

## Terms of Reference

### **Baseline assessment and recommendations for non-revenue water (NRW) reduction in Livingstone, Zambia.**

**Project: Sustainable access to clean water for residents in climate vulnerable towns of Southern Zambia**

#### 1. About Water and Sanitation for the Urban Poor (WSUP)

Water & Sanitation for the Urban Poor (WSUP) is a not-for-profit company that helps transform cities to benefit the millions who lack access to water and sanitation.

We were created in 2005 as a response to the urban explosion that has left many cities unable to provide basic services, such as access to a toilet or drinking water, to low-income communities.

We work alongside local providers, enabling them to develop services, build infrastructure and attract funding so that they can reach low-income communities.

To ensure that services can reach as many people as possible, and will exist over the long-term, we have a strong focus on financial viability. This means working with utilities and businesses to build services which generate revenue whilst reaching the most vulnerable urban residents, and advising regulators and governments on how to create an environment which enables businesses to succeed.

We work in seven countries in sub-Saharan Africa and Asia, supported by an office in the UK. As the urban specialist in water and sanitation, we are committed to sharing evidence and approaches so that our innovations can enable change around the world.

Since inception we have helped over 30 million people access improved water, sanitation and hygiene services.

To learn more about our values, please see [www.wsup.com/about/work-with-us/](http://www.wsup.com/about/work-with-us/).

For more information about WSUP's vision and approach, see [www.wsup.com](http://www.wsup.com).

#### 2. About the project

WSUP has received funding from the Pictet Group Foundation to improve sustainable access to clean water for residents of Ngwenya and Messenger low income communities of Livingstone, Southern Zambia. This will be achieved through making a contribution to strengthening the capacity of the utility, Southern Water Supply and Sanitation Company

(SWSC), in Livingstone to tackle high rates of non-revenue water (NRW) caused by leakages in the network and non-payment for water used. We will do this by;

1. Repairing part of the infrastructure,
2. Introducing smart technology to monitor and manage water pressure in the system,
3. Improving metering, billing accuracy and collection,
4. and training utility staff to detect and address leakages in the system.

Improved network management will result in increased hours of supply of good quality water for residents of the low-income communities as well as ensuring there is more water in the system to benefit a wider area. The project is ongoing now, up to October 2025, targeting to reach 16,000 residents of Ngwenya and Messenger with improved or new access to clean and safe water.

### 2.1. SWSC Background

WSUP works in partnership with SWSC to improve delivery of water and sanitation services and hygiene awareness to low-income communities in Livingstone. In 2019, WSUP supported SWSC to assess the NRW status and generate designs for District Metered Areas (DMAs) and to formulate an implementable utility wide NRW strategy. However, this has been challenging for SWSC to progress due to financing challenges, the effect of COVID-19 on working practices and increasing stresses due to increasingly frequent droughts. This project therefore aims to update the status of data gathered in 2019 and demonstrate the value of reducing both physical and commercial losses in providing improved services for all and extending water coverage to low income areas. It is hoped that this assignment will build from efforts and results of the initial NRW assessment conducted in 2019 and inform the subsequent NRW strategy formulation and implementation.

## 3. Services required under this assignment

This assignment is for an NRW status assessment of Livingstone city, and development of evidence-based recommendations to reduce NRW so that the targeted LICs can experience improved water supply service.

WSUP engaged a consultant 3 years ago to provide a report on the status of NRW in Livingstone, Zambia. WSUP is looking for a consultancy to build on the knowledge gathered in that report by;

1. Assessing and updating the current status of Livingstone water network.
2. Identifying the most appropriate areas of the network that once repaired or upgraded, have the potential to reduce NRW in the aim of providing residents of Ngwenya and Messenger with an improved water supply of safely managed by the JMP ladder measures.

Baseline measures are required at both the Livingstone water provisions and the targeted community areas so that the success of the project can be reported at the end of the project.

The consultant is required to:

1. Review the current status of SWSC infrastructure and record keeping in Livingstone, updating figures/parameters recorded in the NRW Baseline Assessment Report produced by Iliso Consulting in 2019 including a city level water balance. **This document will be provided to interested consultants upon request.**
2. Work with SWSC to review the status of District Metered Areas (DMA) in Livingstone.
3. Work with SWSC to review progress against SWSC's current NRW action plan.
4. Produce additional specified metrics at both the city-level and target communities of Ngwenya and Messenger in order to produce project baseline information that can be reviewed at endline in October 2025.
5. Recommend priority areas for water network rehabilitation (including all fittings and appurtenances) and Intelligent water network installations that will improve hours of water supply in Ngwenya and Messenger LICs throughout the year.
6. Assess SWSC's current institutional NRW management capacity and perceived confidence and propose core areas for staff capacity investment using the International Water Association (IWA) Tool.

