IWA Climate Smart Utilities

Recognition Programme

Framework & Guidelines 2024

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1. Introduction

The 2015 Paris Agreement on Climate Change set a goal of limiting global warming to well below 2 degrees Celsius (preferably 1.5 degrees) compared to pre-industrial times. Unfortunately, the world is not on track. Experts estimate a 20% chance that global warming could reach 1.5 degrees within the next five years if current conditions persist. By the end of the century, warming may even reach 4 degrees or more. **Urgent action is required to avoid catastrophic consequences. We are in a race against time, and the only way to win is by acting together.**

Urban water management, including water and sanitation services for city dwellers, is one of the urban services most affected by climate change. This threatens the capacity of service providers to deliver safe water, protect rivers and oceans, as well as protect people and assets from flooding, in alignment with the Sustainable Development Goals (SDGs). Utilities, the most common form of service provision in urban settings, are urged to increase their resilience to the impacts of climate change to maintain, and improve, service levels. The emissions reported by water and wastewater utilities in various countries vary from 3 to 7% of total greenhouse gas (GHG) emissions (Nature 2020, Environmental Research 2020). Taking a holistic water cycle approach that encompasses emissions from unconnected residential areas, discharge of untreated sewage into rivers, and industrial treatment facilities would significantly amplify the contribution of GHG emissions. Therefore, **utilities are critical to the cities' successful climate adaptation and should act towards global decarbonisation.**

However, these service providers are often cautious in embracing change due to a variety of factors. For example, the complexity of their operations, a rooted institutional culture, existing long-term investments (20-to-50-year time horizons), and exact yet restrictive regulations or local governance that do not easily allow integration of new activities related to adaptation and/or mitigation.

The IWA Climate Smart Utilities Initiative has been launched to support all utilities worldwide to work collectively on winning this race.

Climate Smart Utilities are **water and sanitation[1] service providers** that are improving their climate resilience by adapting to a changing climate while contributing to a significant and sustainable reduction of carbon emissions. The Initiative is structured around four components:

Component 1: Communities of practice (CoP) around adaptation and mitigation to climate change, to support bridging science and practice and trigger the necessary cultural shifts and actions.

Component 2: A web platform to support information sharing among utilities.

Component 3: A Utility Leaders peer-to-peer exchange platform to drive decision making and climate leadership.

Component 4: A Recognition Programme to increase awareness and set an inspiration to progress on the Climate Smart Utility journey.

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[1] *Sanitation utilities are defined as service providers engaged in the collection, transport, treatment and disposal or reuse of human excreta, domestic wastewater and solid waste, and associated hygiene promotion (Water Supply and Sanitation Collaborative Council, UN).*

This programme aims to inspire utilities to become increasingly Climate Smart and embrace the cultural shift required for a water-wise future. The recognition programme is built on the IWA Climate Smart Utilities Vision and is articulated around three interconnected pillars:

1. **Adaptation**: planning for resilient adaptive infrastructure that combines centralised and decentralised approaches, as well as natural and built infrastructure.

2. **Mitigation**: monitoring and reducing GHG emissions by, among other things, transitioning to being resource producers.

3. **Leadership**: engaging citizens, industries, and stakeholders to embrace the change needed for resilient and low-carbon model. Engaging regulators and inspiring other utilities at national and international levels to take Climate Smart action for a water-wise future.

The programme is built around a vision endorsement and the **submission of applications** to take part in the **Recognition Programme** in conjunction with the IWA World Water Congress & Exhibition (WWCE) and IWA Water and Development Congress & Exhibition (WDCE).

Through their applications, utilities can reflect on their progress on the Climate Smart journey and compare themselves against several indicators and criteria describing an ideal Climate-Smart Utility under each pillar.

This document aims to present the framework of the IWA Climate Smart Utilities Recognition Programme (Component 4 of the IWA Climate Smart Utilities Initiative). The inaugural edition was launched in 2022 at the IWA WWCE in Copenhagen, Denmark. The second edition took place during the 2023 IWA WDCE, in Kigali, Rwanda. In 2024, the third edition will happen at the IWA WWCE, in Toronto, Canada on 11-15 August 2024.

