

IWA Climate Smart Utilities Initiative Recognition Framework

2023 Guidance for Applicants

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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, utilities 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 (20-50 years' time horizons), and rigid regulations or local governance processes that do not encourage the 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, sanitation¹, and urban drainage 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:

1. **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
2. **Component 2: A web platform** to support utilities sharing resources to support information sharing
3. **Component 3: A Utility leaders peer-to-peer exchange platform** to drive decision making towards Climate Smart

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).

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

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:** Improving resilience to adapt to climate change
2. **Mitigation:** Assessing and aiming to reduce GHG emissions
3. **Leadership:** Leading and inspiring others to take Climate Smart action for a water-wise future

The recognition programme offers an outstanding opportunity to self-reflect on the utility's Climate Smart journey, present actions around the three pillars (adaptation, mitigation and leadership) to an international audience, and share aspirations to achieve a climate smart water sector. The first edition of the **IWA Climate Smart Utilities Recognition Programme** was launched in 2022. Stories and actions by Climate Smart Utilities worldwide were presented and celebrated at the IWA World Water Congress and Exhibition (WWC&E), held in September 2022 in Copenhagen, Denmark. The second edition will take place in 2023 and selected utilities will be invited to present their story at the IWA Water and Development Congress & Exhibition (WDC&E) On 10-14 December 2023 in Kigali, Rwanda.

The 2023 edition has a special focus on low- and middle-income countries and seeks to raise awareness of the steps being taken by water and sanitation utilities operating in challenging conditions to respond to climate change. This initiative seeks to recognise ambitious and innovative utilities in low- and middle-income countries that are leading the way towards a low carbon water and sanitation sector, embracing the change needed to adapt to and mitigate climate change while raising awareness among citizens and industries, engaging regulators, and inspiring other utilities to take action.

Objectives and target audience

This section describes the objectives and target applicants of the programme.

Objectives of the IWA Climate Smart Utilities Recognition Programme

This programme aims to inspire utilities to become increasingly Climate Smart and embrace the cultural shift centred around the three interconnected pillars of **adaptation, mitigation, and leadership**.

The main goals of the programme are to:

1. **Increase awareness**, by inviting utilities and IWA members to share the best practices through Climate Smart Stories, organising webinars, sharing and publishing relevant publications and research, and through a web platform with resources.
2. **Inspire action**, by encouraging utilities to improve their climate resilience and adaptation, and by sharing Climate Smart narratives, steps and best practices, as presented in the Application Guidance. IWA also offers a peer-to-peer exchange platform through the Community of Practice meetings and website.
3. **Celebrate the work in progress:** the recognition programme is an excellent way to gain recognition and share best practices towards becoming a Climate Smart player in the water sector. This also contributes to increasing awareness and inspire action.

Target audience

The 2023 edition of the Recognition Programme is targeted towards water, sanitation, and urban drainage utilities in low- and middle-income countries (L-MIC).

When different parts of the water system are managed by various utilities or municipal agencies in a metropolitan area, these can either:

- 1) Apply as a group, with a lead utility collecting contributions from other relevant utilities and agencies as co-applicants; or
- 2) Apply as individual utilities, ignoring the sections not relevant to them.

Timeline

The following timeline is anticipated:

Activity	Date
Open applications	12 September 2023
Deadline for applications	22 October 2023
Review by the IWA CSU team	23 - 28 October 2023
Review applications by Jury	30 October - 12 November 2023
Final review by the IWA CSU team	13 - 15 November 2023
Notify applicants/utilities	16 November 2023
Provide support to utilities for travel arrangements and the preparation of presentations	16 November - 9 December 2023
Presentations and recognition ceremony	10 - 14 December 2023

Structure of the Recognition Programme

Who can apply?

- The urban utility is the primary applicant. In case several utilities (or government agencies) cover the urban water cycle within an urban area, it is encouraged that one utility applies as the lead applicant with others as co-applicants. However, different utilities of a metropolitan area can also apply individually.
- Other urban stakeholders, covering other parts of the water cycle, urban planning, energy, waste, may be associated with the application as co-applicants.

Why apply?

The 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 self-reflect on your Climate Smart journey, present 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.

