2 Years After Invasion
HANDBOOK

2024
February

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INTRODUCTION

Two years have elapsed since the invasion—a period etched in the annals of history as a testament to Ukraine's unwavering strength and resilience in the face of adversity. *2 Years After Invasion* is a comprehensive handbook that delves into the profound aftermath of the Russian war against Ukraine, offering a detailed exploration of the multifaceted challenges and triumphs that have shaped Ukraine's path to recovery.

In the wake of destruction, human suffering, and the violation of international norms, Ukraine's journey of healing and restoration unfolds within the pages of this handbook. This comprehensive resource is divided into three core sections, each representing a crucial aspect of the post-invasion landscape.

Section 1: Humanitarian Disaster. The first section casts a solemn spotlight on the humanitarian disaster that engulfed Ukraine, encompassing the brutal destruction of infrastructure, Russia's alleged war crimes, the scale of migration crisis and internally displaced persons' (IDPs) trends, and the gravest catastrophes that tested nation's resilience.

Section 2: International Support. The second section unveils the international response and support that emerged in the face of adversity. It covers the key achievements in garnering global solidarity, the implementation of sanctions against aggressor, the creation of pro-Ukrainian coalitions, the repercussions of Russia's international isolation, and the dedicated efforts to reconstruct a war-torn nation.

Section 3: Military Capacity. The third section analyzes the shifting dynamics of military capacity, scrutinizing Russia's losses and Ukraine's remarkable achievements in domestic production. It sheds light on the evolving landscape of defense and resilience, showcasing Ukraine's determination to safeguard its sovereignty.

As we embark on this journey through the pages of *2 Years After Invasion*, it is vital to remember the indomitable spirit of Ukrainian people, the support of the international community, and the collective resolve to build a brighter future. This handbook serves as a comprehensive guide for understanding the impact of the Russian war against Ukraine and the remarkable strides the nation has taken in the pursuit of peace, stability, and prosperity.

The chapters that follow provide a detailed exploration of each theme, offering insights, and analysis that collectively paint a vivid picture of Ukraine's ongoing struggle and triumphs.

May this handbook not only inform but also inspire as Ukraine continue its path to recovery, determined to shape a better tomorrow.

HUMANITARIAN DISASTER

Almost everyone has at least one person on their phone who will never pick up the phone again
– Volodymyr Zelenskyi, President of Ukraine

◆ AIR-RAID ALERTS

33300
alerts announced

8973
media reports about explosions

Most alerts announced
(day of month/week/hour of day)
25 / Thursday / 12.00

Most alerts announced in
Donestk Region = 3813 times

As of 9 February, 2024

◆ DESTRUCTION

$151.2 billion
total documented direct damage
to Ukraine's infrastructure

As of September, 2023

◆ UKRAINIAN REFUGEES

6,444,800
refugees from Ukraine recorded
globally

As of 31 December, 2023

◆ UKRAINIAN IDPS

3,674,000
IDPs population

4,573,000
returnees population

As of September, 2023

◆ UKRAINIAN POWS

51
exchanges

~3100
Ukrainian POWs returned

As of 9 February, 2024

◆ CRIMES COMMITED BY RUSSIA

124,876
crimes of aggression and war
crimes

16,152
crimes against national security

As of 8 February, 2024

The **crime of aggression** is the planning, preparation, initiation or execution of an act of aggression which, by its nature, gravity and scale, constitutes a severe violation of the Charter of the United Nations by a person in a position of actual command or control over the political or military activities of a State. (Article 8 bis of the Rome Statute of the International Criminal Court (ICC)).

By using the armed forces of the Russian Federation against the sovereignty, territorial integrity or political independence of Ukraine, Putin, as defined by the UN (**General Assembly Resolution 3314** (XXIX)), began in 2014 and in 2022 escalated the aggressive war to a large-scale war against international peace.

RUSSIA'S WAR CRIMES

As of November 2023, since 24 February 2022, OHCHR has documented the arbitrary detention of **1,118 civilians** (964 men, 144 women, 9 boys and one girl) by Russian authorities in the occupied territories. At least 514 people (413 men, 92 women and 9 boys) were released after various periods of detention. Office of the High Commissioner for Human Rights documented the deaths of at least **100 civilians** (88 men, 11 women and 1 girl) **in detention by the occupying authorities of the Russian Federation** since 24 February 2022. These people died as a result of executions, injuries sustained during torture, due to inhumane conditions of detention, and due to lack of medical care. In at least 39 of the deaths (38 men and one woman), medical reports and eyewitness accounts indicate that they were tortured before their deaths. As of November 2023, since 24 February 2022, OHCHR documented **169 cases of sexual violence** (101 men, 63 women, four girls and one boy) committed by members of the Russian Federation armed forces, as well as Russian law enforcement and penitentiary personnel. Out of the total number of cases, 135 occurred in the context of detention, including 56 civilians (37 men, 18 women and one boy) and 79 prisoners of war (63 men and 16 women). But in reality there are **far more such incidents which are not documented.**

124,876
crimes of aggression and war crimes

16,152
crimes against national security

As of 9 February 2024

10,058
civilians killed

18,652
civilians wounded

1,118
civilians were arbitrary detained

169
cases of sexual violence **were documented**

As of November 2023

~90%

About 90% of Ukrainian POWs were subjected to torture, rape, threats of sexual violence or other forms of ill-treatment.
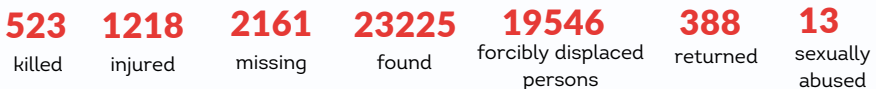
◆ **POWS**

As of November 2023, since the beginning of the full-scale invasion, at least **2,600 Ukrainian prisoners**, both military and civilians, have been released from Russian captivity. Then there were 3 other major exchanges, thus **as of 9 February 2024 about 3,100 prisoners** were released. According to the Commission of the Ministry of Reintegration, **4337** people have been captured by Russia since the beginning of the full-scale invasion: **3574 military** and **763 civilians**. The real numbers may be higher, as **11,000 civilians** and **15,000 soldiers** are considered missing.

~3100

Ukrainian POWs were released

◆ **CHILDREN OF WAR**

(As of 9 February 2024)

523	1218	2161	23225	19546	388	13
killed	injured	missing	found	forcibly displaced persons	returned	sexually abused

The International Coalition for the Return of Ukrainian Children, co-headed by Ukraine and Canada, has commenced its work and presented the Framework Document of its activities. The coalition will focus on facilitating the return of Ukrainian children, including identifying the whereabouts of illegally deported and forcibly displaced young citizens of Ukraine, developing mechanisms for their return, and participating in relevant diplomatic negotiations.

◆ USE OF CHEMICAL WEAPONS

By January 2024, since February 24, 2022, Russian troops have used **ammunition with toxic chemicals 465 times**. Of these, **81 cases** occurred in December of 2023 alone. The dynamics of such using is growing. For example, in just one day on December 19, Russia carried out **8 attacks** using chemicals.

Most frequently, Russian soldiers use grenades, such as K-51, RGR and Drofa-PM hand gas grenade, which are dropped from UAVs. However, improvised explosive devices equipped with irritant substances are also used. Artillery shelling with chemically hazardous substances is also carried out. On December 14, 2023, the use of **a new type of special RG-VO gas grenades** containing an unknown chemical was detected. **28 cases** of the use of hazardous chemicals were documented and sent for investigation within the framework of criminal proceedings by radiation, chemical, biological intelligence groups from the military units of the Support Forces Command together with the Security Service of Ukraine.

◆ MASSACRE OF CIVILIANS & SOLDIERS

Tragedy of Mariupol, 2022
In the first hours of the invasion, the Russian army destroyed 8 private houses and hit 12 high-rise buildings. In those first few hours 33 people were wounded. An air strike on the Mariupol maternity hospital. The city was encircled by Russians. A Russian warplane dropped a massive bomb directly onto the right wing of the local theater. Citizens taking shelter there had even written in large letters outside the theater the word "CHILDREN", in a vain attempt to deter Russian warplane pilots. **Hundreds (at least 300) innocent civilians who died in the bombing.**

Olenivka, July 28-29, 2022
The armed forces of the Russian Federation carried out a targeted attack on a colony in occupied Olenivka, the Donetsk region, where Ukrainian prisoners of war, including Mariupol defenders, were held. Due to an attack, **53 people were killed and 130 were injured.**

Bucha massacre, 2022
Russian military killed, raped and tortured people in Kyiv region. **400 dead, at least 200 missing.**

Izium, 2022
Mass burials were found in the city of Izium after the Russian occupation. **447 dead.**

Kramatorsk, April 8, 2022
The shelling of a railway station in Kramatorsk. **61 people were killed (five children) and 114 injured.**

Chasiv Yar, July 9, 2022
A missile attack on a residential building in the town of Chasiv Yar: **48 dead people (including a 9-year-old boy).**

