in their

activities due to imposed sanctions, which further reduced building materials production<sup>45</sup>.

- **3. Logistics chains disruption:** Infrastructure destruction, including damage to port infrastructure and airport closures, as well as border restrictions, have led to difficulties in transporting construction materials, delaying supplies and increasing costs<sup>46</sup>.
- **4. Energy prices rising:** An increase in the cost of energy directly affects building materials production costs, resulting in an overall increase in products pricing on the market<sup>47</sup>.

## Problems associated with alternative energy

**37.** In the process of restoring CI, which has suffered significant damage due to shelling and generating capacity loss, ensuring energy sustainability and energy sources diversity is crucially important. One of the key solutions to cover the deficit is developing alternative energy sources, particularly green ones. It not only allows to compensate for the loss of traditional capacity, but also contributes to diversifying energy resources and reducing dependence on electricity imports.

**38.** One of the main problems in the alternative energy area is the lack of clear rules for equipment classification and depreciation. Solar power plants owners account for their facilities as a complex of separate assets with different service lives allowing for shorter depreciation periods application. Meanwhile, regulatory authorities insist on treating solar power plants as a single structure with a unified service life of 15 years. This approach considerably increases the tax burden, complicates financial planning, thus making investments in alternative energy less attractive.

<sup>&</sup>lt;sup>44</sup> Follow the link: <u>https://dimaks.com.ua/index.php?route=information/uni\_news\_story&news\_id=1&utm\_</u>

Follow the link: <u>https://www.ukrinform.ua/rubric-economy/3914628-novi-sankcii-proti-rf-ukraina-vvela-obmezenna-dla-90-fizosib-ta-57-kompanij.html?utm\_</u>

<sup>&</sup>lt;sup>46</sup> Follow the link: <u>https://pro-consulting.ua/ua/pressroom/rynok-stroitelnyh-materialov-v-ukraine-analiz-vliyaniya-vojny?utm</u>

Follow the link: <u>https://mind.ua/publications/20262621-rinok-budivelnih-materialiv-tendenciyi-ta-ochikuvannya-pid-chas-vijni?utm</u>

**39.** The lack of transparent and predictable rules creates significant uncertainty for investors, making it difficult to attract private capital. Meanwhile, developing alternative energy is dramatically important for Ukraine's energy security. It helps to cover the generation capacity deficit, reduce dependence on electricity imports and diversify energy resources.

**40.** Introducing clear depreciation rules taking into account solar power plant equipment specifics allows to employ a component-based approach that might become an important tax incentive for investors. It will create predictable conditions for the sector development and attract private capital, necessary for successful recovery and long-term critical infrastructure sustainability.

**41.** Cogeneration units play a key role in ensuring energy efficiency, especially in enterprises where simultaneous electricity and heat production is required. They are also an optimal solution for regions with limited access to centralized energy networks.

**42.** Apart from that, cogeneration is an important element of the state's energy security. Such installations provide reliable and effective local energy supply, considerably reducing dependence on centralized systems. Their role becomes especially significant in crisis situations, when centralized energy supply is disrupted due to damage to infrastructure, e.g. as a result of military attacks on Ukrainian thermal power plants. Due to their ability to ensure energy systems stability and flexibility, cogeneration installations remain an integral part of strategies to improve energy security and resilience.

**43.** Such installations can **greatly contribute to Ukraine's recovery from attacks on TPPs**, as they allow for the rapid local power supply, reducing the burden on the country's overall power system. They can help restore energy independence in regions where damaged TPPs restoration takes time and significant resources.

**44.** However, the process of implementing cogeneration units may be accompanied by a number of significant challenges, including:

- Problems of connecting to the city's heating network: Many settlements have outdated heat transfer equipment unable to effectively interact with new cogeneration plants. It may require significant investments in modernizing heating networks to ensure proper connection and thermal energy efficient use. There are also problems with laying new heating mains, which can be expensive and need considerable resources, as well as time for their construction. In addition, personnel play a key role, since to effectively service new cogeneration plants it is necessary to have enough skilled specialists, while their training and education can take time.
- Problems of hooking up to the city grid: Cogeneration plants integration into the electricity grid also comes with challenges related to the need for approvals from grid operators. In most cases, connecting cogeneration plants requires several stages of approvals from local grid operators. It may be due to technical requirements for grid stability, the possibility of free capacity for additional electricity generation, as well as issues of compensation for the use of infrastructure. This process length and complexity of approvals can become serious obstacles to the rapid integration of cogeneration plants into the city grid.



