

Driving Energy and Resource Efficiency in the Water Sector



Linking Climate Change Mitigation and Resource Efficiency

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Climate Change is causing profound Impacts on Natural and Human Systems and especially on the Water Cycle.

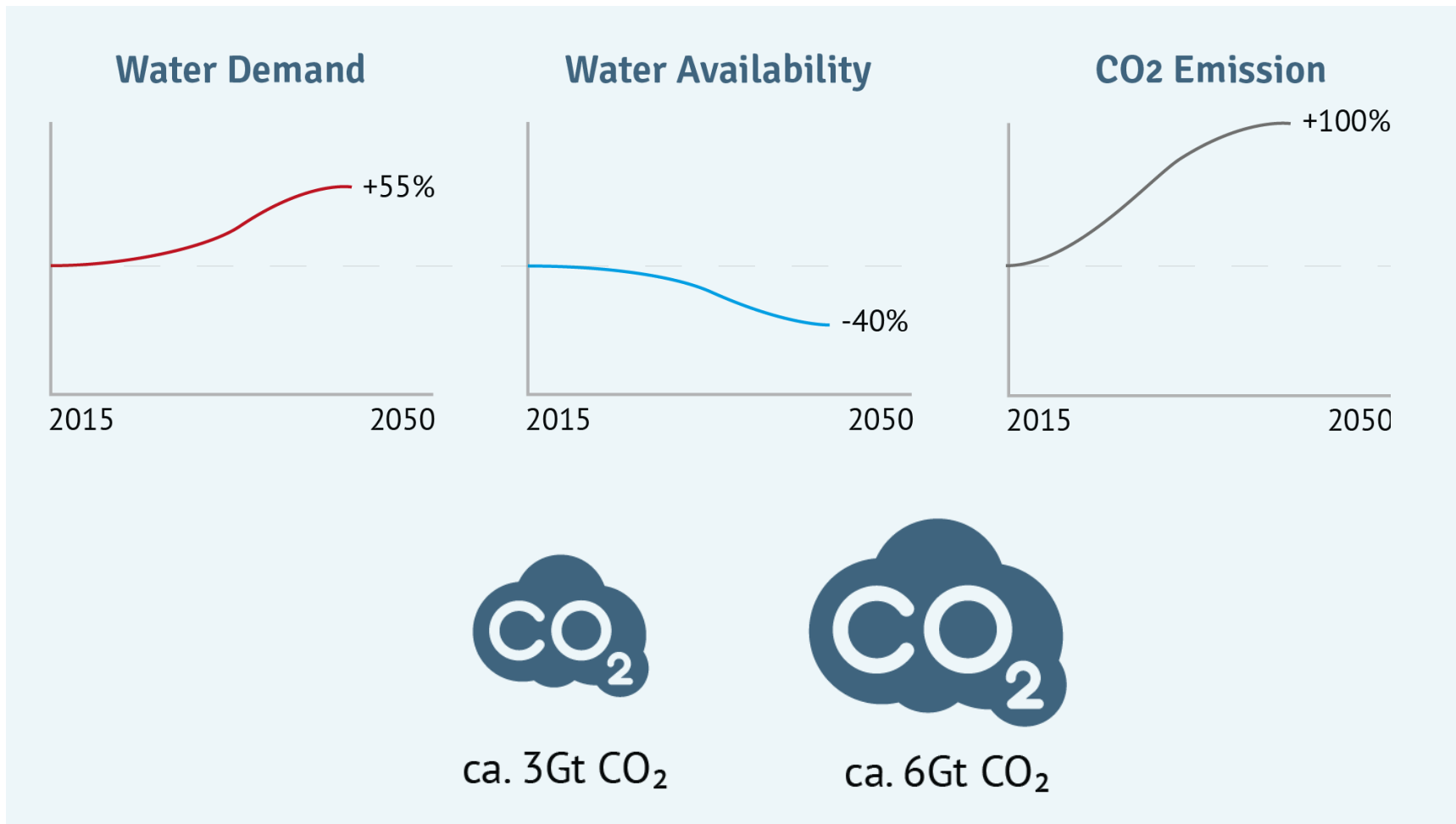


In the past 50 years carbon dioxide concentration levels have doubled.

