

# Russian attacks on the gas supply system of Ukraine

Consequences of Russian military shelling of gas infrastructure facilities on the territory of Ukraine in the period from February 24 to July 20, 2022



A gas pipeline damaged by Russian shelling in the Mykolaiv oblast in April 2022 (Photo: Facebook/Mykolaivhaz JSC)

Design and layout by *Mykhailo Fedyshak*  
Translation into English by *Alena Miskun*



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# INTRODUCTION

Since the very beginning of the full-scale invasion of the Russian Federation on the territory of Ukraine, critical infrastructure facilities, including the gas supply system, have been subjected to missile, air and artillery attacks by the Russian army. As a result of hostilities, gas distribution points and gas pipelines are destroyed, gas equipment fails, administrative buildings and transport of gas companies are shelled. Damage to communications is accompanied by leaks of natural gas, which poses a threat to the safety of consumers, because they can lead to fires and explosions.

The total length of gas distribution networks in Ukraine, which are used by about 13 million end consumers, is more than 350 thousand km of pipelines.

According to the information of the Regional Gas Company (hereinafter – RGC), the largest Ukrainian gas distribution operator, during the three months of the war, the amount of losses from damage to critical infrastructure due to the actions of Russian troops reached UAH 9.9 billion. 5,000 km of gas distribution networks were destroyed, 311 units of high-tech modern vehicles were crushed, 6,000 m<sup>2</sup> of buildings were destroyed, 1,074 gas distribution and 2,739 cabinet gas regulation points (hereinafter – CGRP) were disconnected and damaged<sup>1</sup>. At the beginning of July, gas companies restored gas supply to 412,000 Ukrainian households in 253 settlements; 527 gas distribution and 1,258 cabinet points have been established<sup>2</sup>.

In 2014–2015, gas infrastructure facilities in the Luhansk and Donetsk oblasts were repeatedly attacked by illegal armed formations supported by the Russian Federation, which was documented by the Luhansk Regional Human Rights Centre

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1 <https://bit.ly/3r03Axe>

2 <https://bit.ly/3fcl31B>

“Alternative” and presented in the report “Survival test: Everyday life of housing and utilities infrastructure for civilian population in the conflict zone”<sup>3</sup>. Subsequently, a submission to the International Criminal Court was prepared based on the collected materials.

According to the Regulation respecting the Laws and Customs of War on Land, which is an appendix to the IV Hague Convention on the Laws and Customs of War on Land of 1907<sup>4</sup>, and Additional Protocol I to the Geneva Conventions of August 12, 1949 (Protocol I)<sup>5</sup>, it is forbidden to use weapons, projectiles, substances and methods of warfare capable of causing excessive damage or excessive suffering. International law sets restrictions on the use of permitted types of weapons and methods of military operations – it is prohibited to attack or bomb unprotected cities, towns, residential buildings or structures, provided that these buildings and cities are not used for military purposes.

According to Article 54 of Protocol I (**Protection of objects indispensable to the survival of the civilian population**) it is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population.

According to Article 56 of Protocol I (**Protection of works and installations containing dangerous forces**) works or installations containing dangerous forces shall not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population.

Disregarding the norms of international humanitarian law, the Russian Federation carries out armed attacks on gas infrastructure facilities, which leads not only to the destruction of communications, but also to numerous interruptions in the supply of vital resources for the civilian population living in the zone of active hostilities.

This publication, prepared by the Luhansk Regional Human Rights Center “Alternative”, presents an **overview of the work of the selected six gas companies (Donetskoblhaz JSC, Kyivoblhaz JSC, Mykolaivhaz JSC, Kharkivhaz JSC, Kharkivmiskhaz JSC, Chernihivhaz JSC) in five oblasts of Ukraine (Donetsk, Kyiv, Mykolaiv, Kharkiv, Chernihiv) in the conditions of the Russian-Ukrainian war in the period from February 24 to July 20, 2022.** The nature of the Russian shelling, their consequences for the civilian population and the existing challenges for gas

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3 <https://bit.ly/3DJ6JJh>

4 <https://bit.ly/3qWY6TV>

5 <https://bit.ly/3QYX1FC>

service workers in different oblasts of Ukraine are similar with the difference mainly in the intensity of hostilities and the scale of destruction. Therefore, the publication describes only individual cases, which make it possible to form an impression about the problems of gas companies in other oblasts of Ukraine, which are also subject to Russian attacks.

Information was obtained from open sources, including national media, social media, official statements and public eyewitness accounts<sup>6</sup>.



6 The information presented in the publication is not exhaustive

# KEY OBSERVATIONS

**B**ased on the number of attacks on the critical infrastructure of Ukraine by the Russian army and the consequences of such attacks for the civilian population, it can be stated that the relevant facts are international crimes and meet the criteria of systematicity and scale. Using the tactics of conducting hostilities with the deliberate destruction of critical infrastructure, the Russian Federation directs its efforts to intimidation and inflicting suffering on the civilian population. In this way, pressure is exerted on civilians and the state of Ukraine as a whole with the aim of forcing them to surrender.

Numerous attacks on gas infrastructure were recorded in Donetsk, Zaporizhzhya, Kyiv, Luhansk, Mykolaiv, Sumy, Kharkiv, Kherson, Chernihiv oblasts, minor damage to gas distribution networks as a result of Russian attacks also occurred in Odesa and Zhytomyr oblasts.