**45.** Therefore, for the widespread use of cogeneration plants, it is important not only to invest in the technologies themselves, but also to carry out a comprehensive heat and electricity networks infrastructure modernization, as well as to address the issues of effective cooperation with network operators to ensure proper integration of these plants into the overall energy system. Cogeneration can become an important element of the country's energy security strategy and recovery after damage to the energy infrastructure<sup>48</sup>.

#### 2.2. Problems with participating in public procurement

**46.** Public procurement is an important tool to provide for CI restoration. The specifics of procurement for the period of martial law are regulated by the Cabinet of Ministers Resolution<sup>49</sup> and allow concluding a procurement contract without using open tenders and/or an electronic catalogue for the purchase of goods. On the one hand, this should accelerate all CI restoring processes, however, it also creates corruption risks, unfair competition and, on the other hand, "acceleration" creates risks of abuse and pressure on business from law enforcement bodies and a priori puts private companies in a weak legal position. This deprives customers

of the opportunity to obtain the optimal value for money ratio and also makes it impossible for new companies to access the market.

**47.** At the same time, CI restoration takes place in information restriction mode to ensure defence capability, state security, and to reduce the risks of harm to national interests. Although the purpose of these restrictions is clear, in practice it also contributes to abuse in procurement, which directly affects CI facilities protection.

<sup>48</sup> Follow the link:

https://uhe.gov.ua/media\_tsentr/novyny/detsentralizatsiya-enerhetyky-stratehichni-plany-ukrayiny

<sup>&</sup>lt;sup>49</sup> Follow the link: <u>https://zakon.rada.gov.ua/laws/show/1178-2022-%D0%BF#Text</u>

#### Example 3:

At the end of August 2022, a hospital in the city of Sarny, Rivne region, suffered significant damage as a result of a missile strike. In particular, over a hundred windows were broken in the maternity ward. Due to the autumn-winter period on the way, replacement of damaged windows took place under a fast-track procedure without using an electronic procurement system. Thus, it was possible to install windows in time before frosts and ensure continuous operation of the maternity ward. According to the spokesperson of the Sarny City Council, it was an operational measure aimed at ensuring safety, preserving heat, and creating comfortable conditions for patients<sup>50</sup>.

However, once new windows were installed, local residents filed a complaint with the Sarny District Prosecutor's Office due to inadequate quality of the work performed. In response to the complaint, the Prosecutor's Office sent a request to the hospital administration to clarify the circumstances. As a result of the investigation, the CEO of the institution was notified of suspicion on neglect of duty, which caused severe damage and had serious consequences for public interests (Part 1, Part 2 of Article 367 of the Criminal Code of Ukraine). The investigation is currently ongoing<sup>51</sup>.

This case illustrates the risks of public procurement fast-track procedures, especially within limited time and lack of expertise on the part of the contracting authority. While the need for rapid response in crisis situations such as war is clear, such actions are often accompanied with risks for work quality and potential legal consequences for those in charge. **48.** Besides, projects for construction, repair and other engineering and technical steps to protect critical fuel and energy sector infrastructure facilities until December 31, 2024, are largely implemented as experimental projects in accordance with the CMU Resolution dated December 27, 2022, No.1482 "On the Implementation of a Pilot Project for Construction, Repair and Other Engineering and Technical Measures to Protect Fuel and Energy Sector Critical Infrastructure Facilities"<sup>52</sup>.