Business as Usual is not an option. Greenhouse gases have to be reduced in all sectors of the economy, including the water sector.



Water Demand will rise while Water Availability will drop.

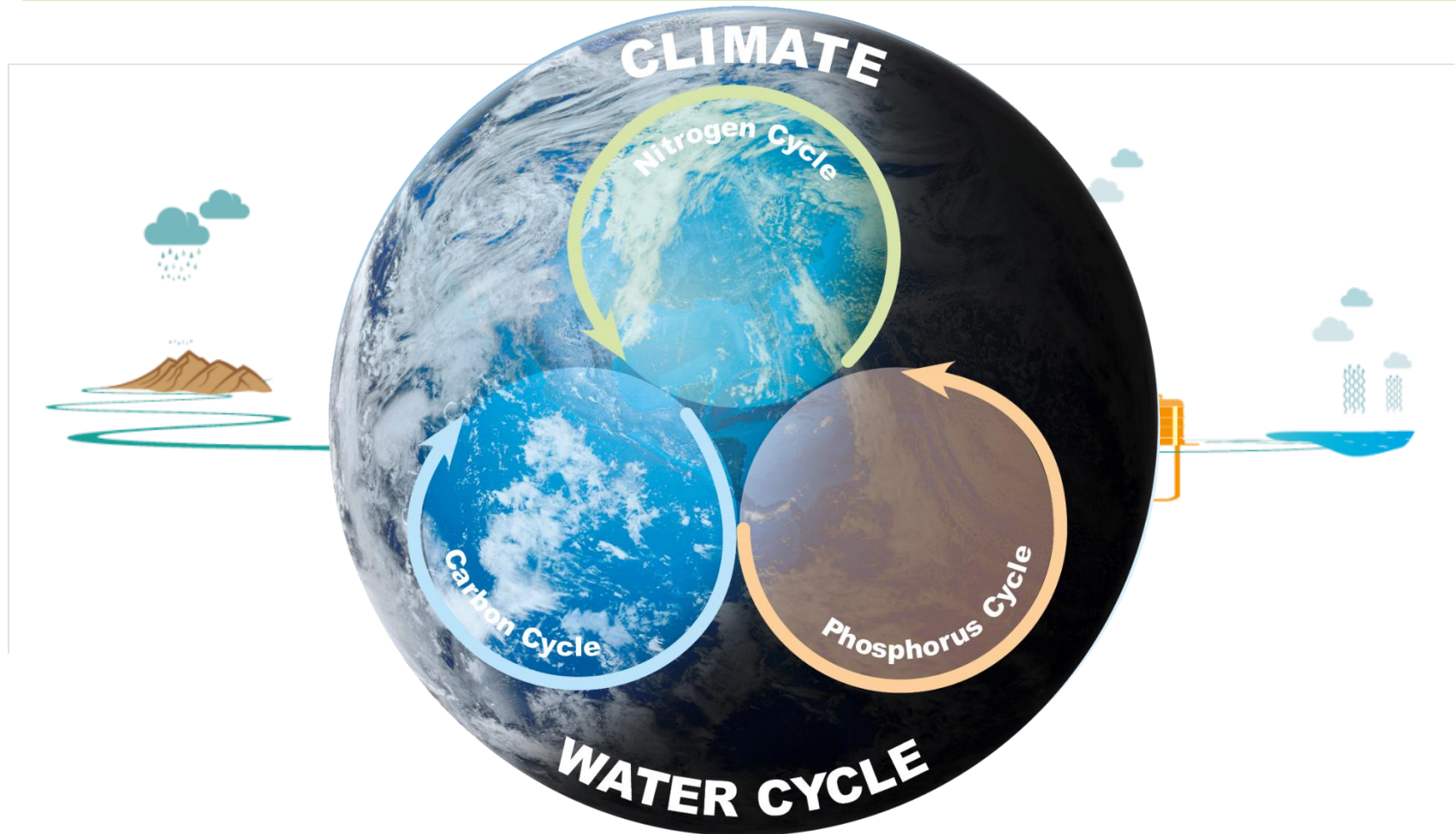


A paradigm shift is needed from linear to circular...