In the territory where the hostilities are occurring, there are many cases when, in order to maintain a stable gas supply, workers carry out repair work in conditions of significant danger. The speed of response and bravery are often the key to preventing even greater casualties. Sometimes, in the breaks between shelling, gas workers have to put temporary bandages on the pipes. The work is carried out using all methods at hand – rubber “patches” are applied, pipes are wrapped with tape, and hammered with wooden chopsticks. Risking their lives under the threat of shelling, specialists of the emergency dispatch service locate gas leaks and carry out repair work to restore gas supply. Explosives are also involved in this process for demining the area – the Russian military installs mines and stretchers, gas workers often discover that even remote valves in the fields are mined.

In order to increase the level of safety of employees of gas services of RGK, 250 bulletproof vests were purchased for those employees of emergency dispatch services working in the combat zone and in the de-occupied territories.

According to the information of the Gas Transmission System Operator of Ukraine LLC<sup>7</sup> (hereinafter LLC Gas TSO), **as of July 11, 110 gas distribution stations (almost 8% of the total number) in six oblasts of Ukraine are not working on the territory of Ukraine**<sup>8</sup>. The largest number of disconnected stations is in Donetsk and Luhansk oblasts.

Since mid-May, when the main gas pipeline near Severodonetsk, Luhansk oblast, was cut off, 5 settlements in oblast were left with unstable gas supply. After the last gas distribution station (hereinafter – GDS) in Luhansk oblast was cut off as a result of hostilities on May 25, oblast was completely left without blue fuel<sup>9</sup>.

In the same period, the gas supply to settlements of Donetsk oblast was stopped, as another main gas pipeline was damaged due to shelling by the Russian army. Due to ongoing hostilities, it is impossible to carry out repair work and restore gas supply to consumers of Luhansk and Donetsk oblasts<sup>10</sup>.

Part of the Zaporizhzhya oblast remains without gas. In June, Russian shelling damaged the gas pipeline that supplied 17 GDS and 100,000 households in Melitopol, Enerhodar, Dniprorudnyi and other settlements. The gas workers of the Zaporizhzhya Department of the LLC Gas TSO localized the damaged area and blocked part of the gas pipeline. The gas supply remaining in the gas pipeline ran out on July 8, after which the gas stations were stopped and the supply to consumers stopped. Due to the ongoing hostilities in oblast, an access to the gas pipeline and its full repair are currently impossible<sup>11</sup>.

One of the most significant consequences of the lack of gas supply is the problem of home heating in winter. Already now, the oblast government of the Donetsk oblast notes that, due to the impossibility of fully supplying oblast with gas, alternative sources of heating will be used with strict restrictions on the use of resources. The Donetsk Oblast Military Administration emphasizes the importance of evacuation from the oblast and calls on everyone who is not involved in the defense of the oblast or supporting its vital activities to leave. The authorities are counting on the support of other oblasts of Ukraine in accommodating the evacuated residents<sup>12</sup>.

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7 A natural monopoly that provides transportation of natural gas to consumers of Ukraine and the countries of the European Union

8 <https://bit.ly/3dEolv1>

9 <https://t.me/luhanskaVTSA/2902>

10 <https://bit.ly/3dx7KJR>

11 <https://bit.ly/3dEolv1>

12 <https://bit.ly/3QZKH89>



An urgent task for the Ukrainian authorities is the issue of damages related to production and technological losses arising from hostilities. A specific method is being developed for their calculation in order to further present them to the Russian Federation. Fixing the consequences of shelling of gas infrastructure objects is the first step in this direction, but sometimes there are certain problems due to the prohibition of military intelligence and the Armed Forces of Ukraine to take photos of cases of damage to gas pipelines. This is due to security considerations, since most of the time such fixation is done with mobile phones that tag the photo with geolocation, which can give the enemy the opportunity to adjust fire<sup>13</sup>.

Currently, a number of objects of the gas transportation system of Ukraine are located in the occupied territories. One of these facilities is the Novopskov compressor station in the Luhansk oblast, through which almost a third of gas (up to 32.6 million m<sup>3</sup> per day) is transited from the Russian Federation to European countries. On May 9, LLC Gas TSO dispatchers received information about illegal interference by the Novopskovsky site in gas transit flows. Unauthorized withdrawal of transit gas from the main gas pipeline Soyuz to gas pipelines in territories not controlled by Ukraine in the Luhansk and Donetsk oblasts was recorded. In fact, there was a gas theft, due to which LLC Gas TSO was forced to declare a force majeure at the Sokhranivka connection point, as it could not be responsible for the preservation of transit volumes.

On May 11, 2022, the operator of the gas transportation system of the Russian Federation, Gazprom PJSC, closed the valve on the Soyuz main gas pipeline on the territory of Russia. On the same day, LLC Gas TSO dispatchers recorded unauthorized changes in gas transportation modes, which indicate that the gas valves in the area of the Novopskov station in the occupied territory were closed, including on the Novopskov-Shebelinka main gas line, which transported gas to the territory of Donetsk and Luhansk oblasts. Thus, gas transit from the Sokhranivka gas measuring unit was stopped<sup>14</sup>. As an alternative, the Ukrainian side proposed to transfer the transit to the Sudzha connection point, as was the case in 2020. However, Gazprom ignores this proposal for no apparent reason, although there are all technical possibilities for the transfer.

