unicef | for every child

TERMS OF REFERENCE FOR INDIVIDUAL CONSULTANTS

TITLE	**International consultant for technical assistance for WASH scalable pilots in Ukraine: for the optimization and modernization of Ukrainian water utilities, and enhancing energy efficiency, citizen engagement and recovery measures in the sector**	
Requesting Section	WASH	

Background:

Even before the escalation of the conflict in February 2022, approximately 10 million people in Ukraine lacked access to centralized piped water supply, and 20 million people lacked access to centralized wastewater collection and treatment facilities (GoU, 2021). The water and sanitation facilities are overall old and decaying, and both drinking water supply and wastewater treatment depend on this heavily degraded infrastructure, mostly built during the Soviet times. By 2021, around 40% of existing networks were in critical condition and almost 35% of sewage treatment facilities needed upgrades (GoU 2021). The scale of this vulnerability has been significantly exacerbated with the war, as expected. As per the Rapid Damage and Needs Assessment, between February 2022 and February 2023, the estimated physical damage for the water supply and sanitation sector stands at US$2.2 billion. Most of the damage has been observed in larger physical infrastructure like wastewater treatment plants, water supply and wastewater collection networks, and drinking water treatment plants and facilities. Losses have been estimated at approximately US$7.5 billion, more than 40% of which are from lost revenues, with the next biggest losses incurred due to increased energy costs, and then increased fuel consumption, increased prices of materials and equipment, tariff deficits, etc.

Most of the responsibility to supply safe drinking water supply falls on Ukrainian vodokanals (water utilities), which according to the National Vodokanal Association, are estimated to be approximately 2,550 utilities, as of December 2023.
The size of water supply and sewage systems (pipelines, pumping stations, treatment plants, etc.) is on an average 2.5 times larger than the existing needs (Vodokanal Association 2023). The average water loss among the largest utilities is 41.1% (data from the National Tariff Regulator). Only 30% of the water supply systems are equipped with commercial water meters. The vodokanals are facing significant challenges, compounded with the losses due to lost revenues, increased energy costs, increased fuel consumption, increased prices of materials and equipment, tariff deficits, etc. Also given the pre-existing vulnerabilities and deteriorating infrastructure, there is an urgent need to strengthen the capacity in vodokanals for more efficient working to counteract the damages and losses, as well as modernise and optimize them towards an eventual recovery path and integration of Ukraine into the European Union.

Working through field offices, in 2024, UNICEF seeks to reach over 1.5 million people with critical WASH supplies, ensure approximately 4.5 million people access safe water and sanitation services from public utilities, and ensure child-friendly, gender-sensitive and inclusion WASH facilities in 260 social institutions. Additionally, UNICEF coordinates humanitarian and development partners for WASH response and recovery, generates awareness on hygiene and environmental sustainability, supports scalable models for improved WASH service delivery and governance, engages in capacity development, and bases its infrastructure intervention on environmental and social safeguards.

In 2024-2025, one of the prominent lines of work for UNICEF is towards early recovery with evidence generation and knowledge management to inform legislative and policy works of the Government of Ukraine, in line with EU accession, to coordinate and help inform further investments and interventions by donors and international organizations, and to pilot scalable models. These are innovative small-scale interventions that bring added value to the sector, and that can be scaled up to rayon, oblast or even country level. Scalable models are not limited to hardware supply; they imply strong technical and global expertise, innovation, documentation, and dissemination components, and in this particular case, are geared towards better governance, energy efficiency and independence, reduction of non-revenue water, decentralized water and wastewater treatment, digitalization, climate resilience, and social accountability amongst others. To this end, the planning, design and supervised implementation of these pilot initiatives, along with supporting evidence generation, knowledge management, monitoring and reporting becomes critical, while bringing the added value of global and technical expertise, constitutes the core of this consultancy.

