GREEN
RESTORATION
OF UKRAINE

Oleksandra AZARKHINA,
Deputy Minister for Communities, Territories and Infrastructure Development of Ukraine

Painting by Maria Prymachenko (1909-1997)
PROBLEMS FACED BY UKRAINE

Building damaged by a russian S-300 missile in Kharkiv
INTENSIVE MIGRATION PROCESSES

8.1 million people
were displaced across Europe
(UNHCR, February 2023)

5.4 million people
were internally displaced within Ukraine
with protracted (more than 6 month)
displacement prevalent
(IOM, January 2023)
more than 700 enterprises were forced to move to the western regions, only according to official data (Ministry of Reintegration, December 2022)

37% of Ukrainians lost their jobs during the war (Sociological Group “Rating”, September 2022)
Housing represents 37% of total damage, including more than 1.4 mln housing units affected; with 1/3 destroyed of these beyond repair (WB, March 2023).

Commerce and industry represent 8% of total damage, including both private and publicly-owned enterprises (WB, March 2023).

DIRECT DAMAGE – $135 BLN

Damage (US$ billion)
- < 1
- 1-5,9
- 6-9,9
- > 10

THE WORLD BANK
On June 6, the Kakhovska HPP was blown up by the Russian occupying forces.

Based on the preliminary estimates, more than 20 settlements (with more than 2,600 houses) were flooded.

More than 1,900 people have already been evacuated and the evacuation activities are underway.

At present, the average water level in Kherson is more than 5 meters above the normative value.

The average water level in Kherson is more than 5 meters above the normative value.

More than 30,000 residents without centralized water supply.

More than 170,000 residents without centralized sewage.

Based on the preliminary estimates, more than 20 settlements (with more than 2,600 houses) were flooded.

More than 1,900 people have already been evacuated and the evacuation activities are underway.

The average water level in Kherson is more than 5 meters above the normative value.

More than 30,000 residents without centralized water supply.

More than 170,000 residents without centralized sewage.

Based on the preliminary estimates, more than 20 settlements (with more than 2,600 houses) were flooded.

More than 1,900 people have already been evacuated and the evacuation activities are underway.

The average water level in Kherson is more than 5 meters above the normative value.

More than 30,000 residents without centralized water supply.

More than 170,000 residents without centralized sewage.

Based on the preliminary estimates, more than 20 settlements (with more than 2,600 houses) were flooded.

More than 1,900 people have already been evacuated and the evacuation activities are underway.

The average water level in Kherson is more than 5 meters above the normative value.
UKRAINE IS THE MOST MINED COUNTRY IN THE WORLD

In total, an area 4.5 times the size of Switzerland has been mined in Ukraine.

35% of the country’s territory is mined (170-180 thousand square km).

5.8% of agricultural land is mined.

Map of Ukrainian territories that could potentially be contaminated by explosive objects (State Emergency Service of Ukraine)
THE GOAL: TO RETURN UKRAINIANS HOME

<table>
<thead>
<tr>
<th>TASKS</th>
<th>ECO-ORIENTED FOCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demining of territories</td>
<td>Reduction of pollution of territories and their restoration</td>
</tr>
<tr>
<td>Provision of basic services</td>
<td>Implementation of environmentally friendly methods of heat supply, modernization of water supply and purification systems</td>
</tr>
<tr>
<td>Protection of critical infrastructure</td>
<td>Development of regional decentralized sources of co-energy generation</td>
</tr>
<tr>
<td>Housing reconstruction and construction</td>
<td>Energy-efficient and inclusive solutions, implementation of circular economy principles, recycling of building materials</td>
</tr>
<tr>
<td>Returning economic activity to communities</td>
<td>Provision of support at the state level for private business that works with sustainable green solutions, reorientation of the infrastructure market to modern standards in the field of environmental management</td>
</tr>
</tbody>
</table>

BASIS: DATA-DRIVEN POLICIES
**DIGITALIZATION OF GREEN SOLUTIONS**

**RDDP**
Register of damaged and destroyed property

**TASK:** to form a single official source of destruction data. In the future, these data will be used to substantiate the reparations that Ukraine will demand from the Russian Federation.

**DREAM**
Digital restoration ecosystem for accountable management

**TASK:** to create a single digital pipeline for reconstruction projects and ensures transparent and effective implementation of the projects at the national, regional and local levels

**Geoinformation system (GiS)**

**TASK:** to monitor situations in communities, data-based business support tools.

**DATA-DRIVEN POLICIES**

**Assessment of needs for building materials**

**Mechanisms for stimulating projects based on green solutions**

**Principles of sustainable development in state regional policy**
CIRCULAR ECONOMY PRINCIPLES

**Goal:** to increase the number of projects that will meet the principles of New European Bauhaus Compass

- use of financial instruments to encourage developers to use green and circular technologies
- informational support and promotion of green and circular construction projects among people who will choose new housing as compensation
NEW STANDARDS OF ENERGY EFFICIENCY AND INCLUSIVENESS

HOUSING

All new buildings will meet the new requirements for energy efficiency

- legislative requirements for energy efficiency have been improved and will be reviewed systematically

**Goal:** to reach EU standards and requirements

SOCIAL INFRASTRUCTURE

**New requirements for inclusiveness**

- new norms regarding the inclusion of all new buildings
- inclusive social infrastructure buildings
- inclusive public space
- new requirements for fire safety and evacuation schemes of buildings
GREEN AND AUTONOMOUS ENERGY SOLUTIONS

- Decentralization of the energy system and risk diversification
- Use of modern eco-oriented solutions
- Attracting investments in strengthening the capacities of communities
- Higher quality and lower price of energy services for the population

**TYPES OF GENERATION**

- Biomass energy generation
- Waste to energy
- Small hydro generation
- Geothermal electric and thermal plants

*Kamianets-Podilsky thermal power station (Khmelnytskyi region)*

The thermal power plant produces 42 MW of thermal energy and 4 MW of electrical energy.
Cooperation in improvement of state digital restoration tools in terms of green standards, reduction of corruption risks, effective regional policy.

Preparation and implementation of environmentally friendly distributed co-generation projects.

Development of state mechanisms to encourage business to use sustainable green technologies in restoration processes.

Painting by Maria Prymachenko (1909-1997)