Currently, Ukraine faces difficult tasks — to continue gas supply to the population and enterprises in the conditions of military aggression and to pump additional volumes of gas into storage facilities for the coming winter, taking into account the high prices for energy resources. Despite Russia's full-scale war against Ukraine, the gas sector continues to work and does everything possible to provide households and businesses with blue fuel.

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**13** <https://bit.ly/3S1Noaq>

**14** <https://bit.ly/3S89vMz>

# DONETSK OBLAST

## DONETSKOBLHAZ JSC<sup>15</sup>

*Legal address: Donetsk oblast, city of Kramatorsk, Pivdenna Street, building 1*

**D**onetskoblhaz JSC provides distribution, transportation and supply of gas in the controlled part of the Donetsk oblast, with the exception of the city of Mariupol and some nearby villages (in these territories the services are provided by Mariupolhaz PJSC). Donetskoblhaz annually distributes about 809 million cubic meters of natural gas to 370.4 thousand consumers, including 368.9 thousand households and 1.5 thousand enterprises. The total length of gas pipelines is almost 13,000 kilometers.

On February 24, a full-scale invasion of the Russian army into the territory of Ukraine began. The Donetsk oblast, on the territory of which military activities of varying intensity have been taking place for eight years, was not excluded from the list of oblasts that were attacked from the very beginning of the Russian aggression.

During the first two weeks of the war, due to constant shelling of civilian infrastructure, in particular the gas supply system, 13 settlements in the oblast with about 15 thousand households, were left without gas. In some villages, it was not possible to restore the gas supply due to heavy shelling, in some places the networks were so damaged that it was not possible to repair them by the company's specialists only. During this period, more than 450 gas leaks were localized by gas workers.

**15** Materials used in this section:

<https://bit.ly/3LCrWGt>

<https://bit.ly/3LPCAkt>

<https://bit.ly/3BChytY>

<https://bit.ly/3SbvZfx>

Repair work to replace sections of gas pipelines, install bandages, and weld damage from shelling and explosions was carried out every day – immediately after the ceasefire, and sometimes during enemy attacks. When unexploded shells got stuck in gas pipelines, the work was carried out together with the State Emergency Service of Ukraine. During the first 40 days of the war, more than 40 km of gas pipelines were repaired, gas supply was restored to 5 thousand residential buildings, 19 boiler houses and a number of industrial enterprises.



As a result of shelling, the administrative and technical buildings of the structural subdivisions of Donetskoblhaz were repeatedly damaged. In a number of cases, due to the shock wave, windows, doors, and roofs were destroyed.

On April 27, due to constant hostilities, significant damage to the gas infrastructure, and the impossibility of carrying out repair work, gas workers together with the local MCA decided to disconnect the gas distribution station of the city of Lyman. Thus, more than 10,000 consumers were left without blue fuel.

At the beginning of May, as a result of another missile attack on Kramatorsk, civilian infrastructure objects were damaged, including more than 30 high-rise buildings, a kindergarten, two schools, a boiler house, and retail shops. 15 apartment buildings were left without gas. The gas workers promptly carried out repair work to restore the gas supply. Residents of Kramatorsk expressed their sincere gratitude for this by sending a thankful letter to Donetskoblhaz.

The communities of Avdiivka, Marinka, Bakhmut are under constant enemy fire. In mid-May, as a result of an airstrike in the city of Toretsk, 20 meters of a medium-pressure ground gas pipeline with a diameter of 108 mm were destroyed. The gas workers did not have the opportunity to quickly restore the damaged area, because a large funnel with a diameter of 15 m and a depth of up to 6 m was formed at the place where the gas pipeline was laid.

On May 23, as a result of shelling by the Russian army, the main gas pipeline was damaged, as a result of which **Donetskoblhaz JSC was forced to stop supplying natural gas to populated areas of the Donetsk oblast**. At the same time, gas companies managed to keep gas in the network for the operation of three bread factories in the Donetsk oblast for the next few days.

The damaged section of the gas pipeline was quickly localized, but the performance of restoration work and the resumption of gas transportation are impossible due to active hostilities. There are no alternative options for gas transportation due to unauthorized interference in the operation of the gas transportation system in the territory occupied by Russian troops. It is important to note that on May 11, 2022, LLC Gas TSO specialists recorded the closing of the valves in the area of the Novopskov compressor station on the main gas pipeline that transported gas to the territory of Donetsk and Luhansk oblasts.

The employees of the LLC Gas TSO remain on the territory of the oblasts and are in constant contact with the military and representatives of the military-civilian administrations in order to start the restoration of the damaged gas transport infrastructure at the first opportunity.

Employees of Donetskoblhaz managed to maintain gas supply for two communities of the oblast — Komarska and Oleksandrivska. Thanks to this, about 1,900 households continue to receive gas.



# KYIV OBLAST

## KYIV OBLHAZ JSC<sup>16</sup>

*Legal address: Kyiv oblast, Fastiv district, Boyarka city, Tarasa Shevchenko Street, building 178*

**K**yivoblhaz JSC supplies natural gas to almost 1 million households and more than 8,000 legal entities in the Kyiv oblast. The overall level of gasification in the oblast is more than 95 %. The company ranks first in the country in terms of the total length of gas pipelines – more than 44,000 kilometers are on its balance sheet and maintained.