#### Example 4:

"Ukrhydroenergo" PrJSC (100% of shares are state-owned) concluded an agreement for construction of a protective structure for **Dnipro HPP** worth UAH 4.36 bn with Adamant company, it happened without open bidding, as reported by NashiGroshi project. Journalists, referring to data from Prozorro, found out that other data on the purchase were also hidden, citing martial law. Journalists draw attention to the fact that these unfinished orders did not prevent Ukrhydroenergo from awarding Adamant a billion-dollar contract without open bidding and with cost estimates closed for publication. Taking into account this contract, Ukrhydroenergo ordered installation of anti-drone protection and restoration of various HPP facilities after missile strikes for a total of UAH 19.83 bn during 2022-2024. We would like to remind on March 22, Russia attacked Ukraine's largest hydroelectric power plant, Dniprovska HPP in Zaporizhia city<sup>53</sup>.

**49. Direct procurement insufficient regulation.** Procuring entities may have trouble properly substantiating why a particular supplier was selected for a direct contract. **Unclear criteria or no detailed methodology for assessing needs may** 

<sup>&</sup>lt;sup>50</sup> Follow the link: <u>https://itvmg.com/news/na-rivnenshchini-direktora-likarni-pidozryuyut-u-sluzhboviy-nedbalosti-video-100498</u>?

<sup>&</sup>lt;sup>51</sup> Follow the link: <u>https://sarny.rayon.in.ua/news/753200-ochilnika-sarnenskoi-likarni-vidstoronili-cherez-zakupivlyu</u>

<sup>&</sup>lt;sup>52</sup> Follow the link: <u>https://zakon.rada.gov.ua/laws/show/1482-2022-%D0%BF#Text</u>

<sup>&</sup>lt;sup>53</sup> Follow the link: <u>https://zakon.rada.gov.ua/laws/show/1482-2022-%D0%BF#Text</u>

lead to ungrounded decisions, which may subsequently result in criticism or even legal claims from law enforcement bodies.

50. Discrimination of participants. In conditions of a limited range of potential suppliers, situations may arise when customers prefer "convenient" companies, ignoring other participants who could potentially offer more favorable conditions. There are also frequent situations when customers set additional requirements for the availability of certificates for works or materials not actually needed for facility reconstruction. These discriminatory conditions usually have two main reasons. Firstly, it is the desire mainly to push "their" companies at the tender. Secondly, it may be the consequence of insufficient competence of the customer's representative forming the technical specification, is trying to play it safe with his professional liability by adding the maximum number of requirements. Weak competition in public procurement greatly influences pricing when CI facilities restoration works are performed. A large share of procurements is conducted with the participation of only one contractor.

#### For reference:

In six months of 2024: 85% of tenders using the electronic procurement system were held with one participant; 97% of tenders were held with one participant without using the electronic procurement system.

In September 2024, 13,164 purchases (77.7% of total purchases per month) for the amount of UAH 89.4 bn were made with one participant<sup>54</sup>.

51. Poor planning of works and delays in the approval process. As a result of simplified procedures, customers may not analyze projects and work plans thoroughly enough. Due to the project approach to construction, repair and other engineering and technical measures to protect critical fuel and energy sector infrastructure facilities, it was not mandatory to conduct an examination of project documentation until December 31, 2024. It may cause problems with cost estimates coordination, as well as with the provision of necessary materials or technologies. On the other hand, if the customer decides to conduct an expert examination, there are frequent cases that after this the State Audit Service of Ukraine draws up a report against the customer, as a manager of budget funds, on budget funds embezzlement and, as a result, a criminal case is launched against the customer under Art.191 of the Criminal Code of Ukraine. Separately, design solutions require fire safety approval from the State Emergency Service, which affects timing of such approvals and there is always a risk of approval failure.

<sup>&</sup>lt;sup>54</sup> Follow the link: <u>https://ces.org.ua/wp-content/uploads/2024/11/kontrol-vytrat-na-vidnovlennya-ukrayiny-14.pdf</u>

52. Price formation problems. The issue of price formation in construction is complicated by the absence of an operational mechanism for aligning cost estimates with current market conditions. Material resources cost is determined according to a methodology that involves analyzing current market prices using various sources such as Prozorro, databases of the Ministry of Infrastructure, manufacturers' price lists, and others. However, this mechanism does not always take dynamic market changes into account, especially in wartime conditions. It can lead to artificially underestimated resource cost in estimates, which in turn complicates project implementation and slows down progress speed<sup>55</sup>.