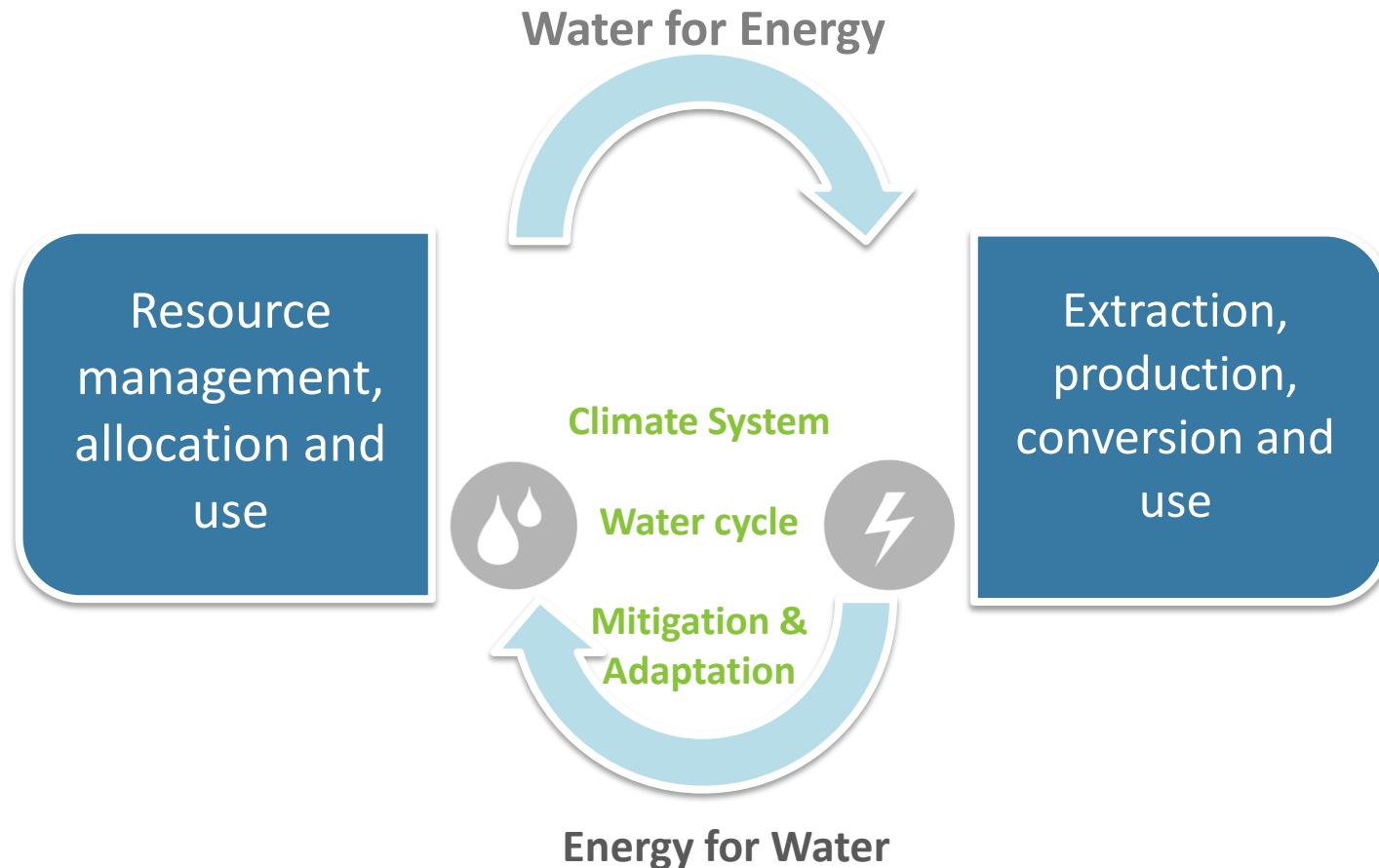
A resource-hungry future urgently requires the water sector to embrace a paradigm shift from removing pollutants to resource recovery opportunities.