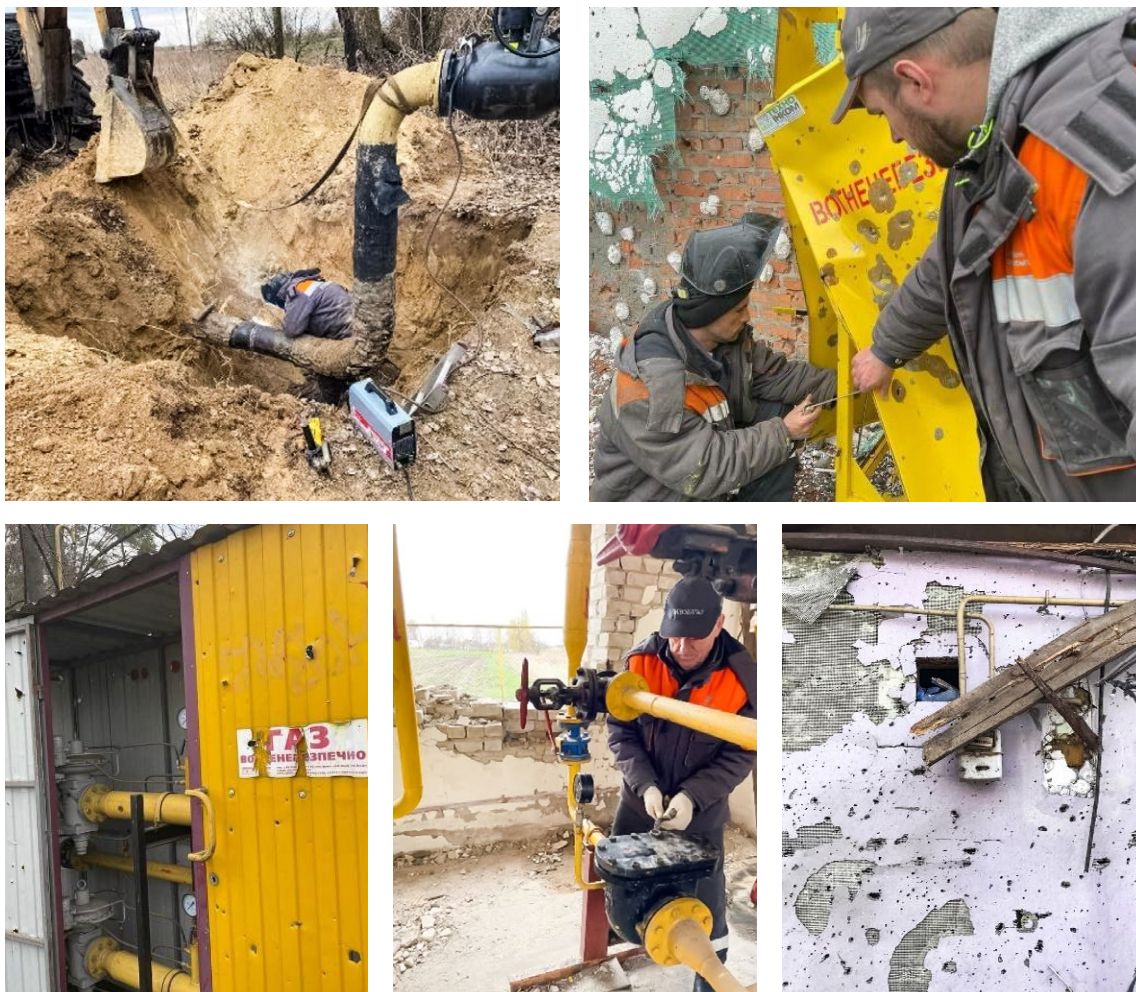
From the first day of the war, populated areas of Kyiv oblast were subjected to missile and air attacks by the Russian army. On March 6, due to numerous damages to gas pipelines and related equipment as a result of hostilities in the Kyiv oblast, Kyivoblhaz was forced to suspend gas supply in 37 settlements, including Irpin, Bucha, Hostomel, where civilian infrastructure was shelled almost constantly. According to the company, this decision was made for the sake of the safety of the residents of the Kyiv oblast, in order to avoid even greater destruction due to explosions and the ingress of the gas mixture to shelters from shelling (bomb shelters, basements, underground parking lots). During that period, 97,613 households remained without gas supply. A total of 149,375 consumers living in 120 settlements were deprived of stable gas supply during the period of active hostilities in the Kyiv oblast, part of which was under Russian occupation.

**16** Materials used in this section:  
<https://bit.ly/3Uu0hvz>  
<https://bit.ly/3Sry06W>  
<https://bit.ly/3So9I39>

In addition to the facts of damage to gas control points, the failure of gas equipment, a case was recorded when a car of the emergency dispatch service was damaged by projectile shrapnel.