Selected utilities will be recognised in a formal event during the IWA Water and Development Congress & Exhibition (WDC&E), in Kigali, Rwanda, 10-14 December 2023. These successful utilities will also receive a recognition certificate. The five most inspiring narratives will be

selected for a presentation during the WDC&E. The selection will be based on a comprehensive assessment performed by an independent jury. IWA will cover the travel costs (air/ground transportation and accommodation) for one representative for each selected utility to present at the WDC&E.

How to apply?

The applicant utility should submit a narrative summarising their Climate Smart vision and key actions taken, especially considering how these relate to the three main pillars of

1. **Adaptation:** Improving resilience to adapt to climate change (*i.e., planning for adaptive infrastructure that combines centralised and decentralised approaches*)
2. **Mitigation:** Assessing and aiming to reduce GHG emissions (*i.e., transitioning to being resource factories, through the production of biogas or resource recovery of nutrients and byproducts, and reducing GHG emissions.*)
3. **Leadership:** Leading and inspiring others to take Climate Smart action for a water-wise future (*i.e., engaging citizens and industries to reduce micropollutants in wastewater, protect of water sources, reduce costs of treatment and the associated energy use, as well as building resilience through water reuse approaches in view of water scarcity.*)

Under each pillar, three to four criteria are described in the Guidance Framework for Applications. The applicant may select one, some, or all criteria to propose a self-evaluation regarding: 1) actions taken and their results, 2) actions in planning, and 3) gaps they are planning to address.

This narrative will be the basis for preparing external communication pieces by IWA, if selected for recognition. Furthermore, additional material can be shared to support the jury's evaluation and future information exchange with other peers and utilities as part of the initiative.

Jury

The Jury will be composed of:

- Researchers and practitioners with a track record in water and sanitation utility work
- Consultants advising utilities

The selection of jury members will be the responsibility of the IWA Executive Director. Jury members will not be allowed to assess applications submitted by the companies they work with. Initially, 7 to 10 jury members will be recruited.

On average, each jury member is anticipated to dedicate approximately one hour per application, with a maximum of 10 applications for each member to review.

Assessment criteria

The Jury would assess each application using an online paper review platform based on the following criteria:

- The utility shows a commitment to the global climate agenda (Yes / No)
- The application content (narrative, actions, and aspirations) is valuable for the international water community and IWA members (Yes / No)

- The overall approach presented is ambitious – considering the utility’s context and current challenges (1 to 3 points)
- Some of the components presented can be a model for other utilities facing similar challenges (1 to 3 points)
- Some of the components presented are innovative (1 to 3 points)

Guidance Framework for Applications

A Guidance Framework is provided to guide the narrative submitted by the applicant utility.

The approach relies on defining the ideal utility for each criterion. Following this, the applicant utility is tasked with crafting its own narrative, outlining its current position and future aspirations towards an ideal Climate Smart Utility.

The proposed criteria are aligned to the [Climate Smart Vision](#) currently being endorsed by utilities.

1. **Adaptation:** Improving resilience to adapt to climate change
2. **Mitigation:** Assessing and aiming to reduce GHG emissions
3. **Leadership:** Leading and inspiring others to take Climate Smart action for a water-wise future.

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 for urban utilities.

ADAPTATION:

How does the utility compare against the following statements?

1. 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 to 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

Safe and secure water is available to everyone for drinking and other purposes. The utility's strategy is to reduce water losses and water use in response to local scarcity trends. It also focuses on diversifying alternative water sources, including wastewater recycling, rainwater harvesting, conjunctive and sustainable groundwater extraction, desalination, and employing innovative technologies as necessary in order to achieve a positive water balance under the impacts of climate change. Various sources contribute to a diversified water supply system, ensuring water is suitable for its intended purpose. A comprehensive, long-term water strategy is in effect, encompassing the promotion of low-carbon investment options and the safeguarding of water sources through the application of nature-based solutions, as well as appropriate storage and recharge measures.

1.2 Adapting sanitation strategies to the impacts of climate change

All households are either connected to a sewer system or equipped with a hygienic in-house toilet facility (such as flush/pour flush to sewer, septic tank, pit latrine, or composting toilet). There is also a safe protocol for the disposal of bio-solids/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](#).