2.   Objectives of the IWA Climate Smart Utilities Recognition Programme

This programme aims to inspire utilities and stakeholders to become increasingly Climate Smart and embrace the cultural shift on three interconnected pillars for action on adaptation, mitigation, and leadership. The main goals of the programme are to:

- **Increase awareness**, by inviting utilities and IWA members to share best practices through Climate Smart Stories, organising webinars, sharing and publishing relevant publications and research, and through a web platform with resources.

- **Inspire action**, through the description of an ideal Climate Smart utility, as presented by IWA in the Guidance Framework. IWA also offers a peer-to-peer exchange through the Community of Practice meetings and website.

- **Celebrate and share the work in progress.** This contributes to increasing awareness of key stakeholders in the transition, and inspire action.

3.   Target Applicants

Applications to the 2024 IWA Climate Smart Utilities Recognition Programme are open to all water and sanitation utilities around the globe.

4.   2024 Timeline

The following timeline is anticipated:

Activity	Date
Launch call for applications	11 April 2024
End of application period	20 May 2024
Jury reviews applications	22 May - 7 June 2024
Successful applications are selected and notified	12 June 2024
Recognition event	11-14 August 2024

5.   Structure of the Recognition Programme

5.1. Who can apply?

Urban utilities are the primary applicants. In instances where different parts of the water system are managed by various utilities or municipal agencies in a metropolitan area, these can either:

- Apply as a group, with a lead utility collecting contributions from other relevant utilities and agencies as co-applicants; or
- Apply as individual utilities, ignoring the sections not relevant to them. Other urban stakeholders (managing other parts of the water cycle, urban planning, energy, or waste) may be associated with the application as co-applicants.

5.2. Categories

The 2024 Climate Smart Utilities Recognition Programme will evaluate utilities under two major categories:

- The *'Achiever'* category will focus on utilities that have already made substantial progress in their Climate Smart journey (across all three interconnected pillars of Adaptation, Mitigation and Leadership), and thus will be assessed based on a more detailed framework.

- The *'Entrant'* category will target utilities that have prioritised the climate agenda and have started their Climate Smart journey (covering at least one of the three interconnected pillars of Adaptation, Mitigation and Leadership), and therefore will be assessed through general narratives of their climate actions.

Utilities can only apply for only one category. Those previously recognised in the 2022 IWA Climate Smart Utilities Recognition Programme are encouraged to apply for the Achiever category.

5.3. Why apply?

Applying to the recognition programme is an excellent way to gain recognition and share best practices towards becoming a Climate Smart player in the water sector. The recognition programme offers an outstanding opportunity to reflect on your Climate Smart journey, ensure visibility for your actions to an international audience, and share your aspirations to achieve a climate smart water sector. Joining the recognition programme is also an effective way to facilitate knowledge exchange and international collaboration with other utilities. Specific benefits include:

1. **Global visibility:** Premier utilities in the Achiever and Entrant categories will receive formal recognition at the IWA World Water Congress & Exhibition in Toronto, Canada on 11-15 August 2024.
2. **Financial support:** A comprehensive financial incentive package covering flight expenses, conference registration fees, and accommodation in Toronto will be provided to one representative from:
   a. The top three utilities in the Achiever category;
   b. The top three utilities from low-, lower-middle- and upper-middle-income countries in the Entrant category.
3. **Presentation opportunities:** The top 3 utilities in each category will have the opportunity to present in a dedicated Climate Smart Recognition workshop session during the Congress.
4. **Case stories:** All recognised utilities in both categories will develop case story highlighting their achievements, to be featured across IWA's communication channels.
5. **Expanded networking:** Utilities will have the chance to engage in IWA conferences, webinars, and other external events supported by IWA, representing their respective organisations.
6. **Access to a global community of like-minded professionals:** All participant utilities will be granted access to the IWA Climate Smart Utilities Community of Practice.