At the beginning of April, Kyiv oblast was deoccupied, and employees of Kyivoblhaz JSC together with employees of the State Emergency Service began an inspection of gas networks in order to determine the extent of damage and losses. Repair work was started immediately after demining the territories by bomb technicians. **In three weeks, gas supply was fully restored to 102 settlements, partially – to six ones. Blue fuel appeared in 93,082 households. Already at the beginning of June, the natural gas distribution service became available to all consumers who were deprived of it due to hostilities.**



The locksmith of the 4th grade of the emergency dispatch service of the Irpin district of the Kyiv-Sviatoshyn branch of Kyivoblhaz JSC tells about work in the conditions of hostilities:

*"My work shift started on February 24. The first call was in the Hostomel settlement. [We] the brigade moved out, but the dispatcher on the radio said to return urgently – a rocket hit 1.5 m from the place of the call. At that time, we worked around the clock to fix gas leaks in time. At the beginning of March, only me and the driver remained on duty. We lived together for four days in the headquarters building without electricity or water. Local residents brought us some food. We did everything we could – we repaired gas pipelines, put bandages on damaged pipes, cut off the gas supply to houses completely destroyed by the enemy. We stayed at the workplace until the gas supply was stopped completely."*

*From April 5, after the liberation of the oblast, we began to restore gas supply to Bucha, Kotsiubynskyi, Hostomel, and Vorzel. The gas workers were among the first responders who entered the cities liberated from the enemy. Hell. Human bodies. Mutilated cars, destroyed houses. In such moments, the sense of reality was lost. But we did not give free rein to emotions. The goal was to fix the gas pipeline as soon as possible and let people have gas.*

*I remember how during the inspection of the territory between Myrotske and Hostomel, a damaged gas pipe was found. When we got closer to the hole, we saw an unexploded shell. It turned out to be stuck in a pipe, causing a leak of medium-pressure gas. We immediately shut off the gas in this area and called sappers.”*



# MYKOLAIV OBLAST

## MYKOLAIVHAZ JSC<sup>17</sup>

*Legal address: Mykolaiv oblast, Mykolaiv city,  
Pohranychna Street, building 159*

**M**ykolaivhaz JSC distributes, transports and supplies natural gas in the Mykolaiv oblast. The overall level of gasification in oblast is 72 %. More than 347,000 households in 8 cities, 14 urban-type settlements and 313 villages of the region are provided with natural gas. Gas consumers include more than 100 industrial enterprises, 6,200 communal and municipal facilities, and 630 budget organizations.

Since the beginning of the full-scale invasion of the Russian army, Mykolaiv has been holding the defense of southern Ukraine. Every day, the city and oblast suffer from brutal shelling; critical infrastructure facilities, including gas communications, are destroyed. The priority task for gas workers is to eliminate any gas leaks that may occur due to damage to networks.

According to the technical director of the Mykolaivhaz company Dmytro Hrytsai, in Mykolaiv oblast more than 70 brigades of specialists work at accident sites to restore and ensure an uninterrupted supply of gas to consumers, and 12 of those teams are based directly in Mykolaiv.

**17** Materials used in this section:

<https://bit.ly/3BziOhv>

<https://bit.ly/3R7sZiZ>

<https://bit.ly/3LyuVjn>

<https://bit.ly/3Uz9Id2>

Numerous damages to gas networks were recorded on March 7 after the shelling of Mykolaiv from rocket launchers. The dispatch service received more than 400 complaints about the smell of gas in a few hours. Additional brigades were formed to eliminate accidents.

**During the first month of the war, Mykolaivhaz specialists fixed more than 1,000 damages and restored gas supply to about 7,500 consumers; in three and a half months, more than 4,000 damages were already repaired.**



Residents of Bashtanskyi and Voznesenskyi districts were repeatedly left without blue fuel as a result of Russian shelling. In the middle of March, the gas pipeline was damaged, due to which 5,700 consumers of Bashtanka and surrounding villages were left without gas supply.

Specialists of Mykolaivhaz JSC process hundreds of calls from citizens of the city and oblast every day, work around the clock to eliminate the consequences of shelling and restore gas supply to consumers. In the summer, the intensity of

artillery and missile attacks on Mykolaiv increased. As a result of another shelling, external and internal gas pipelines, gas equipment were damaged and the houses of the civilian population were destroyed. On the morning of June 29, a rocket hit a residential building in the city. The emergency brigade of Mykolaivhaz carried out repair work to fix the consequences of the morning accident.



In cases where restoration work is carried out near active combat zones and in de-occupied territories, where there are problems with mobile communication, the devices of the Starlink satellite Internet system of the company SpaceX help gas operators to keep in constant communication during gas launches, when crews are at a distance and need to interact on network parameters and adjust their actions in real time.

Drivers, fitters, and welders risk their lives every day to provide residents of the Mykolaiv oblast with blue fuel. Sometimes, in order to repair networks and equipment, gas workers have to cross minefields and wait for the end of shelling in the trenches. Employees of Mykolaivhaz received 50 bulletproof vests to protect them during the restoration work under enemy fire. For gas workers, the labor protection service organized training on mine danger with the participation of representatives of the International Committee of the Red Cross, at which the specialist explained the specifics of working in a mined area, after artillery shelling and airstrikes, provided information on the types of mines and safety rules in case of their detection.