A paradigm shift is needed from linear to circular...



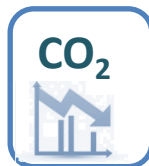
By closing the water, carbon, nitrogen and phosphorus loop, we can generate resources and save energy.

Water needs Energy & Energy needs Water.



The water-energy nexus - the interdependence between water and energy - and its implications for both adaptation to mitigation or water risk need to be considered in future sustainability planning.

Water and Wastewater Companies for Climate Mitigation (WaCCliM)



- **GHG reduction** potential
- Target 15 % CO₂e

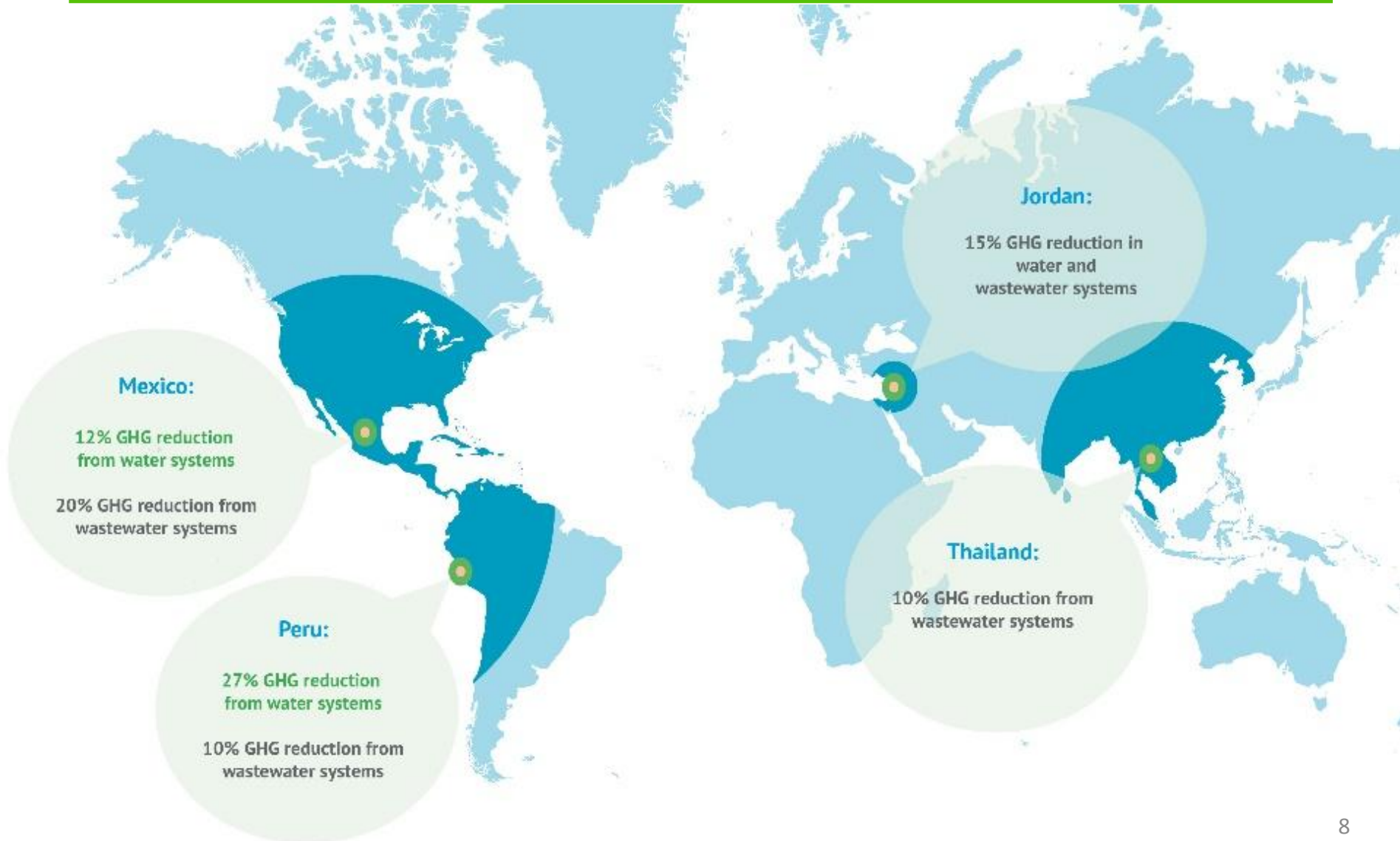


- **GHG Reduction Strategy** for Water Sector
- **Financing mechanism**



- Strengthening **Capacity** on GHG assessment and **MRV**

WaCCliM: Where are we working?

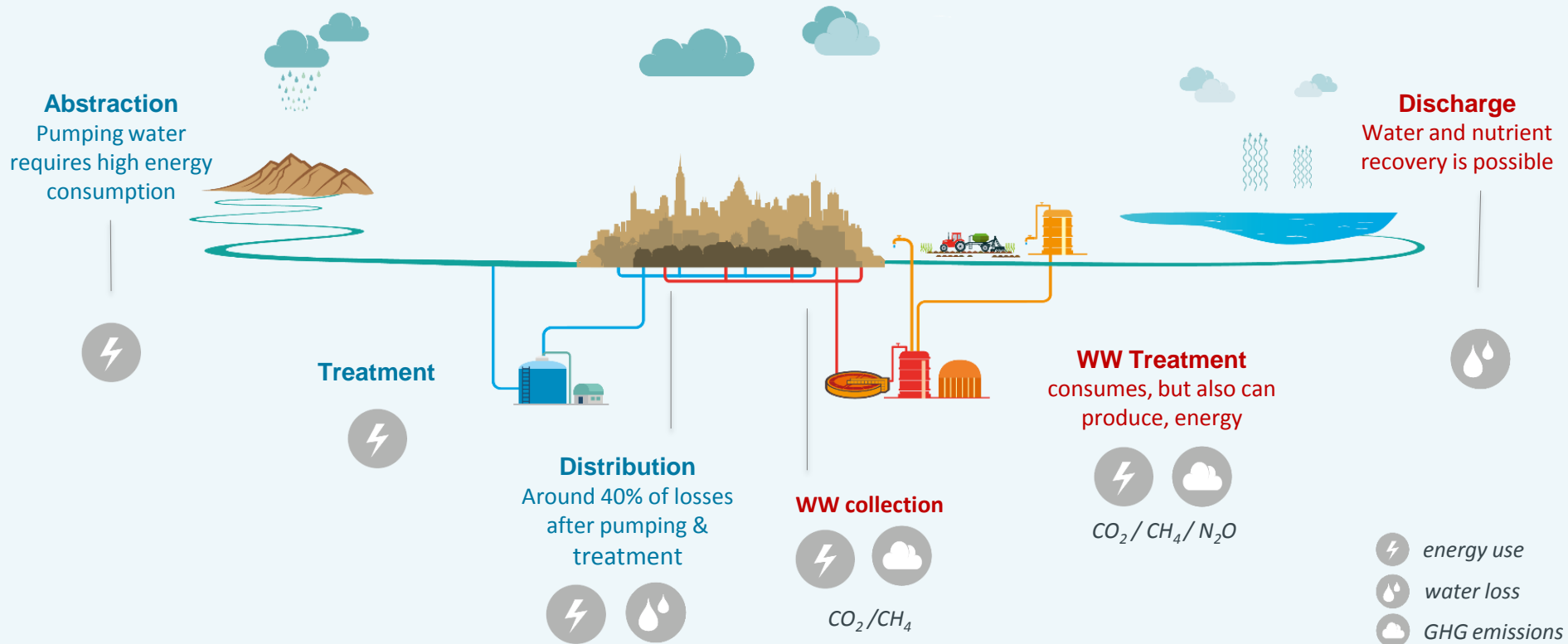


What are the Mitigation Opportunities in the Urban Water Cycle?