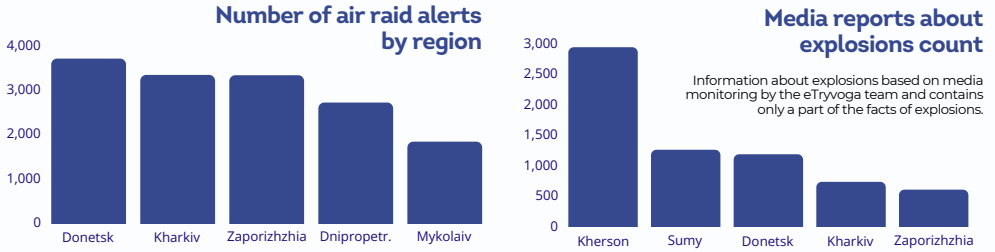### Lyman, 2022
After the liberation of Lyman, two large cemeteries were found. **111 civilians and 35 military dead**

Dnipro, January 14, 2023
The Russian army fired missiles at Dnipro. **46 people were killed and 80 wounded.**
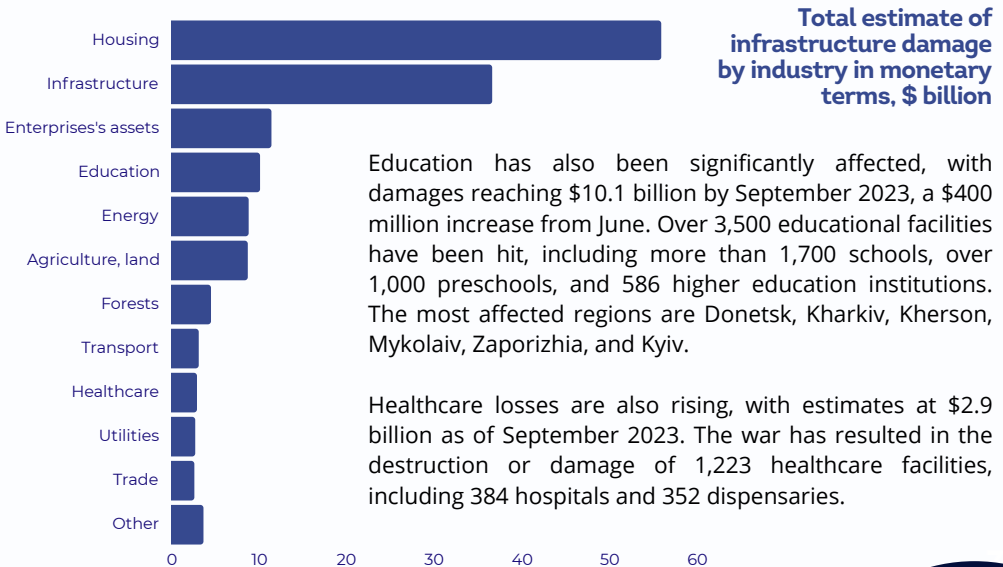
◆ DESTRUCTION OF CIVILIAN INFRASTRUCTURE

Number of air raid alerts by region

4,000	
3,000	
2,000	
1,000	
0	

Donetsk   Kharkiv   Zaporizhzhia   Dnipropetr.   Mykolaiv

Media reports about explosions count

Information about explosions based on media monitoring by the eTryvoga team and contains only a part of the facts of explosions.

3,000	
2,500	
2,000	
1,500	
1,000	
500	
0	

Kherson   Sumy   Donetsk   Kharkiv   Zaporizhzhia

According to the Kyiv School of Economics, as of autumn 2023, the full-scale Russian invasion had inflicted a total direct damage of $151.2 billion on Ukraine's infrastructure, calculated at replacement cost. The continuous war is causing further destruction of homes, schools, and other infrastructure, adding to the escalating damage.
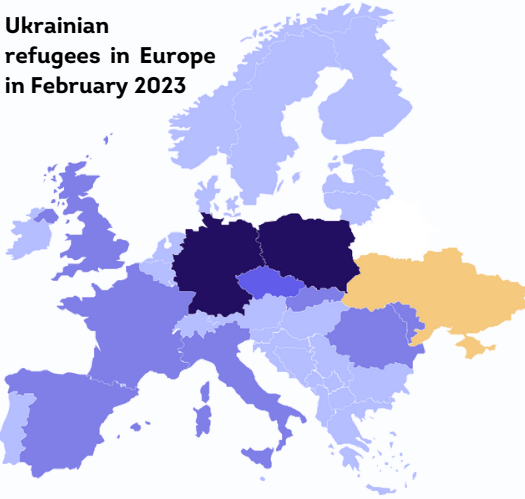
The housing sector in Ukraine had suffered the most, with $55.9 billion in damages. This includes the destruction or damage of 167,200 homes, encompassing 147,800 private residences, 19.1 thousand apartment complexes, and 350 dormitories. The areas most impacted include Donetsk, Kyiv, Luhansk, Kharkiv, Mykolaiv, Chernihiv, Kherson, and Zaporizhzhia regions.

In terms of damage, the infrastructure and industrial sectors follow, incurring $36.6 billion and $11.4 billion respectively. The war has led to the damage of 18 airports and airfields, at least 344 bridges, and over 25,000 kilometers of roads. The industry sector saw at least 426 key private and state-owned enterprises impacted.
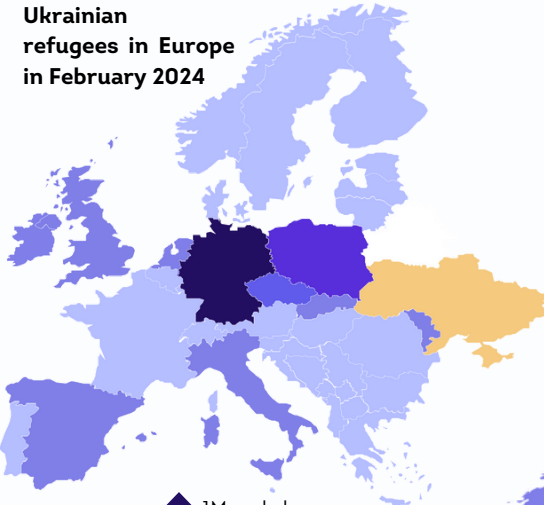
Total estimate of infrastructure damage by industry in monetary terms, $ billion

Industry	
Housing	
Infrastructure	
Enterprises's assets	
Education	
Energy	
Agriculture, land	
Forests	
Transport	
Healthcare	
Utilities	
Trade	
Other	

0   10   20   30   40   50   60

Education has also been significantly affected, with damages reaching $10.1 billion by September 2023, a $400 million increase from June. Over 3,500 educational facilities have been hit, including more than 1,700 schools, over 1,000 preschools, and 586 higher education institutions. The most affected regions are Donetsk, Kharkiv, Kherson, Mykolaiv, Zaporizhia, and Kyiv.

Healthcare losses are also rising, with estimates at $2.9 billion as of September 2023. The war has resulted in the destruction or damage of 1,223 healthcare facilities, including 384 hospitals and 352 dispensaries.

REFUGEES

Ukrainian refugees in Europe in February 2023

6,444,800
refugees from Ukraine recorded globally

93%

5,974,800
refugees from Ukraine recorded in Europe

As of 31 December 2023

Ukrainian refugees in Europe in February 2024

Border crossings

28,523,640
Border crossings **from Ukraine** since 24 February 2022

20,722,845
Border crossings **to Ukraine** since 24 February 2022

As of 31 December 2023

Ukrainian refugees in USA and Canada in February 2024

◆ 1M and above

◆ 500K to 1M

◆ 300K to 500K

◆ 100 K to 300K

◆ less than 100K

IDPS

3,674,000
IDPs population

IDP stands for "internally displaced persons"

5,914,000
displacement movements

4,573,000
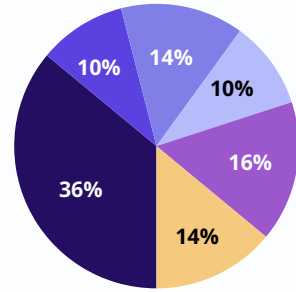returnees population

As of September 2023

Share of IDPs by macro-region of origin

17%
7%
4%
69%

- ◆ **East**
- ◆ **South**
- ◆ **North**
- ◆ **Kyiv**
- ◆ **West**
- ◆ **Center**
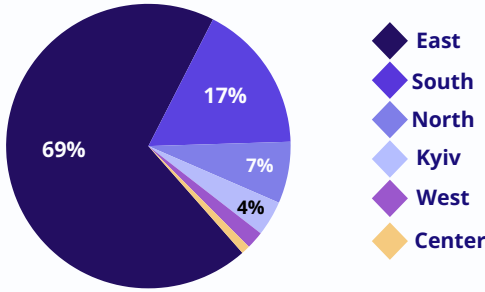
Share of IDPs by macro-region of displacement