On top of that, there is an issue of uneven budget funds spending that significantly affects project execution effectiveness. Due to the budget process specifics, most allocations are disbursed in the second half of the year, making customers concentrate orders in the final months to fully utilize the funds. As a result, a significant portion of works is performed during the least favorable period, while in more optimal conditions, these projects remain unexecuted. It not only creates additional difficulties in organizing the construction process but can also lead to increased costs due to seasonal factors and contractor overloading.

The lack of a mechanism for the regular revision of material costs and labor expenses threatens the actual engagement of contractors. In the context of restoring CI facilities, flexible cost estimate adjustments in line with current market conditions are critically important. It would ensure the efficient use of budget funds and timely execution of projects, preventing artificial delays caused by discrepancies between planned and actual costs. **53. Poor quality of works performed and missed deadlines.** Since contractors selection may be made without taking into account their experience or technical capabilities, there is a high risk of works being performed with deviations from State Construction Regulations (DBN) and with considerable delays, which can lead to critical consequences for the state.

54. Unobjectiveness of data provided in cost estimates. Data provided in cost estimates do not always correspond to real expenses. For example, regulation of salaries by the customer and the inability to bring their rates in the estimates provided by the contractor to the actual ones, forces the contractor to overstate materials pricing. In turn, it causes problems with law enforcement bodies for both contractors and the customer's representatives.

### 55. Problems with documentary confirmation of completed works.

Frequent changes in the management of the client - a state-owned enterprise or a relevant government authority - often lead to delays or unjustified refusals in the acceptance of completed works and, accordingly, signing of works completion certificates. It results in payment delays, budget cuts, or even complete freezing of construction projects. Apart from that, such actions serve grounds for launching criminal proceedings against contractor officials. These instances of abuse of authority and improper practices cause project disruptions, critical infrastructure restoration schedules violations and risks of failing to achieve project strategic objectives. In addition, there are often situations when a bona fide contractor has started working, received an advance payment and fulfilled his part of obligations, but the customer, due to lack of funds for payment, refuses to sign the acceptance certificate. This, in turn, leads

<sup>55</sup> Див. посилання: <u>https://restoration.gov.ua/press/news/59632.html</u>

to serious consequences for the contractor, namely:

- Delay in receiving payment by the contractor and inability to pay his/her employees;
- Launching of criminal cases against the contractor, due to the fact that he/she received an advance payment from the customer, de facto completed works, as a result of failure to sign the acceptance certificate, de jure these works are not considered completed;
- Reputational risks for the contractor.

#### Example 5:

In paragraph No.28 dedicated to the problems of business participation in restoration projects, the BOC already mentioned the case of a construction company that had serious trouble preparing documentation after implementing a project to restore a critical infrastructure facility.

The company began working, having previously signed all the necessary documents. However, during project implementation, the party with which the company had contractual relations was nationalized, it was not informed of. It caused serious complications in coordination of documentation, particularly during acceptance certificates signing.

Despite numerous attempts to resolve the issue, the company was unable to properly draw up the documents. As a result, the acceptance certificate for a significant amount remained unsigned. **56. Additional expenses.** If works are performed on CI facilities that have been repeatedly attacked and destroyed during restoration, the contractor faces the lack of a mechanism for compensation for the damage caused, as well as the inability to approve completed but unsigned works acceptance reports. It is due to the fact that emergency repair work reports are signed only at the end of the month.

#### 57. Change of owner and contracts

terms during works execution stage. In the process of performing works on CI restoration, situations often arise when, due to a change of owner, nationalization or change of the enterprise's management, contracts terms are revised. This makes it impossible for the contractor to receive proper remuneration, causing legal disputes, uncertainty of the legal liability of the parties and even confusion as to whom and where to file claims.

**58.** In addition, some of restoration works are carried out within the framework of experimental projects, within which the customer has the right to change the essential terms of the contract, which further complicates the situation for contractors.

