

Water and Wastewater Companies for Climate Mitigation



Background

Link between water and climate

Climate change is a global issue with local impacts. As accelerating greenhouse gas emissions raise the temperature of the Earth's surface, the consequences include rising sea levels, shifting rainfall patterns, and more frequent and intense water scarcity, flooding and erosion. These impacts of climate change are a threat to water supplies, human life, housing, harvests, production and ecosystems. In order to ensure adequate water in an uncertain future, the water sector has to find solutions to adapt to the unfolding risks brought on by climate change.

At the same time, the provision of potable water and the treatment of wastewater also contribute to greenhouse gas emissions. Water and wastewater systems are energy intensive – accounting for as much as 40% of municipal energy use – and this energy typically comes from burning fossil fuels. Water losses lead to even higher energy consumption, and untreated or poorly treated wastewater emits methane and nitrous oxide, gases with much higher global warming potential than carbon dioxide.

There are excellent opportunities for improving the carbon balance of water and wastewater companies by updating their technologies and management processes into more energy-efficient systems, as well as recovering energy and nutrients from wastewater.

The WaCCliM project shows how the urban water sector can reduce its own greenhouse gas emissions while preparing for climate change.

Because utilities spend 10–50% of their operational costs on energy, investments in energy efficiency and 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. While reducing costs, such climate-smart investments reduce a utility's carbon footprint, and complement adaptation planning to make urban areas more resilient to the risks brought by climate change.

Objective

Designing climate-smart solutions

On behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), 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), part of the International Climate Initiative (IKI).

WaCCliM engages with the international water and climate community, with national governments and with water and wastewater utilities as well as their associations in Jordan, Mexico and Peru.

Together with its national and local partners, WaCCliM is improving the carbon balance of water and wastewater utilities in these countries and beyond. At the same time, WaCCliM aims to ensure that these companies increase their climate resilience, reduce their operational costs, and maintain, improve and adapt their services.

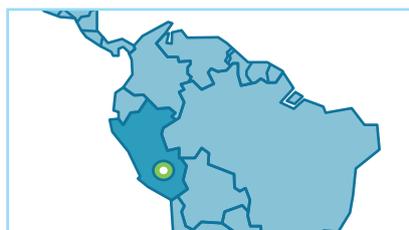
WaCCliM countries and partners



San Francisco d. Rincón
San Francisco Drinking Water and Sewage System (SAPAF)
Wastewater Treatment and Deposition Service (SITRATA)

National
Ministry of Environment and Natural Resources (SEMARNAT)
National Water Commission (CONAGUA)

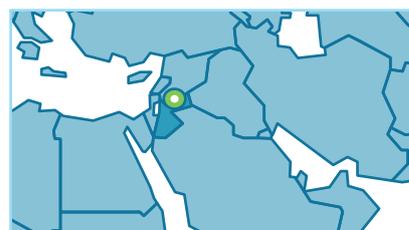
Mexico



Cusco
SEDACUSCO

National
Ministry of Housing, Construction and Sanitation (MVCS)

Peru



Madaba
Miyahuna Water Company

National
Ministry of Water and Irrigation (MWI)
Water Authority of Jordan (WAJ)

Jordan

Goal

A climate-smart and sustainable urban water sector

WaCCliM demonstrates how the water sector can contribute to both climate change mitigation and adaptation, using a holistic water cycle approach to develop concepts for climate-resilient and low-emission cities.

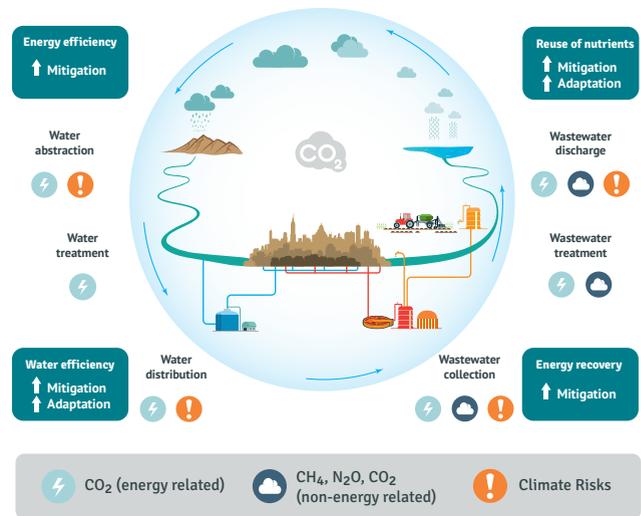
Approach

At the local level, WaCCliM provides user-focused technical support, approaches and tools that enable committed water and wastewater utilities to assess, monitor and reduce their greenhouse gas emissions while enhancing their ability to adapt to climate change. The resulting operational improvements also aim to generate spin-off benefits and cost savings in energy, labour, chemicals, maintenance and disposal. To achieve this, pilot companies are supported by project experts who develop baseline studies, options studies and trainings to strengthen capacities on low-carbon and resilient solutions.

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

At the global level, WaCCliM develops and scales up knowledge on water and climate change 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.

Mitigation and adaptation in the urban water cycle



In addition to the results achieved in the partner countries, the project will facilitate the broader development of climate change mitigation and adaptation 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 and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag.



On behalf of:



of the Federal Republic of Germany

Implemented by:



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March 2020

This project is part of the International Climate Initiative (IKI):
www.international-climate-initiative.com/en