10%
14%
10%
16%
36%
14%

422 days
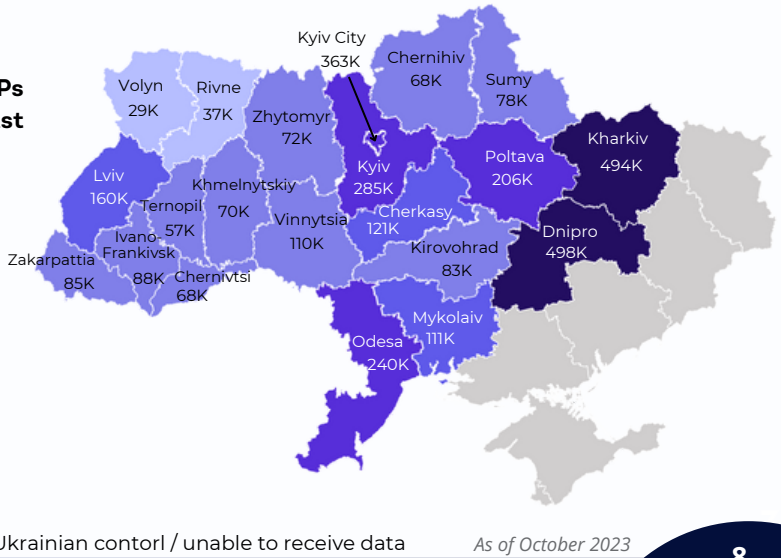average duration of displacement among IDPs in Ukraine (as of September 2023)

As of October 2023

298,000 IDPs
returned to Ukraine from abroad but remain in displacement

As of October 2023

Estimated IDPs presence by oblast of displacement

Kyiv City 363K
Chernihiv 68K
Sumy 78K
Volyn 29K
Rivne 37K
Zhytomyr 72K
Kharkiv 494K
Lviv 160K
Khmelnytskiy 70K
Kyiv 285K
Poltava 206K
Ternopil 57K
Vinnytsia 110K
Cherkasy 121K
Dnipro 498K
Ivano-Frankivsk 88K
Kirovohrad 83K
Zakarpattia 85K
Chernivtsi 68K
Mykolaiv 111K
Odesa 240K

- ◆ 11% - 14%
- ◆ 6% - 10%
- ◆ 4% - 5%
- ◆ 2% - 3%
- ◆ 0% - 1%
- areas out of Ukrainian contorl / unable to receive data

As of October 2023

HUMANITARIAN CATASTROPHES

◆ TRAGEDY OF KAKHOVKA

Photo: Reuters

On 6 June 2023, Russia blew up the Kakhovka hydroelectric power station and dam, which contained about **18 million cubic metres of water**. Dozens of villages in the Mykolaiv and Kherson regions, including the city of Kherson, were flooded. The disaster also had a serious impact on nature conservation. Several nature reserves were flooded, including **the Nizhnodniprovskyi National Nature Park**, created to preserve the natural floodplain complexes of the Dnipro delta. The existence of certain species and ecosystems was threatened.

At least **a hundred people** have lost their lives during the flood following the explosion. Russia itself claimed that only 59 people drowned in the territory under its control after the dam of the Kakhovka HPP was blown up. The destruction of natural habitats leads to significant biodiversity loss and further risks to already endangered species. Notably, the Kakhovka Reservoir, now devastated, was home to **43 fish species**, including **20** of commercial significance. The disaster has also imperiled 38 unique habitat types in the area, all recognized and safeguarded under the Bern Convention and part of the European Emerald Network. The desiccation above the Kakhovka Hydroelectric Power Plant dam threatened at least **11 protected areas**, spanning over 250,000 hectares. The destruction resulted in the discharge of huge volumes of fresh water contaminated with fertilisers, fuels and lubricants and sewage into the Black Sea.

In the Odessa Gulf, scientists have recorded rapid desalination and a drop in salinity **from 14 to 4 ppm**, and in some coastal areas, at certain times, very high concentrations of nitrogen, which may be a sign of sewage contamination of the water. The sharp drop in salinity has led to the death of some aquatic life, such as mussel colonies, fry and fish eggs, which may further affect the entire coastal ecosystem. Due to the influx of so much polluted freshwater, the seawater started to bloom due to massive microalgae growth.

Streets are flooded in Kherson, Ukraine, Wednesday, June 7, 2023 after the walls of the Kakhovka dam collapsed. AP Photo/Libkos.

Thirty-one irrigation systems in the Dnipro, Kherson and Zaporizhzhia regions were destroyed. This loss alone means that almost **600,000 hectares** of arable land have been left without irrigation, reducing the 2023 Ukrainian cereal and oilseed crop by about **4 million tonnes** (based on 2021 yields), with an estimated export value of **US$1.5 billion**.

The disaster has affected the lives of **100,000 people** who have been evacuated or displaced from an area the size of Switzerland. Losses are estimated at **$4 billion**. Long-term costs will amount to a further **$2 billion** due to problems with drinking water and irrigation, as well as navigation on the Dnipro river.
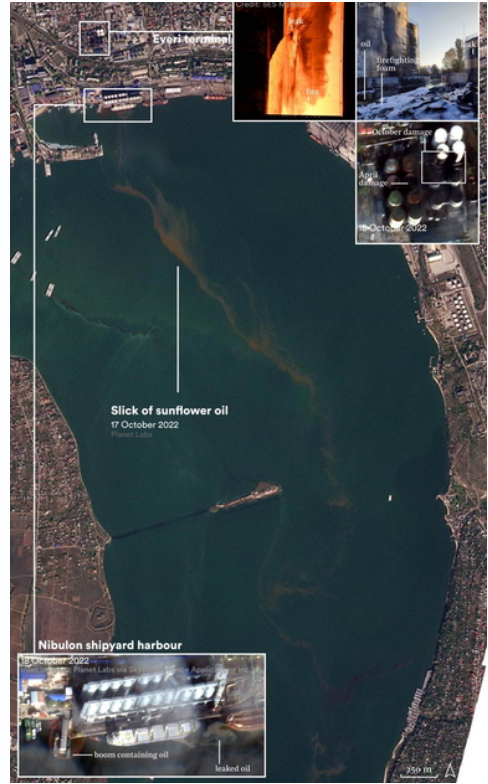
◆ GRAIN AS RUSSIA'S TARGET

Until 24 February 2022, Ukraine supplied food to more than **400 million people worldwide** and was a major exporter of wheat, corn and sunflower oil. Then Russia launched its full-scale invasion of Ukraine.In addition to the Ukrainian civilian population, **Russia decided to attack Ukraine's food production and logistics as well**.

The Russian army has already damaged or completely destroyed approximately **4 million tons** of grain storage capacity by August 2022.

By June 2023, almost **8 million tons** of simultaneous storage capacity is temporarily lost, inoperative or damaged in the country.

Russia destroys silos, blockades ports, conducts **targeted shelling** in the Odessa and Mykolaiv regions and steals grain via land routes to its territory.

Except from the shellings, Russia also steals Ukraine's grain. In 2023, Russia illegally exported at least **4,8 million tons of grain** from the occupied Ukrainian territories. In November 2023, Prime Minister of Ukraine Denys Shmyhal stated that Russia had stolen **$1 billion worth** of Ukrainian grain and exported it to global commodity markets.

Damage from an October 16 drone attack on a sunflower oil export facility in Mykolaiv, Ukraine. CONFLICT AND ENVIRONMENT OBSERVATORY

All these damaging actions affect the whole world. The Kremlin is using **food insecurity as a tool** in its attempts to colonise the newly occupied Ukrainian territories and throughout **the Global South**, reshaping the food system and making it completely Russia-dependent.

The Ukrainian field was engulfed in flames after the Russian attack. Kharkiv. Photo: Yevhen Maloletka

A Ukrainian farmer is harvesting in his field ten kilometers from the front line in the Dnipropetrovsk region. Photo: Efrem Lukatsky / AP Photo

◆ ENVIRONMENTAL DAMAGE

According to the Minister of Environmental Protection and Natural Resources Ruslan Strilets, the environmental damage caused by the war in Ukraine is already estimated at **UAH 2.2 trillion**. In particular, only due to Russian shelling on December 29 and January 2, Ukraine suffered losses of **$400,000**. According to Ruslan Strilets, the shelling provoked huge air pollution and almost 5,000 tons of carbon dioxide were released into the air.

More than **800,000** hectares of forest are under occupation, and the amount of losses is approximately **$500 million**.

Oleksandr Kononenko, representative of the Commissioner for Human Rights of the Ukrainian Parliament, stated that a third of Ukrainian forests, or **3 million** hectares, have been affected by the war. **1,597 tonnes** of pollutants have entered water reservoirs. More than **280,000 square meters** of soil are contaminated with hazardous substances. **35%** of Europe's biodiversity, which Ukraine possesses, is threatened. The climate damage caused by the war is estimated at **33 million tons** of additional greenhouse gas emissions.

In 2022, Ukraine experienced **the largest area of forest fires in its modern history**, surpassing even the devastating fires of 2020. According to Johann Goldammer of **the Global Fire Monitoring Centre** (GFMC), the increase in fires in 2022 can mainly be attributed to **artillery and rocket attacks**. In 2022, fires **were also observed in the fields**, which usually occur in spring and after the harvest, and their scale also increased due to the war.