# Recommendations

The state needs to develop mechanisms to stimulate business to join recovery projects. An important task is to ensure the stability of financing and strengthen business confidence in state initiatives through introducing transparent and clear terms of cooperation.

#### **Recommendations requiring immediate implementation**

1. Creating transparent "rules of the game" or a level playing field, both for entities carrying out restoration works and CI protection and those investing in the development of CI in Ukraine. Namely:

- regarding problems of changing contracts terms during works execution stage. Recommendation: prevent changes to essential terms of contracts during restoration works performance;
- regarding problems related to alternative energy sources depreciation. Recommendation: to determine at the CMU level, by adopting a relevant bylaw, the issue of allowing or prohibiting component depreciation for green energy enterprises;
- regarding the problem of the lack of a full-fledged legal framework. Recommendations:

1) to address the issue at the CMU level, by adopting a relevant by-law, on how construction, repair and other engineering and technical measures to protect fuel and energy sector critical infrastructure facilities will be performed on a permanent basis. (We would like to remind that until December 31, 2024, a pilot project on construction, repair and other engineering and technical measures to protect fuel and energy sector critical infrastructure facilities is in effect, approved by the CMU Resolution dated December 27, 2022, No.1482); 2) to adopt a relevant legal act that would regulate the principles of Ukraine's recovery (introducing principles for effective, transparent and accountable recovery of Ukraine; creating conditions for engaging a wide range of people in Ukraine and beyond its borders in recovery; ensuring conditions for sustainable economic growth and infrastructure recovery; create tools so that our partners are confident in a reliable and transparent partnership with Ukraine). At the same time, such projects require improved legal regulation, particularly creating clear and understandable level playing field rules determining the legal status of both customers and contractors.

 regarding funding problems. **Recommendations:** to develop and implement standard documentation including contracts based on international standards (e.g. World Bank standards) related to restoration projects implementation to balance the rights and obligations of the customer and the contractor. In particular, to set clear payment deadlines in such standard contracts after completion of each stage by applying penalties for delay. Prioritizing projects will help solve the financing problem, as there will be no chaotic response to individual challenges and dispersion of funds on nonprioritized projects. It will also help to form a budget in advance, will allow for

<sup>&</sup>lt;sup>56</sup> FYI! In particular, in its performance results report "Territorial Communities During the War: Recovery of Social and Critical Infrastructure", the Accounting Chamber states that the absence of approved regulatory documents, such as the Law of Ukraine "On the Principles of Ukraine's Recovery", the regional recovery and development plan, does not contribute to restoring infrastructure destroyed by the military aggression of the russian federation (<u>https://rp.gov.ua/PressCenter/News/?id=2276&utm</u>).

companies-contractors to see forecasted payment deadlines, prepare for possible delays and make them more predictable.

- regarding the problem of land plots. Recommendation: To introduce a fasttrack procedure for granting a servitude or superficies for land plots where works are being performed to protect and restore critical infrastructure facilities, which will reduce time for consideration and decision-making.
- Regarding the issue of verifying the cost of construction materials and services, the recommendations are as follows: to define project verification criteria at the legislative level, focusing on deadlines, the quality of works performed, and the overall tender cost. The verification of individual expenses for materials and services should consider objective market conditions. Additionally, it is recommended to create a unified national construction materials and related services cost database reflecting current market prices, taking into account regional specifics and market fluctuations. Managing this database should be assigned to an independent body responsible for regular updating and maintaining accurate information.
- Regarding the problem of additional expenses during repeated attacks and destruction during CI facilities restoration. Recommendations:

1) To develop and implement a digital recovery platform where contractors could upload daily updates on completed works, including photo and video reports, while the client can effectively manage contracts and processes during recovery projects execution. Legislative regulation of the right of contractors to compensation in case of repeated destruction of the facility due to military actions (by creating a separate fund or introducing guarantees through insurance mechanisms financed by the state or international partners); 2) To introduce interim reports of performed works (on a weekly or biweekly basis) for emergency repair works at CI facilities. However, as in the case of the Register, such a platform should not be fully open during wartime to avoid information leakage risks that could be used by the enemy. After the war, the platform should have open access to

ensure transparency, accountability and increase trust in restoration processes.