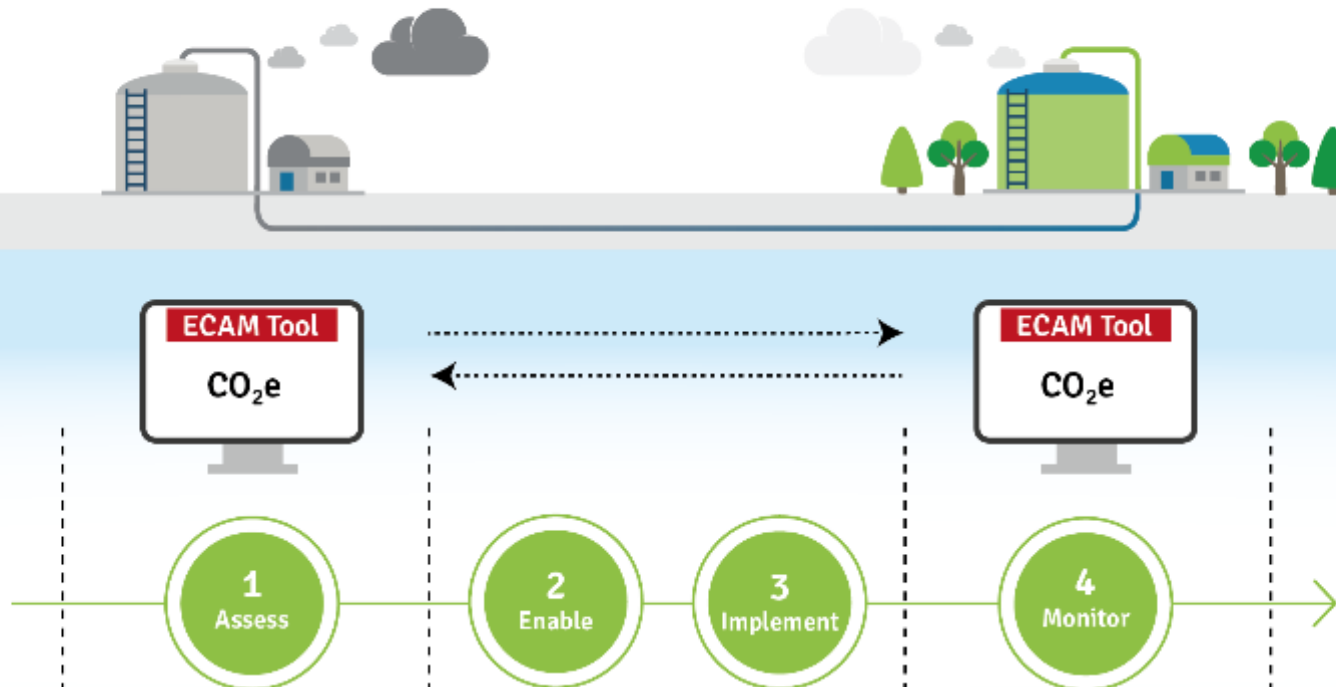


Energy and GHG Intensity of the Urban Water Cycle

Every urban water cycle has its own energy and carbon footprint.
How close can we get to the minimum possible value?