Wheat plantations burnt after Russian airstrikes in Donetsk oblast. Photograph: Miguel Medina/AFP/Getty Images

The gutted remains of a car in front of damaged trees following a battle between Russia and Ukrainian forces near Chernihiv. Photograph: Petros Giannakouris/AP

The war has not only increased the danger of fires, it has also made them more difficult to extinguish. **Critical resources and personnel were redirected to military needs**. Another long-term challenge is **mines and other unexploded ordnance**. According to Goldammer, their presence poses a serious risk to future firefighting efforts. To eliminate this danger, safe extinguishing vehicles are needed, such as **modified tanks** or **armoured vehicles** that can withstand possible explosions. It is important to note that the effects of forest fires do not stop at Ukraine's borders. In addition to air pollution and charred landscapes, forest fires cause emissions that aggravate global warming. That is why supporting Ukraine in the fight against forest fires is important for all countries.

After the outbreak of the Russo-Ukrainian war in 2014, **many natural reserves were occupied**. **Protected areas along the Black and Azov Seas** suffer from both occupation and hostilities. All of Ukraine's nature reserves that include marine areas are under occupation, along with **seven coastal national nature parks** and **one biosphere reserve**.

BURNT FORESTS ON THE KINBURN PENINSULA
23 February 2022 · 2 August 2023
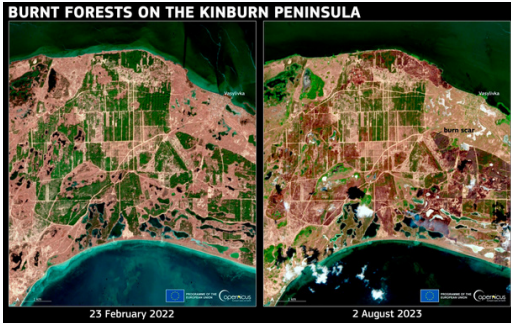
Some of these territories are directly in the area where hostilities are taking place or where Russian troops are deployed, such as **the Kinburn Spit or the Black Sea island of Dzharylgach**. The construction of fortifications and trenches, the movement of military equipment and the numerous explosions damage vegetation and plant cover. 514 objects of the nature reserve fund with an area of 0.80 million hectares remain occupied.

As of November 2023, the war has affected more than **20%** of Ukraine's protected areas. The entire protected area, the most valuable steppe area of the **Dzharylgach National Nature Park** (1588 hectares), has been destroyed. Two wetlands of international importance have been virtually destroyed: **The Big and Small Kuchugury Archipelago** and the **Seven Lighthouses Floodplain**. A total of **812** nature reserve sites with a total area of **0.9 million hectares** were affected.

2.9 million hectares of the **Emerald Network** - 160 areas that are part of the European nature protection network and protected under EU and Council of Europe legislation - are under threat of destruction. There are 17 wetlands of international importance (protected under the **Ramsar Convention**), that is 600.000 hectares, which are at risk due to their unique biodiversity.

Another long-term problem is **the mining of Ukraine's waters and vast territories**. Mines can not only pollute the environment with explosives and heavy metals, but also affect marine life by accidental detonation. In addition to explosions, the use of sonar (hydroacoustic stations) by submarines can pose an additional **threat to marine mammals**. This affects dolphins' ability to use echolocation, which is important for navigation and communication. Since February 2022, scientists have recorded cases of mass deaths of cetaceans in almost the entire Black Sea. According to The Tuzly Estuaries National Nature Park, about **50,000** Black Sea cetaceans died in 2022 as a result of the Russian navy's actions. The total number of dolphins killed during the year of the full-scale war is about **1,000**, which is two to three times more than in previous years. The actual number of dead animals may be even higher. The number of dolphins found alive on the shore was also unusually high.

A dead dolphin on the Black Sea coast. Photo: Ivan Rusev / Facebook.

Russian Black Sea Fleet ships off the coast of Crimea. Photo: Ukraïner

◆ ENERGY WAR

On **10 October 2022**, the Russians began massive shelling of Ukraine's energy infrastructure. Within a month there was a blackout: all power units of Ukrainian-controlled nuclear power plants were shut down. It was possible to restart the power system, receiving electricity from Western partners.

In total, during the first year of the full-scale invasion, **the Russians attacked energy facilities 255 times**, the Prosecutor General's Office reported. Donetsk, Dnipropetrovsk and Kyiv regions were the most affected.

The United Nations Development Programme report (June 2023) was the only official information on the consequences of the Russian shelling. It says that as of **30 April 2023**, total generation capacity, i.e. electricity production, has been more than halved, from **37.6 GW** to **18.3 GW**. The most affected capacity is the electricity produced by thermal and combined heat and power plants. Their capacity decreased by **68%**, from **14.3 GW** to **4.6 GW**. Electricity produced by the nuclear power plant decreased mainly due to the occupation of the Zaporizhzhia plant, from **13.8 GW** to **7.7 GW**. Hydroelectric generation decreased from **6.6 GW** to **4.7 GW**, and "green" electricity generation by **24%**, from **8.1 GW** to **6.2 GW**.

Energy workers of DTEK repair the equipment of power transmission lines, October 2022. Photo: Sergei Supinsky/AFP/Getty Images

In addition to the facilities that produce electricity, distribution stations are also an important part of the system. According to the UN report, **42** out of **94** critical high-voltage transformers were damaged or destroyed.

As of June 2023, according to World Bank, the damage caused to electricity, gas, heat supply and coal mining infrastructure exceeded **$10 billion**. The Kyiv School of Economics estimated direct losses to energy infrastructure at **$8.8 billion**, including **$638 million** from the explosion of the Kakhovka HPP.

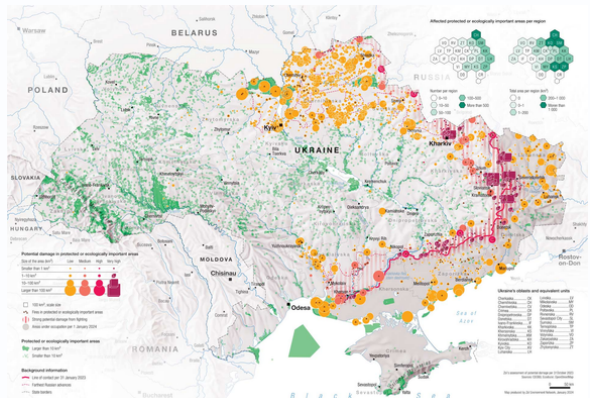*Consequences of a Russian attack on the largest heat power plant in Kharkiv. Photo: Konstantin & Vlada Liberov*

Specifics on the restoration of the electricity system are not disclosed, because the Russians are still examining their attack capabilities. According to Prime Minister **Denys Shmygal**, almost **80%** of the restoration work on all networks and substations of the grid has been completed.

◆ NON-PEACEFUL ATOM

The Zaporizhzhia Nuclear Power Plant (ZNPP), the largest nuclear power station in Europe, has been captured by the Russian military since **4 March 2022**. The Russian Federation places military equipment and ammunition at the site of the station.

The plant's **six** reactors have been **shut down** since mid-2022 – **five** of them in cold shutdown and **one** in hot shutdown. The plant needs secure and uninterrupted sources of external cooling water. **The destruction of the Kakhovka dam** in early June last year, led to **a large reduction in the water level of the reservoir**. Consequently, the depth of the water in the reservoir was no longer sufficient to supply water and considerable efforts on site were needed, including the drilling of wells on site, to provide sufficient cooling water for the six shutdown reactor units.

The plant has been operating on **significantly reduced staff**, who are under unprecedented psychological pressure. The reduced number of qualified and trained operating personnel and the challenging supply chain has had **a negative impact on the maintenance of equipment** which is essential for maintaining the safety of the plant.

Damage to Ukraine's ecologically important areas since February 2022. CONFLICT AND ENVIRONMENT OBSERVATORY

And there have now been **eight occasions** when the site lost all off-site power and had to rely on **emergency diesel generators**, the last line of defence against a nuclear accident, to provide essential cooling of the reactor and spent fuel. The plant is currently relying on just **two lines of external power**, and sometimes just **one**, or for a period the backup power was not properly configured. This demonstrates **the highly precarious situation** regarding essential off-site power.

Although the plant has not been shelled for a considerable time, significant military activities continue in the region and sometime in the vicinity of the facility, with IAEA staff reporting **rockets flying overhead close to the plant**, thereby putting at risk the physical integrity of the plant. In addition, **mines along the perimeter of the ZNPP**, in a buffer zone between the facility's internal and external fences, which were previously identified by the IAEA team and were removed in November 2023, are now back in place.

