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**TRAINING IWA WWCE 2016 BRISBANE 2016, SUNDAY 9<sup>TH</sup> OF OCTOBER**

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## ASSESSING CLIMATE AND ENERGY PERFORMANCE OF WATER AND WASTE WATER UTILITIES

**Organiser: IWA**

### **Challenges and Opportunities**

The impacts of climate change pose an increasing burden to how drinking water and wastewater utilities maintain the security of their supply and the operational performance of its infrastructure.

At the same time the supply of water and the treatment of used water lead to substantial greenhouse gas emissions. This is largely due to water loss and inefficiencies in the urban water systems. Drinking water and wastewater companies are typically energy intensive (10% – 35% of their total operational costs), being exposed to the risks and uncertainties associated with future energy prices.

These challenges; however, can provide a window of opportunity to initiate a much needed paradigm shift towards low-energy, low-carbon and climate resilient urban water services. Drinking water and wastewater utilities can reduce their carbon footprint through energy efficiency measures, but also through reducing the direct and indirect greenhouse gas emissions (methane and nitrous oxide) related to wastewater treatment and discharge. For example, by responsibly reusing treated effluent for irrigation, emissions of nitrous oxide can possibly be saved because nitrogen in the effluent is then not converted and emitted as nitrous oxide. Furthermore, it can replace the use of potable water for irrigation and avoid GHG emissions related to pumping and treating water to drinking water standards when it is not used for drinking.

By updating technologies and management processes in drinking water and wastewater companies to more energy-efficient systems, as well as recovering energy, nutrients and other materials from wastewater, there are excellent opportunities for improving the carbon balance of drinking water and wastewater companies and thus contributing to climate change mitigation. Implementing such measures has multiple benefits as it allows utilities to reduce their operational costs, improve their service to the public and protect the environment.

### **WaCCliM project and ECAM tool**

[WaCCliM](#), the Water and Wastewater Companies for Climate Mitigation Project, supports utilities on the path towards climate neutrality, while engaging with national governments and the international water and climate community.

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the International Water Association (IWA) are working together with their partners from Mexico, Peru, Thailand and Jordan on the WaCCliM project to improve the carbon balance of water and wastewater utilities in the four countries and beyond. This project is part of the International Climate Initiative (IKI). The German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag. The “Energy performance and Carbon Emissions Assessment and Monitoring (ECAM) tool is part of the knowledge platform provided by the WaCCliM project. This web-based tool is free and open source, and helps utilities in Low And Middle Income Countries to evaluate the operations in terms of GHG emissions and energy use based on their own data. The tool helps utilities identify opportunities to reduce GHG emissions and operating costs, and can be a key decision support tool in the Water Sector fight against climate change.

## Training Objectives

- **Experts on drinking water and wastewater technologies will be trained to become international Water, Climate and Energy (WEC) advisors.** WEC advisors may be called upon to advise utility staff or local water professionals on ways to reduce water utility greenhouse gas emissions and improve energy performance as part of the WaCCliM project.
- **Participants will develop the skills to utilize the web-based ECAM tool.** The purpose, functionalities, types of data and results analysis will be illustrated via hands-on tutorials and group discussions.
- **WEC advisors will develop the capacity to support utilities in implementing the WaCCliM Roadmap for mitigating climate change.** This international guideline (under development) includes tools, case studies, methodologies and lessons learned that have been applied in the four pilot countries Thailand, Peru, Mexico and Jordan.

## Target audiences

- Water utilities wanting to assess and reduce their greenhouse gas emissions
- International water professionals who aspire to become WEC advisors, advising and supporting local water professionals and training of technical utility staff
- Local water professionals (from Thailand, Mexico, Peru and Jordan) who aspire to become WEC advisors, supporting and training technical utility staff

Note: Members of the WaCCliM expert pool will have a first option to attend the training, but we welcome new applications.

## Prerequisites

This consists of a one day face-to-face meeting on Sunday 9<sup>th</sup> of October in Brisbane, and possibly follow-up online sessions.

## More information

Visit the [WaCCliM](#) website and download the [ECAM factsheet](#).

Are you interested to [Join the WaCCliM Expert Pool](#) and become a WEC advisor by participating in this training? Send your C.V. to [WaCCliM@iwahq.org](mailto:WaCCliM@iwahq.org).

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## FULL DAY TRAINING – PROGRAMME (WILL BE REGULARLY UPDATED)

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*Session1: Setting the scene for climate change mitigation in the Water*

*Sector*

- *WaCCliM Project Overview*
- *WaCCliM Roadmap*
- *ECAM tool intro*

*Session2: Using ECAM tool for baseline assessment*

- *Hands-on exercises*

*Session3: Data Management Framework*

- *Building your own GHG data management and reduction framework*

*Session4: Opportunities for climate change mitigation*

- *Review of catalogue of solutions for the whole urban water cycle*
- *Use of ECAM tool for assessing GHG reduction alternatives*

*Session5: Bringing it all together*

- *Game-based exercise and discussion for implementing the WaCCliM roadmap*
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