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Sustainable Wastewater Management as a pillar for the Recovery of Ukraine

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The logo for the UN Environment Programme (UNEP) is on the left, featuring the UN emblem and the text "UN environment programme". To its right is the logo for DHI (Danish Hydraulic Institute), featuring a stylized wave icon and the text "DHI". Below these logos, the text "UNEP-DHI CENTRE" is displayed in a bold, sans-serif font.

Scope of Assessment

Analysis of Ukraine's wastewater landscape:

- Recovery & reconstruction needs
- Population trends & pre-war context
- Water availability & climate change
- Urban-rural disparities & war impact
- Regulatory frameworks & EU alignment
- Austria, Denmark, Poland and Romania Case Studies

Key Outcomes:

- **7 Strategic Recommendations** for action
- **15 Priority Activities** proposed by UNEP to shift from strategy to implementation

Next Step: Final report to be delivered to the Government of Ukraine.





Key Findings

Wastewater contribution to Quality of Life

- Prerequisite for Ukrainian families' safe return home
- Disease prevention
- Reduced burden on health sector
- Public health as pillar of stable civil society



Energy Security

- Wastewater as a local heat source for district heating system
- Local energy source from produced biogas
- Reduced dependence on long-distance transmission
- Diversifies the local energy portfolio.
- Excess heat from wastewater can cover **20%** of urban heating demand
- Wastewater treatment plants can operate **energy-positive**, contributing to energy efficiency



Reducing resource scarcity and supporting climate mitigation

- Local fertilizer sources from recovered nutrients in wastewater
- Recycled water for irrigation and industrial uses
- Sustainable Wastewater Management for the future aligned with EU goals
- Efficient, energy-positive collection and treatment operations offset the WW sector's CO₂ footprint
- Wastewater treatment optimizations to reduce greenhouse gas emissions





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Calls to Action

Calls to Action for national **policy makers**:



Prioritize wastewater management, reuse, and resource recovery in the political agenda. Nothing can be achieved without political will.



Strengthen the institutions responsible for implementing, monitoring, compliance and enforcement of relevant policies. Their role is critical in Ukraine's building back better effort.



Attract and sustain investments and financing to support development and innovations in the wastewater sector. The investments pay off.



Foster opportunities for capacity building and learning across sectors and borders. Sharing local knowledge will favor the adoption of appropriate solutions.

For partners (including **donors, IGOs, IFIs and NGOs**), the main Calls to Action are:



Finance across sectors. Sector coupling increases resiliency and sustainability.



Support capacity building. Know-how promotes local ownership and sustains impact.

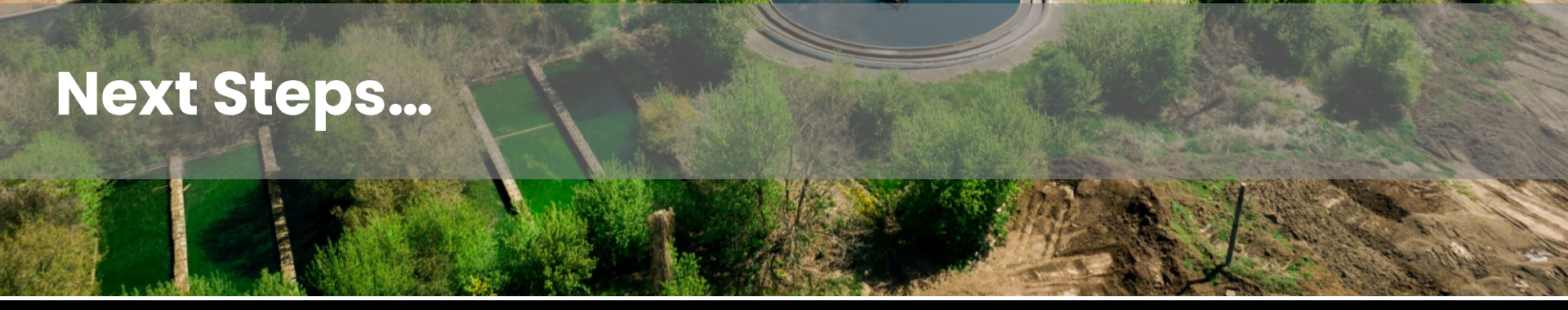


Facilitate collaboration between partners and distribution of support through creation of a database of current and planned projects and activities by international organizations, like MDBs and UN, to support sustainable wastewater management and capacity-building.



Photo: Aleksander via Adobe

Next Steps...



Let's Make It Happen:

- **UNEP proposes 15 initial services/products** to aid Ukraine's sustainable wastewater transition within its recovery & reconstruction.
- **Call: Ukrainian authorities & donors are invited to review, refine, or expand** this portfolio to match urgent national needs.
- **UNEP & partners** are committed - **resource permitting** - to helping Ukraine become a **global model** of sustainable, post-war recovery.

Vision: Lasting benefits for people, the environment, and the economy through innovative wastewater solutions.

	Impact	Time	Effort	Cost
Advising best practices in wastewater regulations				
<i>Guidelines for discharge and monitoring permits</i>	Very high	1 year	↗↗	€€
<i>Industrial pretreatment program concept and capacity building for regulators and enforcement</i>	High	6-9 months	↗	€€
Unlocking financing for sustainable wastewater infrastructure				
<i>Master plan for city collection system and WWTP</i>	Very high	1 year	↗↗↗	€€€
<i>Asset management plan with digitalized mapping</i>	Very high	2 years	↗↗↗	€€€
Strengthening Ukraine's capacity for action				
<i>Fact-finding tour for officials and operators</i>	High	3-6 months	↗	€€
<i>On-site operator and plant manager trainings - automation and digital process optimization</i>	Medium	3-6 months	↗↗	€€
<i>Webinar on relevant technical or regulatory topics</i>	Medium	1 month	↗	€
Providing technical expertise for appropriate projects				
<i>Energy-positive WWTP management</i>	Very high	3-6 months	↗↗	€€
<i>Implementation roadmap for nutrient recovery</i>	Very high	6-9 months	↗↗	€€€
<i>Feasibility study for local water re-use system</i>	High	6-9 months	↗↗	€€
Advancing digitalized data collection and mapping				
<i>Micropollutants sampling and local environmental assessment</i>	High	6-9 months	↗↗	€€
<i>Efficiency and benchmarking of local operations</i>	High	3-6 months	↗↗	€€
<i>Receiving water quality mapping and assessment</i>	High	1 year	↗↗	€€€
<i>National digital monitoring system</i>	Very high	2 years	↗↗↗	€€€€
Promoting awareness and behavioral change for long-term prosperity				
<i>Transparency and open communication across activities to build trust, ownership and support</i>	Very high	Continued		Priceless



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Thank you!



See the **full report** in English.

See the **full report** in **Ukrainian**.