INTERNATIONAL SUPPORT

The single biggest difference that anyone could make is for Russia to get out of Ukraine and end this barbaric war
– UK Prime Minister Rishi Sunak (G20 Summit)

Government support to Ukraine (total aid, bn €)

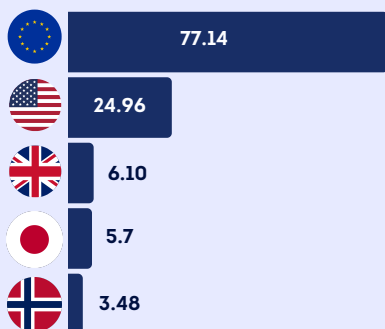| **133,22**	**71,38**	**36,90**
EU Countries+ EU Institutions	United States of America	Other donor countries

Top-5 financial support to Ukraine, € billion

EU	77.14
United States	24.96
United Kingdom	6.10
Japan	5.7
Norway	3.48

Top-5 military support to Ukraine, € billion

United States	43.86
Germany	17.13
United Kingdom	6.57
EU	5.60
Norway	3.60
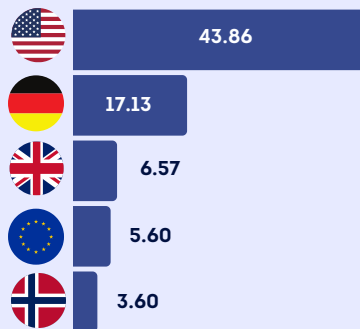
Top-5 humanitarian support to Ukraine, € billion

United States	2.56
Germany	2.42
Switzerland	2.20
EU	2.14
Japan	1.04
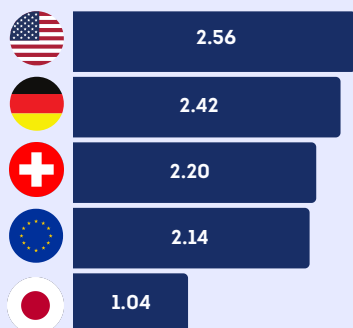
Top-5 government support to Ukraine by donor country GDP (bilateral aid only)

Norway	1.60
Lithuania	1.39
Estonia	1.31
Austria	1.09
Denmark	1.02
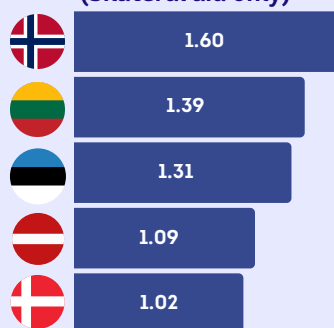
As of 31 October 2023

KEY ACHIEVEMENTS

◆ APPROXIMATION TO EU AND NATO MEMBERSHIP

EU

A positive evaluation of the EU in the framework of the enlargement report has been ensured. On February 28, 2022, Ukraine **applied for EU membership**. The European Council officially granted Ukraine **candidate status** on June 23, 2022. In October, for the first time in history, an external meeting of the Council of Foreign Ministers of the EU was held in Kyiv. As of November 8, 2023, when the European Commission published its traditional report on the prospects for EU enlargement, Ukraine had completed four out of seven reforms prescribed by the EU. The three remaining reforms to be implemented are in the areas of anti-corruption, de-oligarchization and national minorities. On December 14, 2023, the European Council decided to **start negotiations with Ukraine regarding EU membership**.

NATO

At the **Madrid Summit in 2022**, Allies deepened the Comprehensive Assistance Program to increase assistance to Ukraine. At the NATO **Summit in Vilnius in 2023**, Allies decided to transform the Comprehensive Assistance Program into a multi-year assistance program, accept Ukraine as a country that will become a member of the Alliance **without the MAP**, and agree on a "**Joint Declaration of Support for Ukraine**". Also the establishment of the **NATO-Ukraine Council** was announced (in the format of 32, not 31+1, as was the case with the NATO-Ukraine Commission: NATO member states and Ukraine will be equal members). On November 29, 2023, the NATO-Ukraine Council met for the first time at the level of foreign ministers. The focus of the 2024 NATO-Ukraine program is on strengthening the defense capabilities of Ukraine's security and defense sector through the development of appropriate planning, command and control systems.

◆ RAMSTEIN MEETINGS

The Ramstein meetings are a series of diplomatic meetings between defense ministers. The main purpose of the Ramstein format is to discuss, synchronize and accelerate the provision of military assistance, weapons and equipment to Ukraine. The meeting was named in honor of the first discussions that took place at Ramstein Air Force Base in Ramstein-Miesenbach, Germany. On January 23, 2024, the **18th meeting** took place online. It was distinguished by the formalization of the "**capability coalitions**" formed during previous meetings (aviation, tank, artillery and maritime security coalitions).

16th Ramstein Meeting. Source: Ofice of the President of Ukraine

◆ CREATION OF A SPECIAL TRIBUNAL FOR THE CRIME OF AGGRESSION AGAINST UKRAINE

40
Member States

◆ PEACE FORMULA

On **October 11, 2022,** Ukraine's President, Volodymyr Zelenskyi, presented a "peace formula" to the G7 leaders as a strategy to counter the Russian aggression. Presently, this 10-point proposal stands as the sole path to achieving a fair and enduring peace in Ukraine. *This peace formula includes: radiation and nuclear safety, food security, energy security, release of all prisoners and deportees, implementation of the UN Charter and restoration of Ukraine's territorial integrity and the world order, withdrawal of Russian troops and cessation of hostilities, justice, immediate protection of the environment, prevention of escalation, confirmation of the end of the war.*

President Zelenskyi's peace proposal has gained international recognition, with numerous countries endorsing it. In May 2023, **46 Council of Europe members** voiced their support at a summit. In June, it was also supported by the **Parliamentary Assembly of the Council of Europe**. Furthermore, a summit dedicated to this peace plan took place in **Jeddah, Saudi Arabia**, in August 2023. Around 40 countries attended, with the majority determining their roles in realizing the objectives set forth in Ukraine's peace strategy.
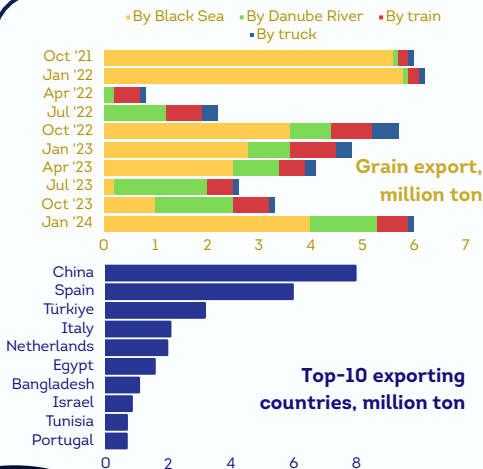
◆ GLOBAL SOUTH

In **2022-2023**, Ukraine significantly intensified cooperation with African countries, strengthening its diplomatic presence in the region and developing the first ever Ukraine-Africa Communication Strategy. Various diplomatic initiatives included visits of high-level representatives to the countries of Africa, the Middle East, and Latin America, participation in international forums and other events aimed at strengthening cooperation and building partnerships.

For the first time in Ukraine's history, the Ministry of Foreign Affairs of Ukraine developed a **Strategy for the Development of Relations** between Ukraine and Latin America and the Caribbean. The Minister of Foreign Affairs stated that 2024 will be **the year of Ukraine's return to the Latin American and Caribbean region,** and the implementation of the strategy will complete the process of a qualitatively new strategic outreach to all regions of the world to promote Ukraine's national interests.

◆ GRAIN INITIATIVE

Signed on **July 22, 2022**, the Black Sea Grain Initiative, an agreement between the UN, Turkey, Ukraine, and Russia to create maritime corridors for the safe export of Ukrainian grain, broke the 5-month blockade of Ukrainian ports that could have turned into a disaster for the world's poorest countries due to a shortage of grain and a sharp rise in grain prices.

Grain export, million ton

Legend: By Black Sea, By Danube River, By train, By truck

Months: Oct '21, Jan '22, Apr '22, Jul '22, Oct '22, Jan '23, Apr '23, Jul '23, Oct '23, Jan '24

Top-10 exporting countries, million ton

China, Spain, Türkiye, Italy, Netherlands, Egypt, Bangladesh, Israel, Tunisia, Portugal

Exports by commodity, million ton

Corn, Wheat, Sunflower meal, Sunflower oil, Barley, Rapeseed, Soya beans

16.9, 8.9, 1.9, 1.6, 1.3, 1, 0.8

Total: 32,9

◆ COALITIONS OF FOREIGN PARTNERS

TANK COALITION

- 🇺🇸 Abrams
- 🇬🇧 Challenger 2
- 🇵🇱 PT-91 Twardy and Leopard 2
- 🇫🇷 AMX-10RCs light tanks
- 🇸🇪 Stridsvagn 122
- 🇨🇿 🇲🇦 T-72
- 🇪🇸 🇫🇮 🇩🇪 🇨🇦 Leopard 2
- 🇩🇰 🇵🇹 🇳🇱 🇳🇴

IT COALITION

Supporting the Ministry of Defense of Ukraine and the Armed Forces of Ukraine in the field of IT, communications and cybersecurity

🇳🇱 🇮🇹 🇩🇰 🇱🇹 🇯🇵
🇧🇪 🇬🇧 🇦🇹 🇪🇪 🇮🇸 🇱🇺

ARTILLERY COALITION

23 Countries

Led by 🇺🇸 🇫🇷

F-16 AIRCRAFT COALITION

🇨🇦 🇷🇴 🇵🇱 🇺🇸 🇸🇪 🇬🇷
🇳🇱 🇩🇰 🇵🇹 🇧🇪 🇬🇧 🇱🇺 🇳🇴

HUMANITARIAN AND COMBAT DEMINING COALITION

22 Countries expressed intention to join

Led by 🇱🇹

MARITIME COALITION

Cooperation with the Ukrainian Navy and Ministry of Defense to develop a range of capabilities, including rapid development of maritime forces in the Black Sea, continued construction of Ukrainian marine infantry, and river patrol boats to protect coastal and inland waterways.