Employees of Mykolaivhaz talk about their everyday work:

*"It was difficult during the first shelling of the city, when you had never heard or felt anything like this before. The ground shook from heavy artillery fire. It was a bit eerie when my colleagues and I worked at two in the morning to fix accidents caused by Russian attacks. It was this day that stuck in my memory, because for the first time I had to hear shots in the center of a peaceful, native city. For the first time, I had to look at burned equipment and repair damage caused by combat operations."*

(LOCKSMITH OF EMERGENCY DISPATCH SERVICE)

*"It was terrible on the night of March 11, when one of the residential areas was "covered" with a chaotic fire of cluster shells, which damaged people's property and our networks. We received a call that the gas pipe on the house was cut off, and a car that was hit by a projectile was on fire nearby. We understood that if we did not fix the gas leak, an explosion could occur. The shelling has not stopped yet, but we have already jumped into the car and left. The picture was apocalyptic – broken windows, a burning car reflected in the broken glass, a gas pipe with holes. The guys from the State Emergency Service are helping us a lot. If they see damage and can eliminate it, they will always help and inform... In the conditions of the war, we all once again had the opportunity to see that the gas workers are one big family. Here is an example. We see that there is damage to the network – we are about to leave, but our former employee calls us and says that he fixed everything himself, and while the shelling is going on, we better not leave. We then arrive, look, and all the damage is repaired, albeit with improvised means. That is, the former employees are sure that we will go even under fire, and that is why they are trying to protect us."*

(HEAD OF THE EMERGENCY DISPATCH SERVICE)



# KHARKIV OBLAST

## ⊕ KHARKIVHAZ JSC

## ⊕ KHARKIVMISKHAZ<sup>18</sup>

*Legal address of Kharkivhaz JSC: Kharkiv oblast,  
Kharkiv city, Bezliudivska Street, Building 1*

*Legal address of Kharkivmiskhaz JSC: Kharkiv oblast,  
Kharkiv City, Moskalivska Street, Building 57/59*

In the Kharkiv oblast, there are two joint-stock companies Kharkivhaz and Kharkivmiskhaz, which are engaged in the distribution and transportation of natural gas in the Kharkiv oblast (more than 800 settlements) and the city of Kharkiv, respectively. The level of gasification in the oblast is 70.9%. Kharkivhaz provides natural gas to more than 450,000 households in the Kharkiv region and about 2,000 legal entities; Kharkivmiskhaz – more than 500,000 households, 831 industrial enterprises, 3,400 communal and municipal facilities.

As a result of the invasion of the Russian army into the territory of Ukraine, Kharkiv oblast suffered large-scale destruction of critical infrastructure facilities,

**18** Materials used in this section:  
<https://www.facebook.com/kh.gaz.104.ua>  
<https://www.facebook.com/khgor.104.ua>  
<https://bit.ly/3DLWhR1>  
<https://bit.ly/3fe4Fig>

including distribution and main gas pipelines, gas distribution stations and gas regulatory points, gas pipes of houses and apartments. On the very first day of the Russian aggression, on February 24, in Chuhuiv, an operator of the emergency dispatch service of Kharkivhaz JSC was killed on duty due to an enemy attack, three more employees were moderately injured.

The cities of Chuhuiv, Izium, Liubotyn, Zolochiv, villages and towns of Kupian, Chuhuiv, Kharkiv, and Izium districts, and accordingly, their infrastructure, are suffering from targeted shelling by the Russian army. Teams of specialists go out every day on calls to perform repair and restoration work. Gas workers have repeatedly renewed gas supply to the residence Dergachi town, which has turned into a real outpost of Kharkiv. The settlement suffers from enemy attacks almost every day.

Projectiles hit buildings and vehicles of the Kharkivhaz emergency dispatch service in Liubotyn and Slatyn, Kharkiv district.



In mid-March, an entire building was completely destroyed by a rocket attack in the very center of Kharkiv. Thanks to the coordinated work of gas operators with other emergency services, the gas supply to 11,000 households was preserved. As a result of the explosion, a funnel was formed, at the bottom of which a low-pressure gas pipeline with a diameter of 250 mm was flaring. Risking their lives under the threat of shelling, specialists of the emergency dispatch service of Kharkivmiskhaz together with the State Emergency Service, the police and the Armed Forces were able to eliminate the gas leak. Rescue workers helped to remove debris, extinguish the fire and cool the pipe down so that the welding crew could reach the damaged gas pipeline and repair it.

In May, a high-pressure gas pipeline with a diameter of 500 mm was cut off by a direct hit of a projectile in the Kharkiv district in Kharkiv oblast. 17,500 households in six settlements and three garden cooperatives remained without gas supply. The section of the damaged gas pipeline was replaced, earthworks and installation works were performed.





The infrastructure and residential buildings of Pivnichna Saltivka (Kharkiv) have been suffering from enemy shelling since the first day of the war. In mid-June, after demining the territory by the specialists of the State Emergency Service, gas workers were able to start repair and restoration work in the Saltivka-1 microdistrict. Over the course of two weeks, specialists of Kharkivmiskhaz JSC inspected underground and above-ground gas pipelines, as well as the domestic gas system. In 30 houses, damage caused by shelling and explosions was welded, tens of meters of damaged sections of gas pipelines and lock units were replaced; in some high-rise buildings, the gas network was re-installed. Gas supply was restored to 5,000 households.





In the Saltivka-2 microdistrict, networks passing through a gas well near one of the gas control points were completely destroyed. In particular, the massive shock wave completely bent underground gas pipelines of medium and low pressure, damaged the valve and the faucet. Employees of the gas company worked on Saltivka-2 together with rescuers who cleared the area of mines and dismantled the debris. Gas inspectors inspected every meter of gas distribution networks — gas regulating equipment, above-ground and underground gas pipelines; carried out work on the replacement of destroyed sections of gas pipelines. As of July 9, gas supply was restored to 5,000 households of the microdistrict thanks to large-scale repair and restoration works.