### 3.1. Key activities and deliverables

#### **3.1.1 Review the NRW reports and strategy documents available and produce an Inception Report**

The Consultant is required to review the following documentation on NRW status and management in SWSC:

- ILISO: Baseline Assessment of Infrastructures and Systems of Non-Revenue Water (NRW) for SWSC in Livingstone
- ILISO: Design of DMAs report
- Works conducted under the VEI-SWSC Partnership on NRW
- SWSC NRW Strategy
- Available SWSC billing information
- SWSC GIS System status

The Consultant should submit an Inception Report providing a detailed methodology and timelines for activities for tasks outlined below.

#### **3.1.2 Update the NRW Baseline Assessment Report as produced by ILISO in 2019**

The Consultant is expected to update the existing NRW Baseline Assessment Report to reflect current status of infrastructure and systems. WSUP will facilitate engagement of the Consultant with SWSC in order to collect the necessary data. A draft report should be provided to WSUP for review and feedback before finalisation.

In addition to updating figures within the report, the consultant will be required to:

##### **3.1.2.1 Review progress of SWSCs implementation of DMAs and NRW Strategy :**

The consultant is expected to work with SWSC to review progress of implementation of existing designs of District Metering Areas (DMAs) for the water supply network in

Livingstone city and determine the priority DMA to establish under the project in order to improve water supply to Ngwenya and Messenger low income communities.

The consultant should also work with SWSC to understand any progress made towards achievement of their NRW Strategy and to understand what is driving or blocking progress.

It is a requirement that the consultant actively works with key staff within SWSC to ensure ownership of the process. As such, the consultant is expected to hold a series of meetings and/or workshops with SWSC staff and its partners during key stages of this task.

### **3.1.2.2. Assess SWSC's Institutional NRW Capacity and Confidence**

The Consultant is required to assess SWSC's institutional NRW capacity in the following ways:

- Use a comparable tool to repeat the assessment of SWSC's current institutional NRW management capacity as conducted in 2019.
- Assess the perceived confidence of WSUP-identified SWSC staff in NRW
- Based on the above, propose core areas for staff capacity investment for reducing NRW.

These findings should be updated in the ILISO 2019 NRW Baseline Assessment Report which should be provided in draft format to WSUP for review. In addition, the consultant is expected to hold a 1 hour online presentation with core WSUP staff from Zambia and the Secretariat to present main findings.

### **3.1.3 Produce additional figures at both city-level and for the target communities**

Separate to updating the ILISO report, the following figures are requested from the consultant:

<b>Data required (On a monthly basis over the last 5 years where applicable)</b>	<b>City level</b>	<b>Target Communities – Ngwenya and Messenger</b>
Water Balance	X	X
Water Production	X	
Water distribution by supply area or zones	X	
Hours of Supply	X (By Zones or supply areas)	X
Water quality	X (Rising main)	X
Water Service Coverage	X	X
Number of bursts by distribution line and rising main	X	
Energy pumping costs	X	
Chemical treatment costs	X	
Pressure & flow profile per distribution line	X	X

No. and location of meters on distribution line and rising main	X	
Metering ratio		X

### **3.1.4. Produce Recommendations Report**

1. The Consultant will be required to produce a short (no more than 15 pages) report and a PowerPoint presentation.

This presentation/ report should include:

- Prioritisation of network repairs and rehabilitation to ensure improved supply to target LICs of Ngwenya and Messenger
- What development/capacity is required of SWSC staff to maintain new network
- Identification of baseline KPIs against which to show project progress

## **4. Application process**

### **4.1 Bidding Procedure**

Bids should be submitted to the Senior Country Manager at [wsupzambia@wsup.com](mailto:wsupzambia@wsup.com) before **5pm Zambia time on Thursday 9<sup>th</sup> February, 2023**. The bid document should contain the following:

- i. Name of lead bidding organisation/Individual
- ii. Name and email of primary contact if different from the Lead for the bid/organization
- iii. Summary of relevant experience of lead organisation/consultant and other participating organisations or key individuals
- iv. Statement of understanding of the objectives and requirements for this assignment on a maximum of 2 pages including proposed approach and a provisional work schedule for the tasks, clearly indicating task dependencies, duration, days spent in Livingstone, meetings and workshops.
- v. A financial proposal including the following:
  - a. Consultant's fees comprising the day-rate and a detailed listing of day allocations to different task components (as listed in part D). The day rate should be inclusive of all taxes including With-Holding Tax (WHT).
  - b. All required expenses including transport, accommodation, and associated costs
  - c. Any envisaged costs for equipment required such as table meter reading equipment, data logging, etc
- vi. Examples of previous work

- vii. Individual CV(s) or company profile of no more than two pages per CV. Please provide all CVs including the lead consultant who will take primary responsibility for the design and management oversight of this assignment and any sub-contracted participants, with participants named as far as is possible.