5.4. How to apply?

Applicants for both the Achiever and Entrant categories should present a **3-page narrative** summarising their vision and the key actions taken towards being a Climate Smart Utility, highlighting anything exceptional that is undertaken concerning the 3-pillar definition proposed by IWA:

- *Adaptation: i.e., planning for adaptive infrastructure that combines centralised and decentralised approaches.*
- *Mitigation: i.e., transitioning to being resource factories (e.g., production of biogas, resource recovery of nutrients) and reducing their GHG emissions.*
- *Leadership: i.e., engaging citizens and industries in source control (e.g., reducing micropollutants in wastewater, protection of water sources) to reduce costs of treatment*

and the associated energy use, as well as in water reuse approaches to become more resilient to future water scarcity.

Under each pillar, three to four criteria are described in the Guidance Framework for the Application. The utility may select a few, or all these criteria to **propose a self-evaluation narrative regarding 1) actions taken and their results, 2) actions in planning, and 3) gaps they are planning to address**. If the narrative is selected for recognition, it will be the basis for preparing external communication pieces by IWA.

Utilities applying for the Achiever category should, in addition to the narrative above described, provide indicators related to three interconnected pillars for action: **adaptation**, **mitigation**, and **leadership.** These indicators (listed in the Annex table below), along with the detailed narrative, will support the Jury in assessing applications for the Achiever category. They will also facilitate future information exchange with other utility peers as part of the Climate Smart Utility Initiative.

The Jury will have the authority to reclassify applications between Achiever or Entrant categories based on the information provided in the application.

5.5. Jury

The Jury will be composed of:

- o Researchers and practitioners with a track record in water and sanitation utility work (but not allowed to assess applicants they work with).
- o Consultants advising utilities (but not allowed to assess applicants they work with).

Jury members would be asked to write a short description of how their work sustains the Climate Smart change agenda. The ultimate selection of Jury members will be the responsibility of the IWA Executive Director. Initially, nine jury members will be recruited based on the response to the Expression of Interest or by invitation. The expected time involvement for jury members is about 1 hour per application, and each jury member would be asked to review a maximum of 10 applications.

5.6. Assessment criteria

The Jury will assess all applications (both for the Achiever and Entrant categories) using an online review platform, according to the following criteria:

- a) The application is sound and demonstrates the utility overall commitment to the climate agenda (Yes/No)
- b) Sharing the application content will provide value to IWA members (Yes/No)
- c) The approach presented is ambitious, considering the utility's context and current challenges (1 to 5)
- d) The approach presented is easily replicable for utilities facing the same context and challenges (1 to 5)
- e) The components of the approach presented are innovative (1 to 5)

In addition, Achiever category applications will undergo separate evaluation of each indicator (as outlined in the Annex table) related to Adaptation, Mitigation, and Leadership, graded on a scale of 1 to 5 (with 5 representing the best). The combined scores of the narrative and the indicators will determine the overall assessment of Achiever category applications.

6.   Guidance Framework for the Application

A Guidance Framework is provided to guide the applying utilities in developing their narrative.

The approach is based on defining **the ideal utility under each criterion**. Following this, the applicant utility is asked to formulate its own narrative, outlining its current position and future aspirations towards an ideal Climate Smart Utility.

Note: the below criteria are largely inspired by the [CRC Water Sensitive City Index](#) and the [City Water Resilience Framework](#) which are great assessment tools.

I.   ADAPTATION

How does the utility compare against the following statements?

Essential services are delivered while reducing the risk of failure in the face of climate change threats

Climate Smart Utilities plan to anticipate future threats from climate change impacts their services: potable water supply, sanitation, drainage, and the protection of the ecological health of water bodies. Investments to increase resilience contribute to reducing GHG emissions when possible. This translates into:

1.1   Diversifying the water portfolio and lowering water use

> **Description of the ideal utility**: *Safe and secure water is available to everyone for drinking and other consumptive purposes. The utility's strategy is to reduce water losses and water use concerning local scarcity trends, droughts, and diversify alternative water sources, including wastewater recycling, rainwater harvesting, conjunctive & sustainable groundwater extraction, desalination, and innovative technologies (like Atmospheric Water Generation when needed) to achieve a positive water balance under the impacts of climate change. Multiple sources feed a diversified water supply system providing fit-for-purpose water. A long-term water strategy is in place, including promoting low-carbon investment choices and protecting water sources using nature-based solutions, storage and recharge as much as appropriate.*