Any discharge into the environment that poses a public health risk, including potential leaks, is either prevented or treated at wastewater and faecal sludge/septage treatment plants. This is done to safeguard the ecological health of water bodies prior to release.

The utility is actively adjusting its sanitation strategies, collection systems, and treatment facilities to accommodate fluctuations in water flow induced by climate change. This includes preparing for low and high flows, as well as heightened sensitivity of aquatic ecosystems, which necessitate more stringent discharge requirements. The system also takes into account the future growth of the area and the potential impacts of climate change on the capacity of receiving water bodies to assimilate treated discharge.

These adaptation strategies encompass a blend of centralised and decentralised infrastructure, along with the implementation of nature-based solutions, small bore sewer systems, and other innovative and cost-effective approaches as appropriate. They are designed to promote circularity and ensure sustainable sanitation practices. Additionally, a comprehensive, long-term adaptation strategy is in place, emphasizing investments with low carbon footprint.

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

Rainfall events do not disrupt everyday activities, and potential risks are thoroughly understood. Risks to human safety from excessive rainfall are minimal to nonexistent. Incidents of infrastructure and property damage are infrequent, and runoff quality is effectively managed. Rainwater drainage discharge into water bodies is treated as necessary to preserve their ecological health.

Resilient infrastructure is established through a coordinated and integrated process involving urban planners and other stakeholders. This approach promotes retention, reuse, and/or infiltration wherever feasible. Additionally, upstream land management is employed to mitigate the risk of drainage and sewer system malfunctions, ensuring public health is safeguarded in all scenarios.

A comprehensive, long-term rainwater management strategy is in effect. It takes into consideration the impact of climate change and emphasises investments with a low carbon footprint.

1.4 Promote robust and adaptive infrastructure

The system incorporates redundancy and bypass systems, with active monitoring of infrastructure integrity. The incidence and frequency of failures per capita per year are exceptionally low. Integrated intelligent controls are standard across all scales, facilitating the optimal operation and performance of multifunctional assets. System capacity and resources at all levels can typically be monitored and adjusted in real-time.

Adequate funding for maintenance activities is readily accessible, ideally secured through user-based charges. Long-term maintenance requirements are comprehensively understood, planned for, and executed to a reasonable standard. Maintenance guidelines and procedures are thoroughly documented. All assets are catalogued in a GIS system, supported by extensive databases. Regular asset audits and proactive maintenance programmes are carried out. Asset information is utilised to adapt practices and foster innovation. Collaboration among multiple asset owners is established to ensure the upkeep of all assets, regardless of scale, enabling integrated operation.

MITIGATION:

How does the utility compare against the following statements?

2. GHG emissions are reduced

The transition towards becoming Climate Smart is facilitated by a reduction in the utility's greenhouse gas (GHG) emissions, with well-defined and strategically planned reduction targets implemented throughout the entire service chain. This is accomplished through a series of actions aimed at decreasing energy consumption in abstraction, treatment, and 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

Very low GHG emissions levels are achieved without accounting for the purchase of carbon offsets. The utility has significantly reduced the 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 \(ECAM\) tool](#) to ensure consistency of approaches between utilities. An alternative tool may be considered if it encompasses, at a minimum, the emissions reported in ECAM. This should include GHG emissions from scope 1 and 2 and

some elements of scope 3, as defined by the United Nations Framework Convention on Climate Change (UNFCCC).

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

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

2.3 High energy efficiency of the water supply and sanitation systems

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, whether combined or not, is energy efficient in line with the type of treatment provided. When planning new assets, the utility prioritises designs with the aim of achieving low-energy and low-carbon operation.

LEADERSHIP:

How does the utility compare against the following statements?

3. 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 local, national, and international levels. Ensuring gender, diversity, equity, and inclusion is crucial for creating 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

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. The utility's significant role encompasses: 1. Integrating water and sanitation into urban planning, 2. Enhancing the water and sanitation literacy of urban professionals and citizens to ensure community support for implemented actions, 3. Preparing for crisis management regarding water and sanitation-related hazards (e.g., floods and droughts), 4. Implementing a collaborative approach and forging partnerships to enhance stakeholder engagement.

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

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

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

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).