- 2. Changing approaches to announcing tenders and selecting contractors In our view, it is expedient to introduce the following changes:
- To create a register of companies having resources to restore severe damage with extensive experience and a proven reputation unstained by corruption scandals. It is possible to engage foreign companies, except those associated with the aggressor state, namely those verified by the SBU. Engaging such companies in restoration, in turn, creates competition and the struggle for the quality of works.
- To standardize CI projects, create a dedicated impartial body having sufficient material and technical facilities and specializing in CI projects of various categories. To attract investments and foreign capital sinking into CI facilities to make a profit, namely: energy, medicine, and education.
- To shift from the practice of concluding direct procurement contracts on CI facilities protection during martial law.

Creating favorable conditions for attracting international construction companies to reconstruction and construction market

To do it, it is necessary to change approaches to public procurement, so that international companies could participate in them. Namely:

**1. To define transparent participation terms.** The regulation should be clear, easily accessible and plain for international participants, particularly in English.

2. To recognize documents. To ensure ease of proof of compliance with qualification requirements, particularly through using international certificates such as ISO. It will avoid duplication of certification procedures, which can be costly and timeconsuming, thus making it easier for international companies to bid for a tender. International standards recognition without additional legalization will facilitate foreign participants' engagement in infrastructure reconstruction and development. **3. To unify rules.** To implement standards compatible with international agreements, such as the Government Procurement Agreement (GPA) within the World Trade Organization, as well as World Bank contract forms for performance of works and related services at infrastructure facilities. To continue working on the implementation and full Eurocodes introduction in Ukraine<sup>57</sup>.

#### Long-term recommendations

# To work out CI development plans for the recovery phase by clearly defining the private sector role

To provide favorable investment and tax conditions for attracting private investments, including international ones, necessary for sustainable operation of the energy sector and achieving Ukraine's energy independence. Significant private investments are needed for this since the state will be incapable of providing the necessary resources and technologies on its own. Public-private partnerships and production-sharing agreements can also play an important role in this regard. It is also necessary to form a unified state policy and approaches to post-war restoration and energy infrastructure facilities development.

- 1. Ukraine's energy model needs to be adapted to modernize policies, restore infrastructure and optimize investments in accordance with energy efficiency standards (with alternative energy sources integration). It will contribute to energy security, reducing energy consumption in buildings and industry and harmonizing with EU standards.
- 2. The problem of project financing and the use of budget funds. Recommendation: To create conditions for restoration costs economic predictability. To amend budget

#### Creating a coordination center for rapid response to CI facilities protection and restoration issues

Given the problems of coordinating work with stakeholders on CI facilities protection and restoration outlined in this report, it would be appropriate to create a separate department (e.g. under the Ministry of Development) or a separate body (e.g. under the Cabinet of Ministers) for prompt coordination of problematic issues arising during CI facilities protection and restoration.

legislation to allow for planning restoration costs not only for one budget year, but for several years ahead. It will enable mid-term restoration works planning.

- 3. The problem of business participation in recovery projects. Recommendation: To create special conditions (tax and investment) for businesses that will participate in the reconstruction and economic recovery of destroyed territories.
- 4. Public communication and access to information on accounting and monitoring of CI restoration expenditures (in the long term), which will allow:
- To unify information about all funding sources and areas of use of funds;
- To grant access to relevant information for stakeholders (governments, international organizations, the public);
- To build trust of international partners by providing the opportunity to monitor the targeted use of resources;
- To ensure effectiveness and accuracy in future expenses planning;
- To improve coordination between different state bodies, CEAs and local authorities on available recovery expenditures, their allocation and information on use;
- To ensure funds use transparency to positively influence their use planning.

<sup>57</sup> Ukraine began implementing Eurocodes after signing the EU Association Agreement.

They are implemented as state standards through the approval of translated texts alongside the development of National Annexes (clarifications and modifications taking into account local conditions).

The adoption of Eurocodes is regulated through state standards. Some of them have already been approved and operate in parallel with the current DBN.