🇳🇴 🇬🇧

GROUND-BASED AIR DEFENSE COALITION

Led by 🇫🇷 🇩🇪

20 Countries

WHAT IS MORE

◆ **9 states and the Parliamentary Assembly of the Council of Europe**
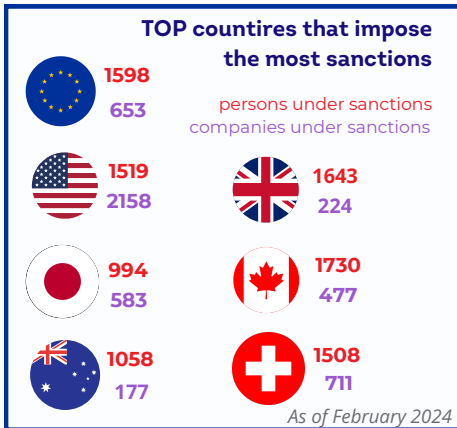recognized the Holodomor of 1932-1933 as genocide of the Ukrainian people

◆ **The UNESCO Committee for the Protection of Cultural Property in the Event of Armed Conflict**
has granted enhanced protection to **20 sites** of cultural and natural heritage of Ukraine. As of January 10, 2024, UNESCO confirmed the **damage to 337 sites** since February 24, 2022: 126 religious sites, 148 buildings of historical and/or artistic interest, 30 museums, 19 monuments, 13 libraries, and 1 archive.

◆ NEGOTIATIONS ON DRAFT AGREEMENTS ON SECURITY COMMITMENTS FOR UKRAINE

🇺🇸 🇫🇷 🇬🇧 🇯🇵 🇩🇪
🇪🇺 🇮🇹 🇨🇦 🇳🇱 🇷🇴

SANCTIONS

TOP countires that impose the most sanctions

1598
653

persons under sanctions
companies under sanctions

1519
2158

1643
224

994
583

1730
477

1058
177

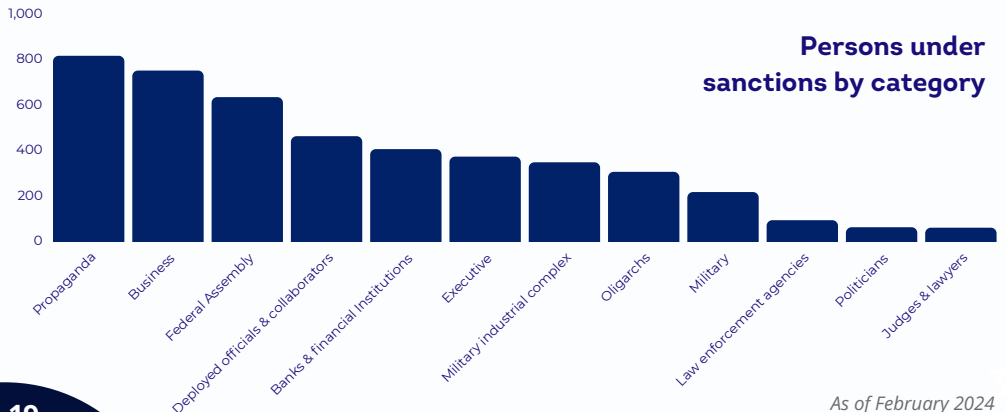**1508**
711

As of February 2024

In 2023 alone, **the United States imposed more than 20 sanctions packages against Russia**; additional customs tariffs were introduced on more than 570 commodity groups imported from Russia. **The European Union imposed the 10th (February 25), 11th (June 23), and 12th (December 18) sanctions packages against Russia.**

In total, EU states imposed santions against 2251 entities, US – 3666 entities, Japan – 1577 entities, Australia – 1175 entities, UK – 1867 entities, Canada – 2207 entities, Switzerland – 2190 entities.

Over the past year, the most critical change in Russia's economic situation has been the marked decline in its external balance. In 2023, its total goods exports **fell by 29%** to $423 billion compared to the previous year. This reduction has led to significantly smaller trade ($118 billion, down 63%) and current account ($50 billion, down 79%) surpluses, undermining the nation's macroeconomic stability. The sharp decrease in foreign currency inflows has resulted in the ruble losing approximately **40%** of its value against the euro and U.S. dollar since late 2022. This currency devaluation has heightened inflation and compelled the Central Bank of Russia to raise interest rates by a total of 850 basis points and reintroduce capital controls.

The intensified enforcement of energy sanctions is showing effects. After a period where the limitations of the price cap were evident, compromising the energy sanctions' effectiveness, coalition authorities have intensified enforcement actions. These include revising the ineffective attestations system and sanctioning entities and vessels involved in price cap breaches. These steps are starting to impact, evident in the widening discount of Russian oil compared to Brent, which reduces export earnings.

Persons under sanctions by category

1,000
800
600
400
200
0

Propaganda
Business
Federal Assembly
Deployed officials & collaborators
Banks & financial institutions
Executive
Military industrial complex
Oligarchs
Military
Law enforcement agencies
Politicians
Judges & lawyers

As of February 2024

RUSSIA'S INTERNATIONAL ISOLATION

Attempts to isolate Russia peaked in the first half of 2022. The day after the outbreak of a full-scale war, the **Organization for Economic Cooperation and Development** severed relations with Russia. In March 2022, Russia's participation in the **Barents Euro-Arctic Council**, the **WTO's Group of Developed Countries Coordinating Council**, the **International Union of Railways**, the **International Council on Archives**, and the **Council of the Baltic Sea States** was suspended.

The most significant was the expulsion of Russia from the **Council of Europe** after 26 years of membership. The **International Labor Organization** suspended technical cooperation with Russia, and the **European Organization for Nuclear Research** revoked Russia's observer status. The European Commission suspended Russia's participation in several grant research programs – **Horizon 2020**, **Horizon Europe** and **Erasmus+**. Russia's participation in the **Nuclear Energy Agency** and the **UN World Tourism Organization** was suspended, and cooperation with the **European Bank for Reconstruction and Development** was terminated.

Another significant event took place on April 7, when the UN General Assembly supported a resolution to terminate Russia's membership in the **UN Human Rights Council**. Russia was also expelled from the **International Gas Union** and the **Founding Board of the Geneva Center for Security Policy**. The **International Transport Forum**, the **Nordic Council of Ministers**, and the **International Organization for Standardization** also suspended or limited their cooperation. The **European Space Agency** decided to abandon cooperation with Russia on the Luna-25, Luna-26, and Luna-27 lunar programs. It also stopped cooperating with Roscosmos on Mars exploration projects. The **European Federation of Cyber Sports** and the **International Paralympic Committee** also suspended Russia's membership.

In 2023 alone, Russia was suspended from 29 international organizations and other multilateral cooperation formats. Russia or its candidates were not allowed to be elected to almost 60 bodies of international organizations / other multilateral cooperation formats or their leadership positions (chairman, vice-chairman). Also, for the first time, Russia was not elected to the **International Court of Justice**, the executive boards of **UNESCO** and the **Organization for the Prohibition of Chemical Weapons** (OPCW), and the **Council of the International Maritime Organization**. On December 14, 2023, the **Danube Commission** decides that Russia's membership is incompatible with its missile and drone strikes on the Lower Danube. Russia has to withdraw from the Commission by February 29, 2024.

RECONSTRUCTION EFFORTS

International partners play a significant role in the country's recovery, as Ukraine's main efforts are focused on the functioning and stabilization of the state in the context of war. Thus, back in 2022, Volodymyr Zelenskyi proposed to world leaders the concept of patronage over the restoration of certain regions of Ukraine. At the International Conference on the Restoration of Ukraine in Lugano, which took place on **July 4-5, 2022,** a map of the restoration of Ukrainian cities was presented. However, proposals were made to other countries as well during bilateral negotiations throughout 2 years. **As of November 2023**, the map as follows:

agreed

received proposals

Rivne - Ireland
Zhytomyr - Estonia, Lithuania, Latvia
Kyiv - Lithuania (Bucha), UK
Chernihiv - France, Latvia, Germany
Sumy - Canada
Kharkiv - USA, Turkey
Kirovohrad - Norway
Dnipropetrovsk - Czech Republic
Odesa - Greece, Switzerland, France
Mykolaiv - Denmark, Belgium
Kherson - Sweden, the Netherlands
Zaporizhzhia - Austria
Donetsk - Greece (Mariupol), Italy, Poland
Luhansk - Czech Republic, Sweden, Finland

In **Kyiv** region, the Lithuanian government financed the renovation of the Irpin kindergarten "Radist" and Borodyansky Lyceum No. 1. The small village of Makariv, located 40 kilometers from Kyiv, has received a grant of 15 million euros from the European Commission and a new modern facility was built on the site of the destroyed outpatient clinic.