Scalable models thematic areas: Several scalable models are currently in UNICEF's WASH pipeline with varying levels of progress and being managed at decentralized level by the respective Field Offices in Ukraine, covering diverse areas related to municipal water supply and sanitation. Some of these models include (but are not limited to) biological Iron removal from groundwater, smart water metering for NRW reduction, provision of mechanical screens for sustainable and durable wastewater treatment, decentralized wastewater treatment with waste stabilization ponds, modernization of pumping stations and adoption of variable frequency drives and remote operation technologies, solar energy for vodokanal pumping equipment, and recovery roadmaps for frontline cities. The consultant will focus on 8 scalable models during this contract, selected from the 16 currently under development, based on their critical importance to both UNICEF and the donor. These models have been prioritized due to their potential impact and alignment with strategic objectives of the overall program. The list of scalable models may be adjusted throughout the assignment as necessary.

Purpose of assignment:

The selected consultant will act as UNICEF's technical reference point for the various tracks of scalable models, providing documented global and technical expertise from concept to implementation and dissemination of results. The consultant will provide technical assistance to respective Field Offices for the implementation of relevant models. The role will accordingly include the execution of the following tasks:

- Evaluate technical documentation: review calculations, bills of quantities, provide technical evaluation for related vendors and service providers, etc.
- Establish baseline: The impact of the scalable models is assessed through the perceived improvement on its application field (e.g. an increase in energy efficiency, a reduction in water losses, a higher satisfaction in the consumers, improved water quality, etc.). In order to evaluate such improvement, the consultant will guide UNICEF's technical team to determine the respective baselines.
- Assist implementation: Liaise with UNICEF technical team and involved partners (private sector, academia, NGOs, International Organizations, etc.) and facilitate the discussion regarding the specific details of the implementations, such as optimal location of the scalable model, budget, size, objectives, timeframe, expected outputs, beneficiaries, etc.
- Technical visits: The consultant is expected to pay technical visits to the scalable model sites on a periodic basis to evaluate the progress of the implementation.
- Documentation: The consultant will keep a detailed record of all the milestones in the scalable model implementation process, as well as of the analytical data gathered from the implemented models.
- Publication and dissemination: The consultant will be tasked with the publication and dissemination of results derived from the implemented scalable models in reputed international journals relevant to the Water and Sanitation field and humanitarian action, with the purpose of leveraging their upscaling at national level and encouraging vodokanals to replicate the initiatives. In agreement with UNICEF's WASH Programme Manager, outstanding models will be selected, and up to four publications will be produced.

Methodology:

During the performance of the duties, the consultant will compile information from a variety of sources, which will depend on the type of scalable model as well as its implementation progress (see deliverables).

i. **Design Documentation:** Design documentation in the form of blueprints, Bills of Quantities (BoQs), technical and financial offers from bidders, Terms of reference (ToRs), permits , Environmental Safety Management Plan (ESMP) and other relevant information will be collected by the consultant from the FOs WASH teams, partners, ESMP focal point, bidders, municipal authorities, and any other source deemed relevant for the models' implementation.

ii. **On-line and off-line coordination meetings:** The consultant is expected to liaise between UNICEF and several partners, for which frequent coordination meetings will be required, either between the consultant and UNICEF WASH staff alone, or including other partners such as government authorities, vodokanal representatives, private sector, NGOs, International Organizations, etc. These meetings will be held in person or online, depending on the location of the involved parties at the time of the meeting. In either case, detailed minutes of the meetings will be kept by the consultant.

iii. **Key Informant Interviews (KII):** These may be in-person interviews, phone calls, video calls or surveys, with people in key positions in ministries, governmental agencies, the Vodokanal Association or individual vodokanals, municipal authorities, or even people within a certain community (community leaders, residents, professionals, etc.) who have firsthand knowledge about the communities' activities and behavior. KIIs will be instrumental to determine the relation between the community and the implemented model, and in particular the community's perception of the benefits brough along by the model. With the assistance of the local FOs who will aid with the identification of the most valuable actors for the task, the consultant will build a KII contact network. At least one KII is expected to provide an input for each implemented scalable model.

iv. **Site visits:** The consultant is expected to visit the sites periodically in order to evaluate the progress of the implementations, collect relevant documentation, evaluate the compliance with the Environmental Safety Management Plan (ESMP), meet with relevant authorities and partners, and document the advance with photographs or video evidence when required. In locations that have begun their operation, the consultant will retrieve the pertinent data towards determining the improvement as compared to the determined baseline (type of data is case specific). The consultant is expected to conduct at least 1 site visit to each project site during the development of each deliverable, or a total of 3 visits during the extent of the consultancy. Respective Field Offices will coordinate in advance with the consultant to facilitate transport and arrange the requested meetings.