1.2   Adapting sanitation strategies to the impacts of climate change

> **Description of the ideal utility**: *All households are connected to a sewer system or otherwise have a hygienic toilet facility in-house (flush/pour flush to sewer, septic tank or pit latrine, or composting toilet). There is also a safe protocol for the disposal of biosolids/sludge, and the generated faecal sludge is managed in a secure manner, encompassing containment, regular emptying, safe transportation, treatment, and responsible disposal or reuse. These measures align with the goals of safely managed sanitation as outlined in SDG 6.2 and are reflected in the Citywide Inclusive Sanitation (CWIS) approach promoted by the [IWA Inclusive Urban Sanitation Initiative](#).*

> *The utility is service-oriented and outcome-focused. Discharge to the environment that causes public health risks is prevented (including leaks) or treated at wastewater and faecal sludge/ septage treatment plants to protect the ecological health of water bodies prior to release. The utility is adapting its sanitation strategies, collection, and treatment systems to respond to lower low flows and higher high flows induced by climate change and to an increased sensitivity of aquatic ecosystems, which demand enhanced*

discharge requirements. The system considers planning for growth and the impacts of climate change on the receiving water bodies' capacity to absorb the treated discharge. These strategies include a combination of centralised and decentralised infrastructure and the use of nature-based solutions, small-bore sewer systems, and other innovative and affordable solutions wherever applicable and ensure circularity. A long-term adaptation strategy is in place to promote low-carbon investments.

1.3   Adequate drainage to manage rainwater and reduce the risk of flooding rivers

Description of the ideal utility: *Rainfall events do not disrupt everyday activities, and potential risks are well understood. Risks to human safety due to excess rainfall are low to non-existent, and managing run-off quality, infrastructure and property damage are infrequent by ensuring resilient infrastructure and integrated planning with other stakeholders. Discharge of rainwater drainage to water bodies is treated as necessary to protect their ecological health. A coordinated and integrated response is undertaken with urban planning to promote retention, reuse, and/or infiltration where possible ("Sponge City" concept, Sustainable Urban Drainages, Infiltration trenches/wells), and with upstream land management to reduce the risk of dysfunction of the drainage and sewer systems and guarantee public health under all scenarios. A long-term rainwater management strategy is in place, accounting for the impact of climate change and promoting low-carbon investments.*

1.4   Promote robust and adaptive infrastructure

Description of the ideal utility: *The system has redundancy and bypass systems, and infrastructure integrity is actively monitored. The number and frequency of failures per capita per year are extremely low. Integrated intelligent system controls are typical across all scales and allow the operation and performance of multifunctional assets to be optimised. System capacity and resources across all levels can typically be monitored and adjusted in real time. Access to adequate funding for maintenance activities is available (perhaps secured through user-based charges). Long-term maintenance needs are well understood, planned for, and undertaken to a reasonable standard. Maintenance guidelines and procedures are well documented. Assets are all recorded on a GIS system supported by comprehensive databases. Asset audits and proactive maintenance programmes are undertaken. Asset information is used to adapt practices and support innovation. Co-operation between multiple asset owners occurs to ensure all assets at all scales are maintained to enable integrated operation.*

II.   MITIGATION

How does the utility compare against the following statements?

GHG emissions are reduced

The transition to becoming Climate-Smart is facilitated by a reduction in the utility's GHG emissions with well-defined and strategically planned reduction targets implemented throughout the entire service chain. This is achieved through various actions that reduce energy consumption in abstraction, treatment, & distribution. Additionally, direct GHG emissions from sanitation and wastewater systems are minimised (for instance, by reducing N2O or CH4 emissions during the treatment process and decreasing chemical usage) through the application of innovative technologies Furthermore, the utility has the potential to optimise resource recovery. This not only aids in the reduction of global GHG emissions beyond the utility's boundaries but also leads to the generation of renewable energy or the creation of new materials from waste.

