

Strengthening Hazardous Waste Governance for a Green and Resilient Ukraine

From hazardous waste risks to safer reconstruction and green recovery

Irina Ghaplanyan, Senior Climate Change Specialist,
World Bank

Aref Kaal, Climate Change Specialist, World Bank



KGID
2026
SEJONG



Agenda

- **Why Hazardous Waste Management Matters Now**
RDNA, reconstruction, FCV context, and key risks
- **Project Overview and Design**
Project at a glance, policy/institutional support, and implementation logic
- **Priority Pollutants and Risk-Informed Planning**
PCBs, mercury, asbestos, GIIP HWM, data gaps, and risk planning
- **Expected Results and Partnerships**
Expected impact and collaboration with Korean partners
- **Lessons for Green and Resilient Recovery**
Broader lessons, green transition framing, and closing message

Why This Matters Now



- War-related destruction has increased exposure to hazardous pollutants from damaged infrastructure and buildings.
- Contaminants like PCBs, mercury, and asbestos pose serious risks to people, ecosystems, and reconstruction efforts.
- If unmanaged, hazardous waste can create long-term health, environmental, and economic liabilities that hinder Ukraine's sustainable recovery.
- Addressing hazardous waste now supports safe reconstruction, public health protection, and alignment with GIIP environmental standards.

RDNA5 and Reconstruction Framing

TOTAL RECOVERY NEEDS

\$588B

RDNA5 estimates Ukraine's recovery needs at nearly **\$588 billion**, with direct damage exceeding **\$195 billion**.

\$27.6B for Explosive Hazards

Health & Pollution Risks

Unsafe debris handling in housing, transport, and energy sectors can worsen hazardous pollution and public health risks.

Contamination Prevention

Strong systems prevent contamination from debris containing asbestos, PCBs, or mercury during demolition and rebuilding.

Governance & Resilience

Effective governance supports resilience and ensures alignment with international environmental standards.

FCV Context and Ukrainian Perspective

Urgent Environmental Governance Challenges

Ongoing conflict has severely disrupted environmental oversight, leading to uncontrolled hazardous waste generation and insufficient management frameworks during crisis conditions.

Risks to Communities and Ecosystems

Hazardous waste threatens vulnerable communities, frontline workers, and ecosystems, increasing health hazards and deterring future investment in affected regions.

Need for Practical Systems Amid Uncertainty

Ukraine requires adaptable, efficient hazardous waste governance systems that function effectively despite limited institutional capacity and evolving conflict-related risks.

Link to Climate, Green Growth, and Resilience



Climate-Smart Reconstruction Support

Hazardous waste governance directly enables reconstruction approaches that integrate climate adaptation and mitigation strategies.



Pollution and Health Risk Reduction

Proper waste management minimizes toxic exposures, limits contamination, and reduces long-term public health liabilities.



Circular Economy and GIIP Standards Alignment

Promotes resource recovery and cleaner processes, supporting alignment with international Environmental standards.

The Project at a Glance

The project builds Ukraine's capacity to safely manage priority hazardous pollutants through integrated policy, institutional, and technical support.



Project Name

Ukraine Hazardous Waste Management and Policy Development Project (P508568)



Financing & Agency

Funded by GEF and URTF.* Implemented by Ministry of Economy, Environment, and Agriculture of Ukraine.



Priority Pollutants

Focuses on the safe identification, storage, and disposal of **PCBs, mercury, and asbestos.**

*KGGTF is supporting the project through a TA

Project Design: From Policy to Implementation



Policy and Institutions

Develop national hazardous waste regulations, standards, and guidance aligned with Good International Industry Practice (GIIP).

Strengthen institutional coordination and government capacity for effective hazardous waste governance.



Data and Planning

Conduct inventory, mapping, and risk classification of priority pollutants.

Use integrated planning and feasibility studies to prioritize investments and guide safe hazardous waste management.



Demonstration Investments

Implement pilots for laboratory upgrades, safe handling, storage, transport, and disposal of PCBs, mercury, and asbestos.

Develop scalable models to inform national systems and future investments.

Why Focus on PCBs, Mercury, and Asbestos?

Polychlorinated biphenyls (PCBs)

Linked to damaged electrical infrastructure and legacy contamination, PCBs require safe identification, secure storage, and environmentally sound disposal to prevent toxic exposure and long-term environmental harm.

Mercury

Present in contaminated industrial sites and stockpiles, mercury poses severe health risks. It demands careful monitoring, containment, and management aligned with the Minamata Convention to protect people and ecosystems.

Asbestos

Widespread in damaged buildings and debris, asbestos fibers are hazardous when airborne. Testing capacity, safe handling protocols, and planned disposal are critical to reduce exposure during reconstruction and demolition.

Expected Results and Development Impact

Policy Alignment

Updated policies and regulations aligned with GIIP standards adopted to improve hazardous waste governance.

Waste Management

Safe management and disposal of PCBs, mercury, and asbestos in targeted sites and industries.

Pollutant Reduction

Reduced exposure to hazardous pollutants for workers, communities, and ecosystems through improved monitoring.

Capacity Building

Training for government staff, laboratory technicians, and emergency responders in hazardous waste management.

Institutional Strengthening

Enabling safer reconstruction and enhanced environmental governance.



KOREA OCCUPATIONAL SAFETY
& HEALTH AGENCY



Korea Environment
Corporation

Collaboration with Korean Partners

- Korean expertise in occupational safety and asbestos management supports safe handling and worker protection practices.
- Advanced laboratory testing, accreditation, and technical training from Korea enhance hazardous waste identification and monitoring capabilities.
- Experience in industrial waste management and circular economy solutions provides scalable, sustainable approaches for Ukraine's hazardous waste challenges.
- Knowledge exchange on modern environmental management systems fosters innovation and strengthens institutional capacity in conflict-affected settings.

Lessons for Green Transitions in Practice



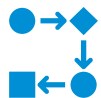
Broad Scope

Green transition extends beyond clean energy to include managing legacy pollution and conflict-related hazardous waste risks.



Robust Governance

Safe and sustainable reconstruction depends on robust environmental governance systems that prevent contamination spread and health risks.



Practical Models

Demonstration investments provide practical models that catalyze broader reforms and enable scalable solutions.



Strategic Partnerships

Multi-stakeholder partnerships are critical in FCV contexts to build capacity, share knowledge, and sustain progress.

Hazardous waste management
is the foundation for Ukraine's
safe, green, and resilient
recovery.