Roadmap for CO₂ Reduction



LOCAL LEVEL

Project development
to reduce GHGs

STATE LEVEL

Strengthen
capacities and foster
partnerships

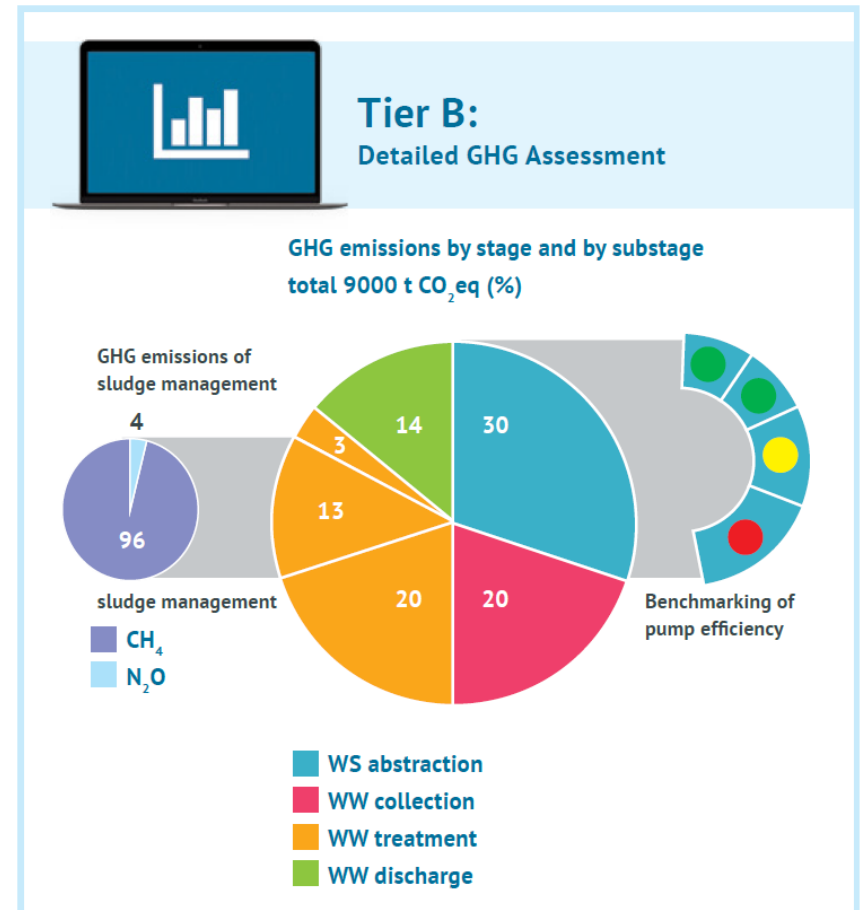
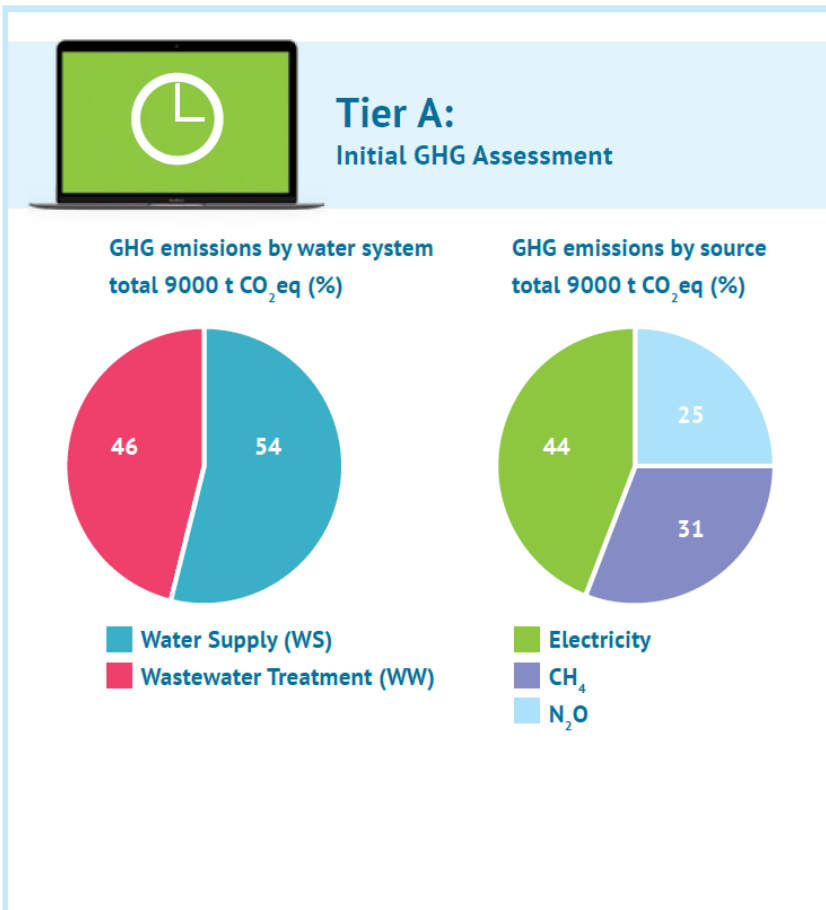
NATIONAL LEVEL