# Appendix 1

#### The national critical infrastructure protection system entities are:

- Cabinet of Ministers of Ukraine;
- The apparatus of the National Security and Defence Council of Ukraine;
- Central Election Commission;
- National Bank of Ukraine;
- National Securities and Stock Market Commission, National Commission for State Regulation in the Field of Communications and Informatization, National Energy and Utilities Regulatory Commission;
- Administration of the State Service for Special Communications and Information Protection of Ukraine;
- State Property Fund of Ukraine, other central executive bodies with special status;
- An authorized body in the field of critical infrastructure protection of Ukraine;
- A central executive body ensuring shaping of state policy in the field of civil protection;

- A central executive body implementing state policy in the field of civil protection;
- Sectoral and functional bodies, other ministries and central executive bodies;
- Security Service of Ukraine;
- Law enforcement and intelligence bodies, entities of operational-search and counterintelligence activities;
- Armed Forces of Ukraine, other army units formed in accordance with the laws of Ukraine;
- Local executive authorities (militarycivilian administrations - if established);
- Local government authorities;
- Critical infrastructure operators;
- Enterprises, institutions, and organizations, regardless of ownership carrying out activities related to ensuring critical infrastructure security and resilience.

# Appendix 2

- 1. Fuel and energy sector
- 2. Digital technologies
- 3. Information security
- 4. Food industry and agro-industrial complex
- 5. State material reserve
- 6. Healthcare
- 7. Capital markets and organized commodity markets
- 8. Financial sector
- 9. Transport and postal services
- 10. Life support systems
- 11. Industry
- 12. Public safety sector
- 13. Civil protection of the population and territories

- 14. Environmental protection
- 15. Defence sector
- 16. Justice
- 17. Execution of criminal sentences, detention, and custody of prisoners of war
- 18. State registration
- 19. Research and development
- 20. Financial sector (banking system)
- 21. Elections and referendums
- 22. Social protection
- 23. Information sector
- 24. State governance and local selfgovernment

Level	Governing bodies	Functions		
The national CI protection system management levels				
Nationwide	CMU, State Special Communications Service, CEA, NBU	Shaping state policy in the field of critical infrastructure protection, coordinating the activities of ministries, other central and local executive authorities in this field, as well as forming and maintaining the Critical Infrastructure Register and including critical infrastructure facilities in the Register.		
Regional and sectoral	CEA, sectoral bodies	Forming sectoral lists and categorizing CI facilities (jointly with CI operators), submitting them to the register, developing and approving requirements for CI facilities protection, as well as interaction plans for functional bodies and project threats; approving safety data sheets, verifying and assessing CI facilities security.		
Local	Local executive authorities, MAs	Developing and approving local programs to ensure CI security and resilience, programs to increase resilience to crisis situations, local interaction plans, plans to restore CI functioning, and population education programs.		
Object level	CI operators	Categorizing, protecting, developing and providing facility plans for ensuring CI security, assessing risks at CI sites, participating in measures to protect the airspace over a specific CI facility, exchanging information about risks and threats, and immediate reporting on incidents.		

Level	Governing bodies	Functions		
The national CI protection system management levels				
Nationwide	CMU, State Special Communications Service, CEA, NBU	Shaping state policy in the field of CI facilities protection, forming and maintaining a CI register and entering CI facilities in the Register (State Special Communications Service).		
Regional and sectoral	CEA, sectoral bodies	Forming sectoral lists and categorizing CI facilities (jointly with CI operators), submitting them to the register, developing and approving requirements for CI facilities protection, as well as interaction plans for functional bodies and project threats; approving safety data sheets, verifying and assessing CI facilities security.		
Local level	Local executive authorities, MAs	Developing and approving local programs to ensure CI security and resilience, programs to increase resilience to crisis situations, local interaction plans, plans to restore the functioning of CIs, and population education programs.		
Object level	CI operators	Categorizing, protecting, developing and providing facility plans for ensuring CI security, assessing risks at CI sites, participating in measures to protect the airspace over a specific CI facility, exchanging information about risks and threats, and immediate reporting on incidents.		



# Eliminating barriers to doing business in Ukraine



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