Minimum requirements:	**Education** *[specify disciplines]*	Master's degree	An MSc. degree in the field of Sanitary Engineering, Water Supply, or related disciplines is considered mandatory. A PhD in any of the aforementioned disciplines will be considered advantageous.
	Professional experience *[number of years, relevant to the assignment, other specifics]*	• 12 or more years of general experience in the field of water and sanitation, with at least 6 years of international experience including working with foreign experts and international donors. • Work experience with UN organizations will be considered advantageous. • Previous experience in Ukraine, in the WASH sector, is mandatory. • 3 or more scientific publications on any field under his/her name.	
	Language	English	Proficient/Native [C2]
		Ukrainian	is an advantage
	Skills and competencies	• Demonstrable technical knowledge in the following areas is mandatory: municipal water supply, municipal wastewater treatment (centralized and decentralized), non-revenue water, sustainable water management, and related disciplines.	

Work assignment overview:

Deliverable	Deadline	# of w/days
Deliverable 1: Inception report The inception report will include a workplan, a list of product/deliverables and materials, a schedule of site visits, the topics for scientific publications (for knowledge dissemination purposes) and timelines for the consultancy.	15-Nov-24	5
Deliverable 2: Baseline assessment/profile for scalable model #1 The baseline assessment/profile will include a technical description of the model, including design documents/blueprints, BoQs, relevant calculation, schedule for implementation and a results framework. The consultant will establish the assessment baseline, using a pre-established template, in consultation with relevant section officers and stakeholders. The activities would require travelling to the sites of the scalable model and meetings with relevant stakeholders.	15-Dec-24	5
Deliverable 3: Baseline assessment/profile for scalable model #2 The baseline assessment/profile will include a technical description of the model, including design documents/blueprints, BoQs, relevant calculation, schedule for implementation and a results framework. The consultant will establish the assessment baseline, using a pre-established template, in consultation with relevant section officers and stakeholders. The activities would require travelling to the sites of the scalable model and meetings with relevant stakeholders.	15-Dec-24	5
Deliverable 4: Baseline assessment/profile for scalable model #3 The baseline assessment/profile will include a technical description of the model, including design documents/blueprints, BoQs, relevant calculation, schedule for implementation and a results framework. The consultant will establish the assessment baseline, using a pre-established template, in consultation with relevant section officers and stakeholders. The activities would require travelling to the sites of the scalable model and meetings with relevant stakeholders.	31-Dec-24	5
Deliverable 5: Baseline assessment/profile for scalable model #4 The baseline assessment/profile will include a technical description of the model, including design documents/blueprints, BoQs, relevant calculation, schedule for implementation and a results framework. The consultant will establish the assessment baseline, using a pre-established template, in consultation with relevant section officers and stakeholders. The activities would require travelling to the sites of the scalable model and meetings with relevant stakeholders.	31-Dec-24	5
Deliverable 6: Baseline assessment/profile for scalable model #5 The baseline assessment/profile will include a technical description of the model, including design documents/blueprints, BoQs, relevant calculation, schedule for implementation and a results framework. The consultant will establish the assessment baseline, using a pre-established template, in consultation with relevant section officers and stakeholders. The activities would require travelling to the sites of the scalable model and meetings with relevant stakeholders.	31-Dec-24	5
Deliverable 7: Baseline assessment/profile for scalable model #6 The baseline assessment/profile will include a technical description of the model, including design documents/blueprints, BoQs, relevant calculation, schedule for implementation and a results framework. The consultant will establish the assessment baseline, using a pre-established	20-Jan -25	5