Link access to national
financing with ECAM
assessment

ECAM as tool for Monitoring, Reporting, Verification in the Water Sector



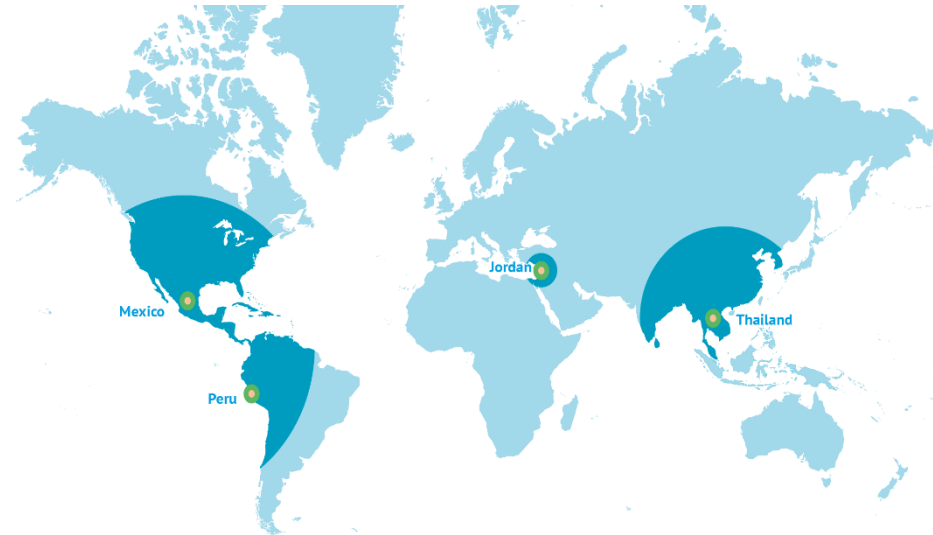
ECAM: Tiered Approach for Increasing Accuracy



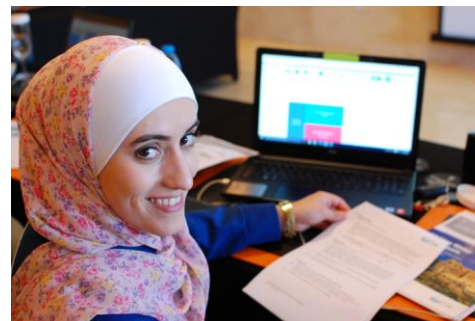
Capacity Building for using ECAM

Training Modules

1. Introduction
2. Setting the scene
3. Roadmap
4. ECAM Tool
5. GHG assessment
6. Energy assessment
7. Sludge Management
8. Opportunities
9. Bringing it all together
10. Wrap-up and closure



Utilities from more than 20 cities worldwide have used ECAM



Training in Jordan



Training in Thailand

Lessons learned

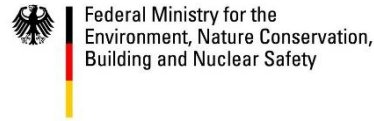
- Introduction of mitigation: Link with sector goals and other sectors
- Show quick wins: Cost ↓ and operational efficiency ↑
- Identify Co-benefits
 - Resource security to meet future demand
 - Legal compliance
 - Environmental impact ↓



Our Partners



On behalf of:



of the Federal Republic of Germany



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