The most critical challenge for **Mykolaiv** was the attack on communications, as the city of almost half a million people was left without centralized water supply. This became the top priority for **Denmark**'s cooperation with Mykolaiv. Since the beginning of the invasion, the country has provided €375 million in civilian aid, of which €281 million was allocated directly and €94 million through guarantee mechanisms. Denmark helps to purify water, purchase equipment for water, electricity and heat supply, repair buildings and sewage systems, and carry out emergency work. Copenhagen also works on the master plan for the city's reconstruction, which involves the reconstruction of the city's overall space with the demolition of old Soviet buildings and the construction of new buildings according to international standards. Denmark finances projects through partner organizations or provides funds to institutions, institutions, and territorial communities.

Estonia is helping the **Zhytomyr** region. In June 2023, the first infrastructure facility, a modular kindergarten, was opened in Ovruch. The cost of the constructed part is €3 million, and the total construction is €5 million. Zhytomyr also received more than 40 buses from Estonia, which operate on the city's routes. Zhytomyr has also intensified its work with sister cities, thanks to which it receives assistance from Poland's Gdansk, Gdynia, and Sopot, the US city of Noblesville, Italy's Vicenza, and Germany's Dortmund.

France and **Latvia** have taken over the patronage of **Chernihiv** region and are helping to rebuild the region. Latvia provided €2 million in aid to educational institutions. Also, 2 million was spent on modular houses for people who lost their homes. France provided 6 bridges, took over the patronage of medical institutions. From French partners the region received four buses, three prefabricated structures for public roads of national importance and structures to rebuild three destroyed bridges for roads.

The modular town in **Lviv** consists of eight two-story buildings, or 640 modules, of which 480 were purchased, delivered and assembled with funds from the **Polish government** and the Government Agency for Strategic Reserves, and 160 modules were funded by the **United Kingdom**. Similar modular towns are already successfully operating in **Irpin, Bucha, Borodyanka, Makariv, Ivankiv** and other settlements that have suffered significant damage.

With the assistance of the **German Embassy** in Ukraine, communities received front-end loaders, a utility vehicle, office equipment and furniture for a youth center, an ambulance and a minibus. The country also helps in the field of infrastructure at various levels, for example, in the protection of nuclear power plants in Ukraine. Germany provides or finances power generators for agricultural enterprises and supports the country in disaster protection.

The **Ministry of Health of Italy** contributed to the organization of a rehabilitation center in Lviv as part of the initiative of the wife of the Ukrainian leader, Olena Zelenska. With the mediation of the Italian Department of Civil Protection, generators, transformers, and other electrical equipment were delivered to Ukraine to restore power lines after massive Russian attacks in the fall of 2022. Italy and Ukraine also signed an agreement to restore the Transfiguration Cathedral in **Odesa**, which was bombed by the Russian military in July 2023.

In November 2023, the governments of the **Czech Republic** and **Taiwan** signed an agreement to work together to rebuild Ukraine, in particular, in the restoring water and energy systems. The **American** nonprofit organization Global Empowerment Mission has allocated funds to install windows in houses damaged by the fighting. Earlier, the same organization has already financed the replacement of 7,000 windows in 430 buildings in Hostomel, Irpin, Sofiivska Borshchahivka, and settlements in **Vyshhorod** district.

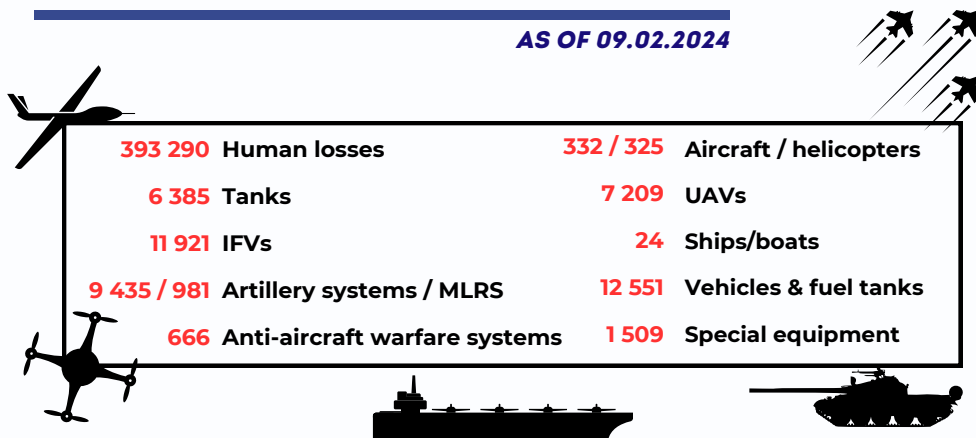*First: Transfiguration Cathedral in Odesa after a Russian strike. Source: OSV news*

Second: modular town in Bucha. Source: Army Inform

MILITARY CAPACITY

No country in the world has ever fought with such weapons.
No country in the world has ever repelled such attacks
– Taras Chmut, Head of the Come Back Alive Foundation

RUSSIA'S LOSSES

AS OF 09.02.2024

393 290	Human losses	332 / 325	Aircraft / helicopters
6 385	Tanks	7 209	UAVs
11 921	IFVs	24	Ships/boats
9 435 / 981	Artillery systems / MLRS	12 551	Vehicles & fuel tanks
666	Anti-aircraft warfare systems	1 509	Special equipment

THE BLOODIEST BATTLES FOR RUSSIA

Battle for Bakmut
August 2022 - now
20.000+ deaths

Battle for Sievierodonetsk and Lysychansk
February - July 2022
~11.000 death

First week of the invasion
24 February - 3 March 2022
~9.000 deaths
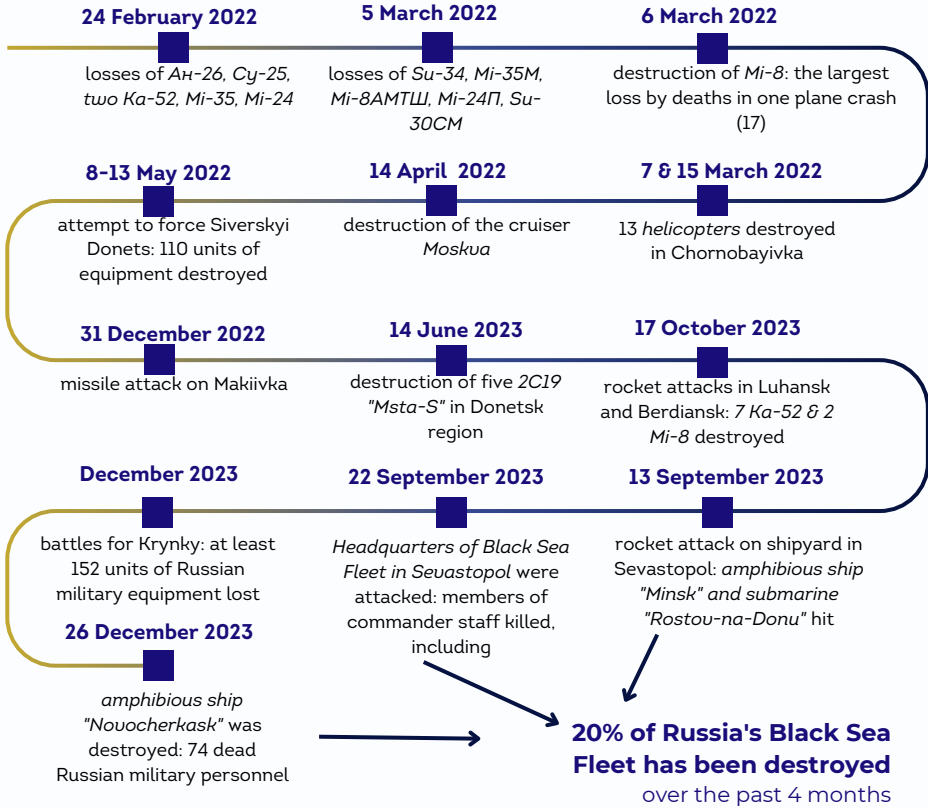
Battle for Mariupol
February - May 2022
~6.000 deaths

Battle for Vuhledar
August 2022 - now
~5.000 deaths

Offensive on Avdiivka
October 2023 - now
~4.000 deaths

MAJOR RUSSIA'S LOSSES

24 February 2022

losses of *Ан-26, Су-25, two Ка-52, Mi-35, Mi-24*

5 March 2022

losses of *Su-34, Mi-35M, Mi-8АМТШ, Mi-24П, Su-30СМ*

6 March 2022

destruction of *Mi-8*: the largest loss by deaths in one plane crash (17)

8-13 May 2022

attempt to force Siverskyi Donets: 110 units of equipment destroyed

14 April 2022

destruction of the cruiser *Moskva*

7 & 15 March 2022

13 *helicopters* destroyed in Chornobayivka

31 December 2022

missile attack on Makiivka

14 June 2023

destruction of five *2C19 "Msta-S"* in Donetsk region

17 October 2023

rocket attacks in Luhansk and Berdiansk: *7 Ka-52 & 2 Mi-8* destroyed

December 2023

battles for Krynky: at least 152 units of Russian military equipment lost

22 September 2023

Headquarters of Black Sea Fleet in Sevastopol were attacked: members of commander staff killed, including

13 September 2023

rocket attack on shipyard in Sevastopol: *amphibious ship "Minsk" and submarine "Rostov-na-Donu"* hit

26 December 2023

amphibious ship "Novocherkask" was destroyed: 74 dead Russian military personnel

20% of Russia's Black Sea Fleet has been destroyed
over the past 4 months

– UK Secretary of State for Defence, Grant Shapps

However, according to Levada-Center, **the level of support among Russians** for the actions of Russian troops in Ukraine since the beginning of the full-scale invasion has remained **consistently high.**

77% **support** the actions of the Russian Armed Forces in Ukraine

16% **do not support** the actions of the Russian Armed Forces in Ukraine

8% find it **difficult to answer**

At the same time, **31%** of the Russian population believes that people like them **have moral responsibility** for civilian casualties and destruction in Ukraine *(10% – fully responsible, 21% – somewhat responsible)*. **The opposite opinion** is presented **by 62%** of respondents. This trend of responses is stable and has been maintained over the past year and a half.

