Factsheet - Jordan

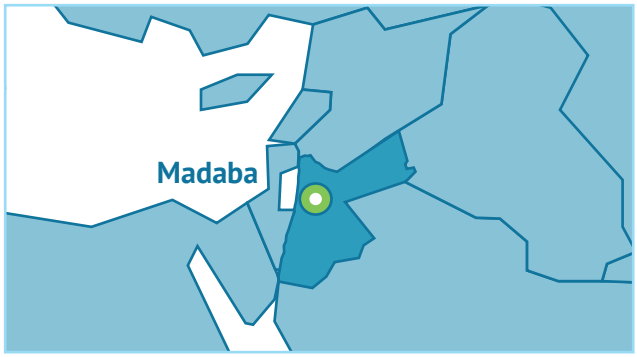
Water and Wastewater Companies for Climate Mitigation - Jordan

Water and Wastewater Companies for Climate Mitigation

WaCCliM

Background

Jordan, with an arid and semi-arid climate and low levels of rainfall, is considered to be one of the world's most water-scarce countries. A situation that will intensify as climate change makes water resources even more insecure. The energy sector in Jordan accounts for 73% of the nation's total greenhouse gas (GHG) emissions, a contributor to climate change. Jordan's energy intensive water sector consumes 15% of Jordan's total energy production, making it a significant contributor to GHGs. Under the Paris Climate Agreement's Nationally Determined Contributions, Jordan has set a target of reducing GHG emissions by 14%. Mitigating GHG emissions in the water sector would make a significant contribution to achieving this target and reduces energy consumption.



The Madaba Governorate lies in the middle of Jordan, 35km Southwest of the capital Amman. It has an area of about 1,000km² and a population of 190,000 inhabitants. The main drinking water resource is the Al-Heedan wells situated on an Altitude of 330m above sea level. However, much of the region's population lives at elevations of between 750 to 800m above sea level. Providing water to this population requires energy intensive water pumping.

Objective

WaCCliM, the Water and Wastewater Companies for Climate Mitigation project, aims to improve the sustainability of Water and Wastewater Utilities (WWUs), making them leaders for a climate resilient, low-carbon society.

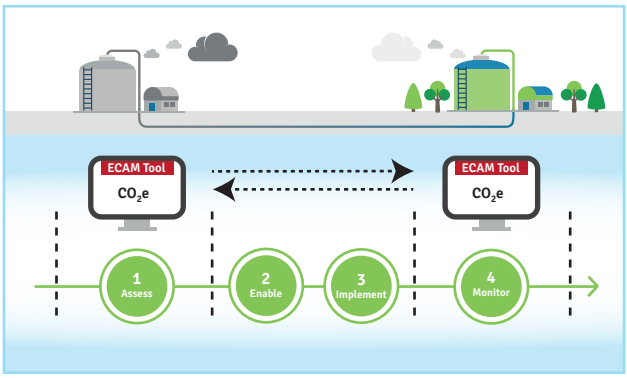
WaCCliM's main goals are:

- Introduction of GHG reduction technologies to WWUs
- Creation of an environment where appropriate financing instruments and incentives are applicable in order to implement and expand the GHG reduction measures.
- Integration of lessons learnt into international guidelines for water and wastewater companies.

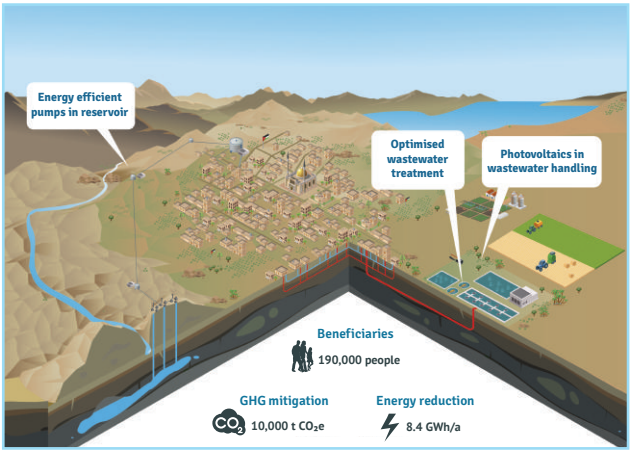
Approach

The WaCCliM project supports climate mitigation efforts in the water sector by supporting utilities on the path towards climate neutrality. It uses a cross-sectoral approach that inter-links water with energy, food security and climate:

- Improvement of political, regulatory and institutional framework through the integration of climate change policies, emission reduction strategies and action plans.
- Provision of technical support and assistance to experts, utility staff, managers and water practitioners in identifying and implementing GHG mitigation options.
- Development of incentives for national mitigation strategies.
- Support the multiplication of pilot measures, and share lessons learnt and success stories.

