

Water and wastewater companies for climate mitigation

WaCCliM – Peru

Context

Water and wastewater companies are among the largest consumers of energy in many cities. In some water utilities in Peru, energy-intensive processes with outdated technology account for about 30 per cent of total operating costs. This is partly due to high losses of water and energy. In addition, harmful greenhouse gases are produced during the wastewater treatment processes.

Improved energy efficiency, energy production and nutrient recovery will enable water and wastewater utilities to significantly reduce their CO₂ emissions. Thereby, companies contribute to the implementation of national NDC targets (Nationally Determined Contributions) while reducing their own operating costs. However, the expertise needed for the preparation and implementation of plans for energy production and energy efficiency is often lacking.

Objective

Greenhouse gas emissions from water and wastewater companies in Peru have been reduced through the introduction of greenhouse gas reducing technologies while maintaining at least constant performance.

Title	Water and wastewater companies for climate mitigation (WaCCliM)
Commissioned by	German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) under the International Climate Initiative (IKI)
Country	Global with measures in Mexico, Peru, Thailand and Jordan
Lead executing agency	Mexico: National Water Commission (Comisión Nacional del Agua – CONAGUA); Peru: Ministry of Housing, Construction and Sanitation (Ministerio de Vivienda, Construcción y Saneamiento – MVCS); Thailand: Ministry of Natural Resources and Environment (MONRE); Jordan: Water Authority of Jordan (WAJ)
Overall term	2014 to 2019

Approach

WaCCliM facilitates the development of concepts for climate-friendly water supply and sustainable wastewater management in four pilot countries. Energy consumption and greenhouse gas emissions are to be reduced.

In Peru, together with the Ministry of Housing, Construction and Sanitation, the necessary framework conditions for financing and implementing greenhouse gas reduction measures in the water and wastewater sector are being created.



Biogas production in the wastewater treatment plant of Cusco.

At local level, national and international experts support the pilot utility SEDACUSCO to identify and implement greenhouse gas reduction and climate adaptation measures. This significantly reduces energy consumption, operating costs and the company's CO₂ emissions.

In order to consolidate and further disseminate the technical know-how for the reduction of greenhouse gas emissions, the project supports the development of partnerships between utilities. The lessons learned by the pilot utilities and government entities are incorporated into international guidelines for water and wastewater utilities. The information is made available on a virtual knowledge platform and distributed through international networks and events.

Results

- The pilot utility SEDACUSCO implemented measures to optimize biogas production and thereby saved greenhouse gas emissions of 5,300 tons of CO₂ per year. In the future, further 650 tons of CO₂ per year will be saved through energy production from biogas. This also reduces operating costs by USD 24,000 annually.

- In collaboration with the International Water Association (IWA), a free web-based carbon accounting tool has been developed, which estimates potential energy and emissions savings. The Energy Performance and Carbon Emissions Assessment and Monitoring (ECAM) tool enables utilities to quantify their greenhouse gas emissions and contributions to the NDC targets.
- The greenhouse gas mitigation approach has been incorporated as a planning directive in the new water framework legislation. This is a novelty in Peru.
- 23 utilities elaborated their Climate Change Mitigation and Adaptation Plans. The plans are integrated into the operating processes of the utilities, contributing to the improvement of economic and environmental sustainability. In the long term, this will result in better service provision for the population.

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