DOMESTIC PRODUCTION

◆ The capabilities of the Ukrainian defense industry **tripled** in 2023 compared to 2022

◆ The share of private arms manufacturers in Ukraine increased **fourfold** and constitutes 4/5 of the Ukrainian arms market (2023)

◆ The Ukrainian defense industry entered the **Top 100** in the world for 2022

◆ Of the **4.9% GDP** growth in Ukraine in 2023, **1.5%** is attributed to the Ukrainian defense industry

◆ In the 2024 budget project, among defense expenditures, **55.8 billion UAH** is directly allocated for the development of the Ukrainian defense industry

◆ As of the end of 2023, approximately **300,000 people** and **500 companies**, mostly private (almost **400**), are involved in the Ukrainian defense industry

Ukraine is actively enhancing its defense industrial capabilities to eventually meet its military needs with significantly less reliance on foreign military aid.

To achieve this, Ukraine is focusing on three main strategies: expanding its domestic defense industry, establishing bilateral and multilateral partnerships with European nations, and engaging in industrial joint ventures with the United States and other global companies for the co-production of defense materials both in Ukraine and overseas.
Due to the high risk of missile attacks, production had to be relocated, some of which occurred outside the country, leading to a slowdown in the manufacturing process.

Nonetheless, this expansion of Ukraine's defense industrial base, both within the country and internationally, has been ongoing since the onset of the invasion.

ARTILLERY & HEAVY MUNITIONS

Compared to 2022, in 2023, Ukraine:

by 42 times increased the production of mortar rounds

by 2.8 times increased the production of artillery shells

by 2 times increased the production of anti-tank guided missiles (ATGM)

self-propelled artillery system *Bohdana* was launched (serial production) with approximately 30 units manufactured by December 2023 at a rate of 6 units per month

Artillery shells (152 mm, 122 mm), **tank shells** (125 mm), **mortar mines** (120 mm), and **fragmentation mines** (82 mm) production was established outside Ukraine but with the involvement of Ukrainian experts and technology

ARMORED VEHICLES

by 3.4 times increased the production of domestic armored vehicles

LONG-RANGE MISSILES

Vilha-M **missiles** production was resumed for the Vilha MLRS

Neptun the anti-ship missile for ground targets is being modified

*based on publicly available data

DRONES

by 100 times
drone production increased in 2023 compared to 2022

over 200 Ukrainian companies
are involved in the development and production of drones as of October 2023, compared to 35 companies in 2022

28 models
of Ukrainian UAVs were adopted by the Ministry of Defense in 2023

50,000 FPV drones
Ukraine manufactured in December 2023

1 million FPV drones
is expected to be manufactured in 2024

Purposes of the sea drones usage in the Ukraine war

- Destruction of Russian military ships that launch missile strikes on Ukrainian cities and transport military equipment and personnel
- Displacement of the Russian Black Sea fleet from the occupied Crimea
- Protection of the Ukrainian grain corridor from Russian attacks

Consequences

Naval drones have changed the balance of power in the Black Sea. After a series of strikes and special operations by Ukraine, the occupiers were forced to move some of the ships from Sevastopol Bay to Novorossiysk. Ukrainian intelligence explained that maritime drones are a fairly effective way to fight the Russian fleet, as the price of such a drone is incomparable to the cost of a warship.

Sea Baby drone. Source: the Security Service of Ukraine

MARITIME DRONES

Ukraine had nothing to counter sea Russia's attacks, as the Ukrainian navy lost 80% of its ships after the occupation of Crimea in 2014.

On October 29, 2022, the first naval attack in history was carried out exclusively by unmanned means. Small and fast unmanned boats hit three ships. In particular, the flagship of the Black Sea Fleet, Admiral Makarov. This is the first naval attack in history to be carried out exclusively by unmanned means.

In August 2023, the creation of the first separate brigade of marine drones was announced

In November 2022 Ukrainian fleet of sea drones was established

Targets
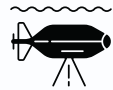
Since its inception the Ukrainian fleet of sea drones has already targeted **1 infrastructure object** (Crimean Bridge) and **11 Russian vessels**: the frigate "Admiral Makarov", minesweeper "Ivan Golubets", reconnaissance ship "Ivan Khurs," landing ship "Olenegorsky Gornyak", patrol ships "Sergei Kotov" and "Pavel Derzhavin", missile ships "Samum", "Buyan-M" and "Ivanovets", as well as small landing boats "Akula" and "Serna" (the last two were completely destroyed)

Other developments:
- *In 2023, a compact EW system **Piranha Armored Vehicles Dome (AVD) 360** against kamikaze drones has been developed for armored vehicles. The electronic warfare system provides jamming of control channels and satellite navigation. AVD 360 complex interferes not only with the standard control frequencies of conventional quadcopter and FPV drones, but also with the range of control frequencies used by the Lancet. In addition, GPS, GLONASS, BeiDou, and Galileo satellite navigation is suppressed.*
- *According to the Ministry of Strategic Industries, in the first six months of 2023, Ukraine produced **ten times more ammunition** than in the entire previous year.*

Neptune missile
Source: General Staff of the Armed Forces of Ukraine

Self-propelled artillery system Bohdana
Source: Ekonomichna Pravda

Vilha-M missile complex
Source: NTA – Independent Television Agency

Ukrainian military man launches Leleka drone
Source: Getty Images

Ukraine is strengthening defense cooperation with major arms manufacturers from other countries such as the US, the UK, Germany, Turkey, etc. The world-famous British arms manufacturer **BAE Systems** and **AMS Integrated Solutions Ltd** would open a plant for the production of artillery shells in 2024. The German concern **Rheinmetall** intends to build an armored vehicle manufacturing plant in the western part of Ukraine, where it plans to manufacture and repair Rheinmetall Fuchs armored personnel carriers. Another major company building a plant in Ukraine is the Turkish **Baykar**, a manufacturer of the famous "bayraktars." Military plants in neighboring Ukraine Romania and Slovakia, as well as in Lithuania and Bulgaria, are also involved in the repair and modernization of Ukrainian military equipment. The British company **Babcock** and the Ministry of Defense of Ukraine signed a 3-year contract for the maintenance of two Sandown-class minehunters, "Cherkasy" and "Chernihiv," with the subsequent opening of the company's office in Ukraine. A contract was also signed between **Thales** and the Ukrainian defense ministry (with the assistance of the French government) for the delivery of a complete short-range air defense system to strengthen Ukrainian military capabilities in the sky.

CONCLUSIONS

In the wake of the Russian war against Ukraine, the past two years have borne witness to a complex tapestry of events and consequences. As we draw this handbook to a close, it is essential to reflect on the sobering realities and key takeaways from this tumultuous period.

Russia's actions during this conflict have raised significant concerns within the international community. The documented destruction, allegations of war crimes, displacement of refugees and internally displaced persons (IDPs), and the occurrence of significant catastrophes underline the gravity of the humanitarian challenges faced by Ukraine.

On the diplomatic front, the imposition of sanctions and Russia's international isolation have been pivotal in shaping the global response to this conflict. These measures reflect the international community's commitment to upholding the principles of sovereignty and territorial integrity.

Ukraine's efforts in post-conflict reconstruction have been commendable, with notable achievements in rebuilding infrastructure and addressing the needs of affected communities. Additionally, the development of domestic production capabilities, particularly in the production of weaponry, marks a significant step toward self-reliance and bolstering national defense.

In conclusion, this handbook provides an objective overview of the multifaceted challenges and achievements that have characterized the two years following the invasion. While the impact of this war has been profound, it is essential to acknowledge the resilience and determination of Ukraine's people.

The international support extended to Ukraine during this period has been instrumental in navigating the challenges posed by the conflict. As Ukrainians look to the future, the path forward may still present uncertainties, but with continued cooperation and a commitment to peace, Ukraine stands ready to address the challenges and seize opportunities for a more stable and prosperous future.

This handbook serves as a factual reference and analysis of the post-invasion landscape, highlighting the importance of diplomacy, humanitarian assistance, reconstruction efforts, and military cooperation in addressing the barbarous Russian war against Ukraine.

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