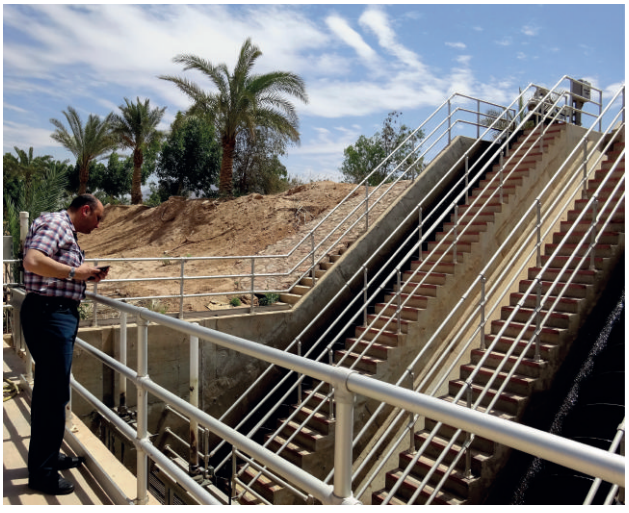


The Energy Performance and Carbon Emissions Assessment and Monitoring (ECAM), a carbon footprint tool for water and wastewater utilities, is a cornerstone to the WaCCliM roadmap. ECAM evaluates utilities' GHG emissions and energy usage based on utility specific data, and is part of the knowledge platform provided by the WaCCliM project. A more detailed analysis can be done on selected GHG reduction measures to provide a cost-benefit analysis, and to identify all project components needed to implement the measure. Emissions from the water sector are typically assessed in a fragmented way under different urban sectors.



Impacts

After assessing their GHG emissions baseline, the Madaba utility identified three areas of opportunities to reduce GHG emissions and operational costs through 1. the improvement of energy efficiency of the water pumping system, 2. water efficiency (reusing treated wastewater), and 3. the generation of energy from renewable resources such as solar energy and biogas, resulting in more than 10 Mkg CO_2/a. The pilot utility will provide new insights into the mitigation potentials to all other water utilities in Jordan and to other partner countries.



	Utility Description - Miyahuna
Resident population	190,000
Serviced population	187,000
Water coverage	99%
Total water production	9,000,000 m³/year
Total energy consumption	30,375,000 kWh/year
Energy cost	3,320,000 EUR/year
Sanitation coverage	49%
Total wastewater treated	2,390,000 m³/year
Treatment system	Activated sludge
Reuse of treated wastewater	100%

Outlook

WaCCliM supports the development of partnerships between utilities and strengthens capacities and technical know-how on reducing their carbon footprint. Therefore, WaCCliM aims to expand the project approach to additional utilities, and provide trainings to enable a specific carbon accounting for the water sector. Water utilities working with WaCCliM are becoming sector leaders, and are seizing the opportunity to become more resilient, efficient and effective in an uncertain future.

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.

The Partners

WaCCliM is supporting the work of Miyahuna-Madaba, a pilot utility in Jordan that is implementing energy and GHG reduction measures in cooperation with the Jordan Water Authority (WAJ) and the Ministry of Water and Irrigation (WAI).

On behalf of:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

of the Federal Republic of Germany

Ministry of Water & Irrigation

miyahuna

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

IWA the international water association

Published by:
c/o **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)** GmbH
Postfach 5180 / 65726 Eschborn / Germany
T: +49 61 96 79-0
E: info@giz.de
I: www.giz.de

c/o **IWA - International Water Association**
Alliance House / 12 Caxton Street /
London SW1H 0QS / United Kingdom
T: +44 207 654 5500
E: water@iwahq.org
I: www.iwa-network.org

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

Contact:
info@wacclim.org
www.wacclim.org

Bassam Hayek / bassam.hayek@giz.de
Salam Almomany / salam.almomany@giz.de

October/2017