template, in consultation with relevant section officers and stakeholders. The activities would require travelling to the sites of the scalable model and meetings with relevant stakeholders.		
Deliverable 8: Baseline assessment/profile for scalable model #7 The baseline assessment/profile will include a technical description of the model, including design documents/blueprints, BoQs, relevant calculation, schedule for implementation and a results framework. The consultant will establish the assessment baseline, using a pre-established template, in consultation with relevant section officers and stakeholders. The activities would require travelling to the sites of the scalable model and meetings with relevant stakeholders.	25-Jan -25	5
Deliverable 9: Baseline assessment/profile for scalable model #8 The baseline assessment/profile will include a technical description of the model, including design documents/blueprints, BoQs, relevant calculation, schedule for implementation and a results framework. The consultant will establish the assessment baseline, using a pre-established template, in consultation with relevant section officers and stakeholders. The activities would require travelling to the sites of the scalable model and meetings with relevant stakeholders.	31-Jan -25	5
Deliverable 10: Completion report/package for scalable model #1 The completion report will comprise a fully integrated package, that includes: – Final report: Description of the scalable model initiative, the selected projects and their singularities, the process of implementation and the obtained results. Specific sections for each project will be included, describing the situation to be addressed (description, beneficiaries, baseline), technical description of the solution, partners and their interactions, results, troubleshooting, cost of the intervention, and upscaling projections. – 1-pager for each of the models, describing the project, the implementation process, results, estimated cost and upscaling cost-estimates.	31-Mar-25	10
Deliverable 11: Completion report/package for scalable model #2 The completion report will comprise a fully integrated package, that includes: – Final report: Description of the scalable model initiative, the selected projects and their singularities, the process of implementation and the obtained results. Specific sections for each project will be included, describing the situation to be addressed (description, beneficiaries, baseline), technical description of the solution, partners and their interactions, results, troubleshooting, cost of the intervention, and upscaling projections. – 1-pager for each of the models, describing the project, the implementation process, results, estimated cost and upscaling cost-estimates.	31-Mar-25	10
Deliverable 12: Completion report/package for scalable model #3 The completion report will comprise a fully integrated package, that includes: – Final report: Description of the scalable model initiative, the selected projects and their singularities, the process of implementation and the obtained results. Specific sections for each project will be included, describing the situation to be addressed (description, beneficiaries, baseline), technical description of the solution, partners and their interactions, results, troubleshooting, cost of the intervention, and upscaling projections. – 1-pager for each of the models, describing the project, the implementation process, results, estimated cost and upscaling cost-estimates.	30-Apr-25	10
Deliverable 13: Completion report/package for scalable model #4 The completion report will comprise a fully integrated package, that includes: – Final report: Description of the scalable model initiative, the selected projects and their singularities, the process of implementation and the obtained results. Specific sections for each project will be included, describing the situation to be addressed (description, beneficiaries, baseline), technical description of the solution, partners and their interactions, results, troubleshooting, cost of the intervention, and upscaling projections.	30-Apr-25	10