2.1 Low GHG emissions level

Description of the ideal utility: *Very low GHG emissions levels are achieved without accounting for the purchase of carbon offsets. The utility has significantly reduced GHG emissions per population served in the last ten years. GHG emissions are assessed using the latest version of the [Energy Performance and Carbon Emissions Assessment and Monitoring (ECAM) tootool](#) to ensure consistency of approaches between utilities. An alternate tool of GHG assessment can be presented if it covers at the minimum the emissions reported in ECAM, including GHG emissions from scope 1 and 2 and some elements of scope 3, as defined by the UNFCCC.*

2.2 Maximised resource recovery to offset GHG emissions within and outside of the Utility boundary through carbon substitution

Description of the ideal utility: *High levels of resource recovery are achieved across available recoverable resources. The resource recovery approach is common across all new water, sanitation infrastructure, and progressive infrastructure upgrades are in planning.*

2.3 High energy efficiency of the water supply, and sanitation systems

Description of the ideal utility: *The water supply system (from abstraction to consumer) has high energy efficiency, uses smart technologies, and has a very low leakage level. The sanitation treatment system (combined/or not) is energy efficient regarding the type of treatment provided. New assets are being planned with the goal to be low-energy and low-carbon.*

III. LEADERSHIP

How does the utility compare against the following statements?

The utility is a local, national, and international leader

Climate Smart Utilities are leaders driving the transition through the exchange of knowledge and the development of innovative, equitable solutions for climate adaptation and the reduction of GHG emissions. This translates into a robust culture of learning and sharing on a local, national, and international level. Ensuring gender, diversity, equity, and inclusion is crucial for utilities that are both inclusive and Climate Smart. Vulnerable and marginalised individuals and groups, including low-income communities, informal settlements, and slums, are the most impacted by the effects of climate change on water and sanitation services. As such, utilities must adopt, develop, and implement climate-smart policies, strategies, and actions that are fair, inclusive, and sensitive to gender considerations.

3.1 Empowering citizens and urban planners as partners of the Climate Smart Utility

Description of the ideal utility: *The transition towards becoming Climate-Smart is facilitated by the utility taking on a leadership role within local governance structures. This is aimed at promoting reductions in GHG emissions on a metropolitan scale and enhancing the awareness and planning capabilities of all urban stakeholders in order to prepare for and respond to the impacts of climate change on water resources. This translates into the utility playing a significant role in 1) integrating water and sanitation in urban planning, 2) increasing water and sanitation literacy of urban professionals and citizens to ensure community support for actions taken, 3) preparing for crisis management for water and sanitation-related hazards (e.g., floods & droughts), 4) collaboration/partnership to improve stakeholder engagement (e.g., incentives-based).*

Citizens play an integral part in these solutions through their behaviour. They actively contribute to source control (e.g., reducing micropollutants in wastewater, safeguarding water sources, and safely managing the sanitation chain) to lower treatment costs and the associated energy usage. They also embrace water reuse approaches to bolster their resilience in the face of future water scarcity.

3.2 Strong learning culture

<u>Description of the ideal utility</u>: *The utility has a strong learning culture, ensuring that knowledge and skill requirements are consistently reviewed and updated. Staff members enhance their expertise by actively engaging in research alongside both local and international scientific communities. Moreover, utility staff cultivate multidisciplinary skills and knowledge in various water-related fields, such as landscape and ecology, social and urban design, and architecture. This broader skill set enables them to contribute effectively to projects and decision-making within metropolitan institutions or governance structures.*

3.3 National & international leadership

<u>Description of the ideal utility</u>: *The utility actively disseminates its experiences with other utilities at both the national and international levels. It aims to further its understanding of achieving and enhancing the Climate Smart water and sanitation agenda. This involves participation in benchmarking and best-practice programmes. Additionally, the utility develops partnerships to facilitate the exchange of knowledge on technology, innovation, research, and specific operational issues pertaining to climate adaptation and the reduction of operational carbon footprint.*