34 brigades of Kharkivhaz JSC are working on the restoration of gas supply in populated areas of the Kharkiv oblast on trips to emergency calls from consumers. Every day, they repair distribution gas pipelines destroyed by the enemy, change gas networks of high-rise buildings and detached houses. Work is often associated with risk to their life and health. Employees of gas companies share their memories of dangerous working conditions during Russian shelling:

*"Around ten in the evening, after the airstrike on the houses on Ukrainska Street in the city of Izium, a request was received from the State Emergency Service for another brigade to arrive. Within 5 minutes, we left for a call in the direction of one of the checkpoints across Siverskyi Donets. A fighter jet was already heard on the way. We fell down into pits and puddles — the plane dropped bombs not far from us. It was a horror. We were not allowed [to get through] at the checkpoint, the road to the other side of the city was blocked everywhere, so we had to return to the base. The plane dropped two bombs every two hours. It was a hell of a night. While I was at work, my house was destroyed by an enemy airstrike. At six o'clock in the*



*morning, everything quieted down, and we went to the addresses where it was necessary to do an examination and install plugs..."*

(FOREMAN OF THE EMERGENCY DISPATCH SERVICE  
OF THE IZIUM DISTRICT OF KHARKIVHAZ JSC)

*"We came on call to the districts of detached houses of Kharkiv. We started to get out of the car when heard the sound of the plane. This sound can not be confused with anything, it is just gut-wrenching. I turned my head to the sky to see what it looks like and I saw bombs flying. My colleague and I managed to duck, took cover behind the car, and our master was wounded. He was given medical assistance, now everything is fine with him."*

(LOCKSMITH OF THE EMERGENCY DISPATCH SERVICE OF KHARKIVMISKHAZ JSC)

*"It was especially scary to work on top of a mountain, at the foot of which fierce battles were taking place. Our team of five people was practically a live target in the open area. We were replacing a section of a damaged pipe, we had to carry out our task precisely and without emotion. The roar of explosions and cluster bombs was not silenced even by the operation of the portable substation, which supplied energy to welding machines and grinders. All the boys withstood the challenge. Only later, being out of danger and recalling the course of events, they noticed how their hands were shaking and their hearts were beating... There was a case when, while performing another task, we had to run in different directions due to the fact that there was a downed helicopter and debris in the sky above us with a terrible roar and speed were falling straight at us. Thank God, no one was hurt, the work continued, and the gas supply was restored... And in general, when instead of a well-functioning gas distribution station you see ruins, and recently replaced pipes are pierced with shrapnel and in places resemble a colander, the heart bleeds. It hurts for the destroyed work, damaged infrastructure and crippled destinies of the countrymen."*

(LOCKSMITH OF THE GAS DISTRIBUTION STATION OF THE  
DERHACHI DISTRICT OF KHARKIVHAZ JSC)

**As of June 27, employees of Kharkivhaz JSC restored gas supply to 350 settlements in the Kharkiv oblast and returned gas to about 100,000 households.** In order to support the vital activities of oblast, gas companies had to replace and repair almost 3 kilometers of damaged gas pipelines, restore the operation of 250 gas regulatory points, and eliminate thousands of damages to house networks. During the four months of the war, the company's team survived about half a thousand shellings and lost five of its employees, who were killed as a result of shelling by Russian army.

# CHERNIHIV OBLAST

## CHERNIHIVHAZ JSC<sup>19</sup>

*Legal address: Chernihiv oblast, Chernihiv city, Liubetska Street, Building 68*

**C**hernihivhaz JSC is a joint-stock company engaged in the distribution, transportation and supply of gas in Chernihiv oblast. The company transports about 600 million cubic meters of gas annually. It provides services are more than 350,000 households, 208 industrial and 1920 communal and municipal enterprises, 648 public sector entity.

Since the beginning of hostilities, populated areas of Chernihiv oblast have been subject to constant shelling, as a result of which thousands of residents were left without a stable gas supply. At the beginning of March, about 60 cases of damage to networks was recorded in oblast, of which 41 — in Chernihiv high-rise buildings, which occurred due to artillery shelling and bombing of residential areas by the Russian military. At that time, 14,300 households remained without gas supply in Chernihiv oblast. Operational restoration work was hindered by hostilities in the respective areas. Employees of Chernihivhaz did everything possible to return gas to Ukrainian homes — they made their way to calls and repairs on foot through blown-up bridges, passing enemy military equipment, cut out damaged areas and welded gas pipelines in high-speed mode during artillery

**19** Materials used in this section:  
<https://bit.ly/3BB6Eo7>  
<https://bit.ly/3xGKyQ0>  
<https://bit.ly/3Sm1luc>  
<https://bit.ly/3f7XBDI>

operation, reconnected the system in a different way to return gas supply in the surviving apartments.

During the shelling on March 9–10, an enemy projectile damaged an underground gas pipeline and other utility networks in the detached housing area of Chernihiv. A third of the city remained without gas. The repair crew eliminated the gas leak by sealing the pipe, but it was possible to fully examine the gas supply system and resume operations only after the hostilities were ceased.