Note that late submissions will not be considered unless mitigating circumstances acceptable to WSUP are communicated to WSUP before the deadline.

#### 4.2 Criteria for Bid Selection

Bids will be scored based on the following criteria:

Criteria	Weight (Points)
Adherence to requirements for bid requirements and demonstration of clear understanding of the purpose and objectives of this assignment.	15
Quality and appropriateness of team as evidenced by the organization/individual profile and CVs	20
Strength of methodological proposal	30
Overall assessment of likely quality of work	15
Value for money	20

#### 4.3 Pre-submission

WSUP reserves the right to negotiate the scope and pricing to best ensure that the services required meets value for money standards and will be delivered within the available budget. We are very happy to respond to clarification queries of any sort prior to bid submission: please email [akazora@wsup.com](mailto:akazora@wsup.com) and copy [wsupzambia@wsup.com](mailto:wsupzambia@wsup.com). Where WSUP considers that the response to a query should (for reasons of fairness) be shared with all potential bidders who have expressed prior interest, we will do so by emailing all bidders who have already contacted us to express an interest in bidding.

## 5. Schedule of Work

This Consultancy must conclude by the end of April 2023. The successful consultant should ensure sufficient capacity and availability within this timeline. The following deliverables are expected from the Consultant, with the suggested timelines;

Milestone/ Deliverable	Date
Inception Report	28 <sup>th</sup> February 2023
Draft updated NRW Baseline Assessment Findings Report and additional baseline figures	28 <sup>th</sup> March 2023

Presentation of key findings from updated NRW baseline assessment report to WSUP	7 <sup>th</sup> April 2023
Draft Recommendations Report	7 <sup>th</sup> April 2023
Feedback by client on Report and baseline figures	14 <sup>th</sup> April 2023
Presentation of recommendations to WSUP and feedback by client on draft recommendation report	20 <sup>th</sup> April 2023
Final updated NRW Baseline Assessment Findings Report and Recommendations Report	28 <sup>th</sup> April 2023

## 6. Required Skills and Experience

It is highly recommended that bidders submit examples of previous work to demonstrate skills, alongside CVs of core team members, and the financial information specified in section (4). In addition, core team members will be expected to demonstrate:

- i. Post-graduate degree level with specialist training in Non-Revenue Water ;
- ii. Demonstrable experience in water network design
- iii. Track record of undertaking similar surveys and assignments within the water sector. Experience in Zambia water sector will be an added advantage;
- iv. Demonstrated experience in report development preferably for donor funded projects; and
- v. Excellent skills in GIS, MS Word, Excel and PowerPoint

## 7. Reporting and liaison

The consultant will work with and report to WSUP Projects Coordinator who in turn reports to the WSUP Zambia Senior Country Manager. Please send all queries to [akazora@wsup.com](mailto:akazora@wsup.com) and [wsupzambia@wsup.com](mailto:wsupzambia@wsup.com). The consultant is expected to work closely with and interact on a continuous basis with the WSUP Projects Coordinator and SWSC Networks Engineer and Water Demand Officer.

## 8. Contract Terms & Conditions

A standard WSUP consultancy agreement format will be used, subject to the supplier's agreement with the terms and conditions. Where the bidder is a consortium, the contract will be signed with a single prime contact.

### 8.1 Budget

The budget ring-fenced for this assignment is **GBP 13,000 inclusive of VAT (Sales tax)** or other taxes as required by the laws of Zambia.

### 8.2 Terms of Payment

Subject to satisfactory performance as deemed by WSUP, payment will be processed as below:

<b>Milestone/Deliverable</b>	<b>Payment</b>
Inception Report	40%
Draft Recommendations Report	30%
Final Reports and Figures	30%

All payments will require prior invoicing and would be made through bank transfers upon receipt of a valid invoice by WSUP standards. All invoices should be submitted to WSUP Projects Coordinator who will check and approval them to the WSUP Zambia Finance Manager