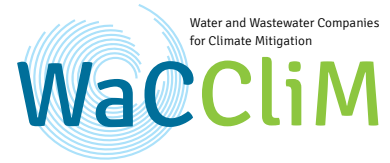


# Water & Wastewater Companies for Climate Mitigation

The WaCCliM project shows how the water sector can reduce its greenhouse gas emissions and contribute to climate change mitigation



## The Energy/Carbon Opportunity & the WaCCliM Project

Climate change is a global issue; rising Greenhouse gas (GHG) emissions are driving climate change and are causing an increase in the earth's temperature. Effects of this global warming include rising sea levels and shifting rainfall patterns. As a consequence, water scarcity, flooding and erosion occur more frequently and intensively. These impacts of climate change are a threat to human life, housing, drinking water supplies, harvests and production. In order to ensure adequate water management in the future, the water sector has to find solutions to combat climate change.

At the same time, the provision of drinking water and the treatment of wastewater also contribute to greenhouse gas emissions. Water and wastewater companies are typically energy intensive (10%-35% of their total operational costs). Water losses lead to even higher energy consumption, and emissions of methane or nitrous oxide from wastewater can further increase the carbon footprint of the water sector.

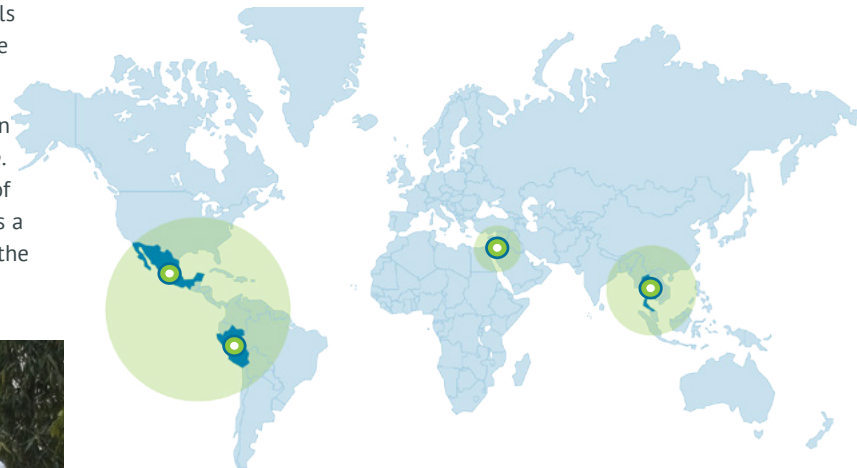
There are excellent opportunities for improving the carbon balance of water and wastewater companies through updating technologies and management processes in water and wastewater companies into more energy-efficient systems, as well as recovering energy, nutrients and other materials from wastewater, and thus contributing to climate change mitigation.

Investments in energy efficiency and energy production in urban water systems can also be extremely cost effective. If well planned, these investments have pay-back times of only a few years. Meeting the carbon challenge generates a double benefit: reducing operating costs while reducing the companies' and overall country's carbon footprint.

On behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the International Water Association (IWA) are working together on the project "Water and Wastewater Companies for Climate Mitigation (WaCCliM)" as part of the International Climate Initiative (ICI).

WaCCliM engages with the international water and climate community, with national governments and water and wastewater utility associations around four pilot companies in Jordan, Mexico, Peru and Thailand.

Together with their partners, the Secretaria de Medio Ambiente y Recursos Naturales in Mexico, the Ministerio de Vivienda, Construcción y Saneamiento in Peru, the Ministry of Natural Resources and Environment in Thailand, and the Water Authority in Jordan, GIZ and IWA aim to improve the carbon balance of water and wastewater utilities in the four countries and beyond. At the same time WaCCliM's objective is to ensure that these companies reduce their operational costs and maintain or improve their services. The project is implemented from December 2013 to January 2019.



### Mexico

**Local level:**  
SAPAF, SITRATA  
**National level:** National Water Commission (CONAGUA), Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)

### Peru

**Local level:**  
SEDACUSCO  
**National Level:** Ministry of Housing, Construction and Sanitation

### Jordan

**Local level:**  
Jordan Water Company - Miyahuna  
**National level:** Water Authority of Jordan, Ministry of Water and Irrigation

### Thailand

**Local level:**  
WMA Chiang Mai  
**National level:** Wastewater Management Authority (WMA), Ministry of Natural Resources and Environment (MNRE)

## Designing Solutions for Climate Mitigation

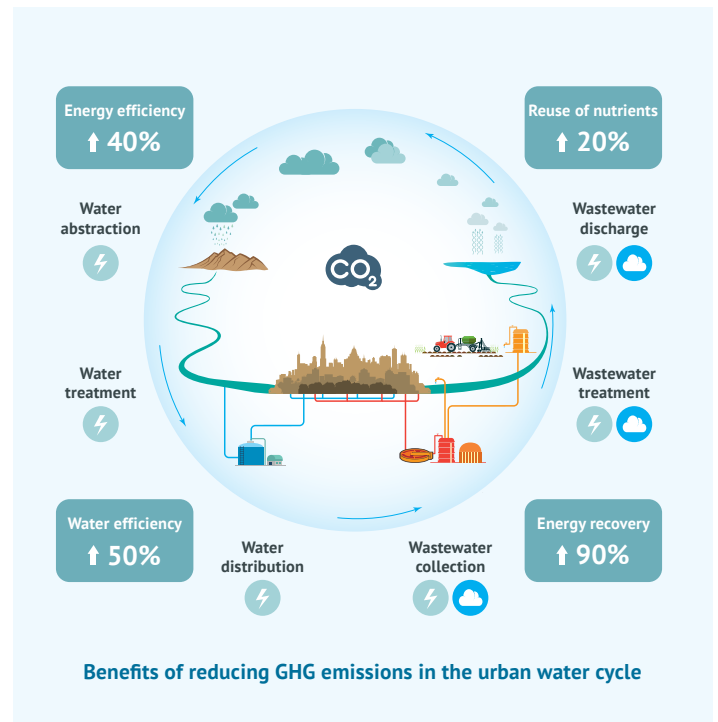
WaCCliM demonstrates how the water sector can contribute to climate change mitigation using a holistic water cycle approach to developing concepts for a climate resilient and low emission water industry.

**At the local level,** WaCCliM supports pilot utilities in identifying a series of appropriate processes and technologies to reduce the companies' energy consumption and carbon footprint. Such operational improvements aim to generate spin-off benefits such as direct savings in energy bills as well as other operational improvements and cost savings around labour, chemicals, maintenance, and disposal costs. To achieve this, the pilot companies are supported by project experts who develop baseline studies, options studies and trainings to strengthen capacities on low carbon, climate resilient solutions.

**At the national level,** the project works with its political counterparts and national associations in the partner countries to improve the framework conditions for the financing and implementation of mitigation measures in the water sector.

**At the international level,** WaCCliM develops and scales-up knowledge on water and climate mitigation through conferences, expert groups, technical guidelines and online resources. Effective implementation will help advocate for improved financing mechanisms and political incentives to replicate the success of demonstration projects in the partner countries and elsewhere.

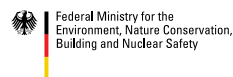
In addition to the results achieved in the partner countries, the project will facilitate the broader development of climate change mitigation approaches for water and wastewater companies.



**The Water and Wastewater Companies for Climate Mitigation (WaCCliM) project, is a joint initiative between the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the International Water Association (IWA). 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.**



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