During the bombings, the gas distribution networks, that supplied the boiler houses of the regional thermal utility, suffered numerous damages, as a result of which two-thirds of the city remained without heating — the residents froze in their homes, because at night the temperature dropped below five degrees below zero. It was possible to start the boiler houses only after the gas companies repaired the damaged areas. During continuous air raids by Russian bombers and artillery shelling, Chernihivhaz employees managed to restore gas supply to 22 of the city's 28 boiler houses.

On the night of March 15 to 16, during the night shelling of Chernihiv by Russian troops, a 500 mm diameter distribution gas pipeline was damaged by shelling





by rocket launching system Grad. A large part of Chernihiv city was connected to it. Chernihivhaz gas workers had to look for damage at night, during the shelling. They have found out that a projectile was sticking out of the affected gas pipeline. It took more than one day, several brigades and the cover of the Ukrainian military to remove it, trimm the damaged area, weld it, etc.

Artillery shelling of residential areas and the dropping of aerial bombs on the city led to the destruction of distribution and facade gas pipelines and adjacent communications. Gas workers had to repair gas pipelines literally “in a suspended state”, holding a ladder in the air above the water. Workers took advantage of even the smallest pauses between shelling to repair networks and restore gas supplies.



Below is the direct speech of an employee of Chernihivhaz JSC regarding the working conditions of gas workers since the beginning of the war.

*"I haven't seen my family for a month. I haven't been home since the war started. We are asked — how is it possible repair if the city is continuously shelled by artillery and bombed by airplanes? Just like that. They are shelling — we are repairing. We have 5 minutes between shellings to grab the tool. After the next hit, another 5 [minutes] to cut off the damaged piece of pipe. Then another 5 [minutes] to weld a new one. It happens that it missiles hit during work. During the shelling, the Russian troops pierced the gas pipeline — we went to shut off the gas, and we heard the [sound of] whistling, shells flew overhead and fell a few tens of meters away. We hid the entrance of the house, waited and got back to work.*

*If there is no access to the accident site, we abandon the car, take all the tools in our hands and walk. We are going and we don't know if we would make it there, when and where [the missile] would hit. Sometimes we have to go out at night using flashlights. Often under cover of the military, sometimes without. It is a major problem when almost the whole city is without electricity. Somehow we manage [to deal with it] thanks to the generators. The opportunities to sleep are rare, because when half-ton bombs are dropped on the city from airplanes, it is hard to fall asleep. The most difficult thing is to see the consequences of this — a destroyed city, how people and children are dying. We hold on to the fact that we understand how important our work is to people now. So that they could cook at least some kind of soup or potatoes to eat once every few days, between shelling. And people thank and support. This is what gives strength, I guess.*

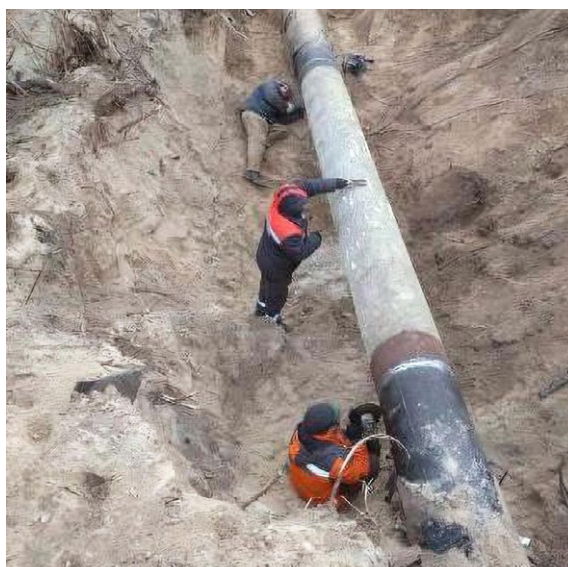
*There is a lot of damage to gas pipelines. Mostly shrapnel, from shells, cluster ammunition. Unfortunately, there are such large-scale ones that we can fix only after victory. And now we are doing everything to repair where there is even the slightest possibility. Sometimes we are helped by contractors with whom we cooperated in peacetime. The war united everyone, showed real values, real people. I have not heard any complaints from my colleagues about having to work in such conditions. Therefore, we will win, it cannot be otherwise..."*



At the beginning of April, Chernihiv oblast was liberated from Russian troops. In the liberated villages, including Kiinka, Staryi Bykiv, Novyi Bykiv, Kozatske, Stara Basan, Nova Basan, Novoselivka, gas workers inspect and restore destroyed gas distribution networks, repair street gas pipelines and detached houses connections that were damaged by aerial bombardments, shelling and the movement of enemy equipment.



**As of the end of June, Chernihv haz employees restored gas supply to 37,851 household of oblast,** eliminating damage to the networks due to hostilities. Gas workers continue to work on the restoration of gas supply in almost 30 settlements of the oblast. The work is complicated by the presence of a large number of explosives left behind by the Russian military, who did not hesitate to mine even remote valves in the fields.



Chernihivhaz employees, while performing their duties in dangerous conditions, understood their responsibility to people, to the country, and contributed to the victory without any complaints about difficult conditions.

In the center of Chernihiv, the Oblast Military Administration installed a billboard as a thank you to the communal workers for the heroic defense of the city.