– 1-pager for each of the models, describing the project, the implementation process, results, estimated cost and upscaling cost-estimates.		
Deliverable 14: Completion report/package for scalable model #5 The completion report will comprise a fully integrated package, that includes: – Final report: Description of the scalable model initiative, the selected projects and their singularities, the process of implementation and the obtained results. Specific sections for each project will be included, describing the situation to be addressed (description, beneficiaries, baseline), technical description of the solution, partners and their interactions, results, troubleshooting, cost of the intervention, and upscaling projections. – 1-pager for each of the models, describing the project, the implementation process, results, estimated cost and upscaling cost-estimates.	31-May-25	10
Deliverable 15: Completion report/package for scalable model #6 The completion report will comprise a fully integrated package, that includes: – Final report: Description of the scalable model initiative, the selected projects and their singularities, the process of implementation and the obtained results. Specific sections for each project will be included, describing the situation to be addressed (description, beneficiaries, baseline), technical description of the solution, partners and their interactions, results, troubleshooting, cost of the intervention, and upscaling projections. – 1-pager for each of the models, describing the project, the implementation process, results, estimated cost and upscaling cost-estimates.	31-May-25	10
Deliverable 16: Completion report/package for scalable model #7 The completion report will comprise a fully integrated package, that includes: – Final report: Description of the scalable model initiative, the selected projects and their singularities, the process of implementation and the obtained results. Specific sections for each project will be included, describing the situation to be addressed (description, beneficiaries, baseline), technical description of the solution, partners and their interactions, results, troubleshooting, cost of the intervention, and upscaling projections. – 1-pager for each of the models, describing the project, the implementation process, results, estimated cost and upscaling cost-estimates.	30-June-25	10
Deliverable 17: Completion report/package for scalable model #8 The completion report will comprise a fully integrated package, that includes: – Final report: Description of the scalable model initiative, the selected projects and their singularities, the process of implementation and the obtained results. Specific sections for each project will be included, describing the situation to be addressed (description, beneficiaries, baseline), technical description of the solution, partners and their interactions, results, troubleshooting, cost of the intervention, and upscaling projections. – 1-pager for each of the models, describing the project, the implementation process, results, estimated cost and upscaling cost-estimates.	30-June-25	10
Deliverable 18: Two scientific Publications 2 scientific publications will be produced by the consultant, describing the scalable model approach, the problematic, objectives, procedure and results. The specific content of the publications, as well as the list of authors, specific content, message will be agreed during the inception phase between the consultant and UNICEF's WASH Programme Manager. Submission confirmation of the 2 scientific publications to selected journals* *Note*: The process of publishing a scientific article can be lengthy and could eventually exceed the timeframe of the consultancy depending on the journal and the complexities of the peer-review process. Because of this, the consultant will be expected to submit the drafts of the publications to the agreed journals, indicating as corresponding author an appointed team member of UNICEF's WASH team.*	31-August-25	10
	Sub-total:	**135**

***Travel plan:**

Destination	Period *[month, year]*	Costs for living
		Days
Destination TBD within Ukraine in UNICEF WASH AOR (Field Office AORs) – 10 trips	Nov 2024 – Aug 2025	3*10 = 30
Travel to duty station at beginning of contract	Nov 2024	2
Round trip leave from and back to duty station	Nov 2024 - Aug 2025	2+2 = 4
Travel from duty station at end of contract	Aug 2025	2
	Total:	**30**

---

[1] Costs indicated are estimated. Final rate shall follow the "best value for money" principle, i.e., achieving the desired outcome at the lowest possible fee. Consultants will be asked to stipulate all-inclusive fees, including lump sum travel and subsistence costs, as applicable.

Payment of professional fees will be based on submission of agreed deliverables. UNICEF reserves the right to withhold payment in case the deliverables submitted are not up to the required standard or in case of delays in submitting the deliverables on the part of the consultant

Text to be added to all TORs:
Individuals engaged under a consultancy will not be considered "staff members" under the Staff Regulations and Rules of the United Nations and UNICEF's policies and procedures and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants. Consultants are responsible for determining their tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws.

The selected consultant is solely responsible to ensure that the visa (applicable) and health insurance required to perform the duties of the contract are valid for the entire period of the contract. Selected consultant are subject to confirmation of fully-vaccinated status against SARS-CoV-2 (Covid-19) with a World Health Organization (WHO)-endorsed vaccine, which must be met prior to taking up the assignment. The vaccine mandate, does not apply to consultants who will work remotely and are not expected to work on or visit UNICEF premises, programme delivery locations or directly interact with communities UNICEF works with, nor to travel to perform functions for UNICEF for the duration of their consultancy contracts.

UNICEF offers reasonable accommodation for consultants with disabilities. This may include, for example, accessible software, travel assistance for missions or personal attendants. We encourage you to disclose your disability during your application in case you need reasonable accommodation during the selection process and afterwards in your assignment.