3.4 Diversity, equity and inclusion

<u>Description of the ideal utility:</u> *The utility's mission and vision wholeheartedly embody Diversity, Equity, and Inclusion (DEI) principles, shaping both its internal operations and external interactions. This dedication is evident in its policies, strategic planning, cultural integration, training initiatives, accountability measures, diversity strategies, and the integration of DEI considerations in decision-making processes. The utility also ensures a well-balanced and engaged workforce by adhering to best practices in promoting and mainstreaming gender, diversity, and inclusion in its leadership, management (including representation in water boards and management committees), capacity-building activities, and throughout the entire employment cycle (from diagnosis and attraction to recruitment, advancement, and retention.*

3.5 Innovation excellence: crafting sustainable water and sanitation solutions

<u>Description of the ideal utility:</u> *The ideal utility demonstrates innovation across technology, practices, financial models, risk management and insurance, GHG emissions reduction, and adaptation strategies. Its leadership fosters a culture of strategic vision, collaborative governance, agile decision-making, and empowerment, driving transformative change. Through continuous innovations in the above-mentioned domains, the utility promotes creativity, inclusivity, and excellence at all levels, ensuring sustainable and resilient water and sanitation services for communities.*

Annex - Indicators to support your narrative (mandatory for Achiever category applicants)

The applicant should fill out as much information as they wish, with the objective to inform the Jury beyond the narrative provided and to foster knowledge sharing with other applying utilities.

Pillars	Indicators	Current Situation and Future Goals/Targets
1. ADAPTATION: Essential services are delivered while reducing the risk of failure in the face of climate change	1.1. Drinking water supply	
	1.1.1. Number of water sources delivering safe water	
	1.1.2. % share of each source in the water supply portfolio, including recycled water loops	
	1.1.3. Rating high/medium/low of the vulnerability of the source to climate change and why (to show understanding of vulnerability)	
	1.1.4. Litres/person/day of drinking water consumption per serviced population	
	1.1.5. % of water loss and NRW	
	1.2. Sanitation	
	1.2.1. % of the urban population with access to proper sanitation	
	1.2.2. % of sludge/wastewater managed in a way that protects the ecological health of water bodies	
	1.3. Frequency of system failures in the past 2 years, as defined by:	
	1.3.1. Number of unplanned service interruptions in the service area (due to pipe burst, quality compliance, or any other cause)	
	1.3.2. Amount of sewer overflow in m^3/year/serviced population (within the utility boundary)	
	1.3.3. Number of days/year with non-compliant WWTP discharge	

Pillars	Indicators	Current Situation and Future Goals/Targets
2. MITIGATION: GHG emissions are reduced	2.1. Total GHG Emissions in kg CO_2 eq/serviced population/year (overall or Scope 1 & Scope 2). Please specify Scope 3 emissions (if you have)	
	2.2. % reduction in GHS emissions (overall or Scope 1 & Scope 2) from the baseline year	
	2.3. What % of your total energy requirement is from renewable energy (detail on-site or purchased)?	
	2.4. Do you recover energy or resources within the Utility? (Yes/No) Describe briefly.	
	2.5. % reduction of chemicals/energy used for water treatment/wastewater treatment from baseline year	
	2.6. Do you have process emissions monitoring and mitigation plans? (Yes/No) Describe the methodology adopted	
	2.7. Do you account for project-related carbon impact in the new project/procurement process as a factor in decision-making? Do you include embedded/capital carbon? Operational carbon? (Yes/No) Describe briefly	
3. LEADERSHIP: The applicant is a local, national and international leader	3.1. Is your utility committed to the climate agenda at the leadership level? (Yes/No) Describe briefly.	
	3.2. Does your utility play a leadership role in designing, planning and managing its water resource in active consultation with urban planners, communities and other stakeholders? (Yes/No) Describe briefly	
	3.3. Number of capacity-building programmes conducted for the utility staff and other citizens outreach programmes in the past 2 years. Include a list and topics	
	3.4. Number of case studies or publications or other communications shared in national or international communities (e.g., national associations, IWA, other) in the past 2 years. Include a list and topics	
	3.5. Does the utility prioritise DEI principles from its leadership and management to service provision? (Yes/No) Describe briefly	
	3.6. Does your utility champions innovation in technology, operations, emissions reductions, resilience, financial models, and insurance mechanisms? (Yes/No). Describe briefly	