



# Leveraging the Circular Economy and Current Barriers

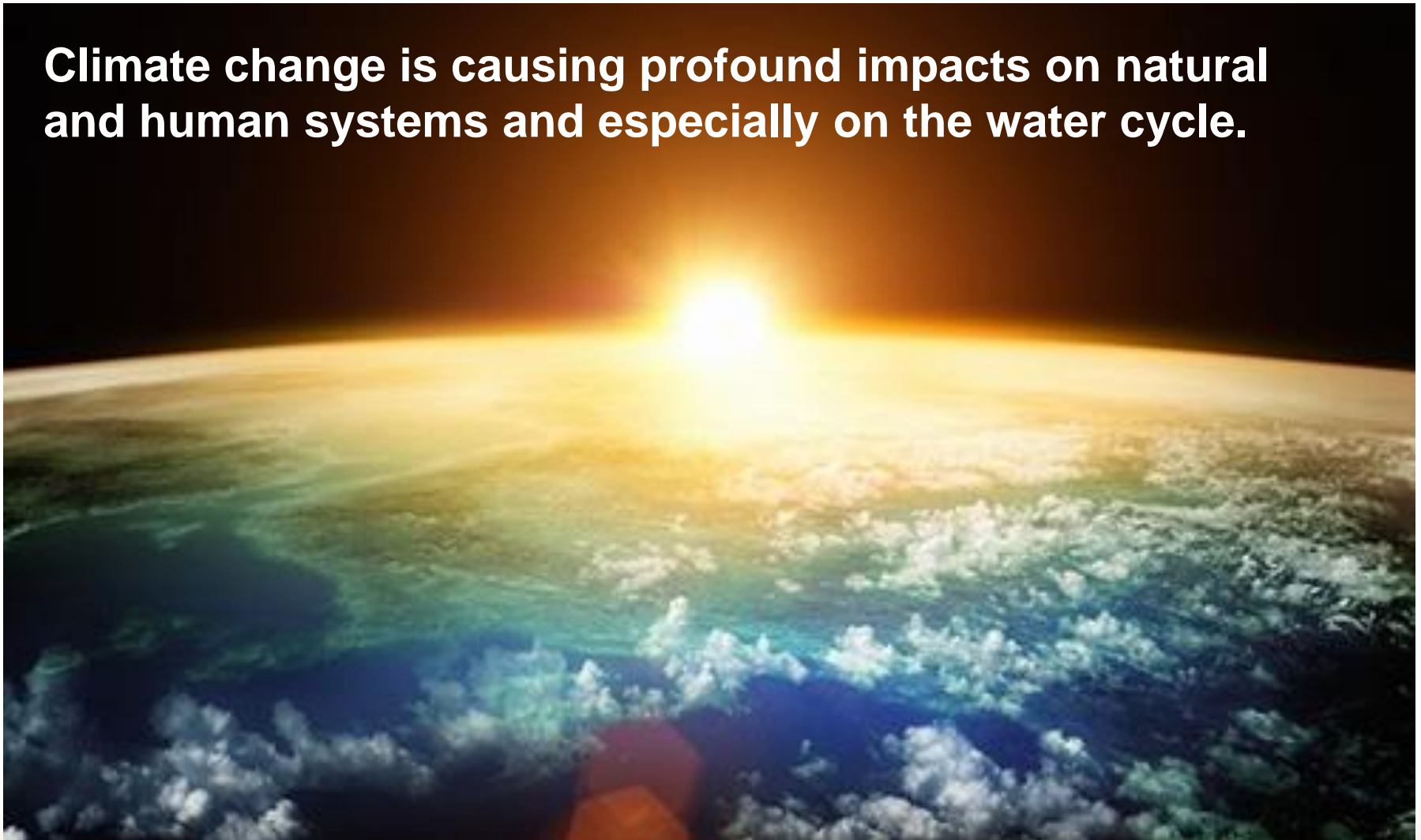


**Bringing the Circular Economy to Life**

**Dr. Astrid Michels, GIZ**



**Climate change is causing profound impacts on natural and human systems and especially on the water cycle.**





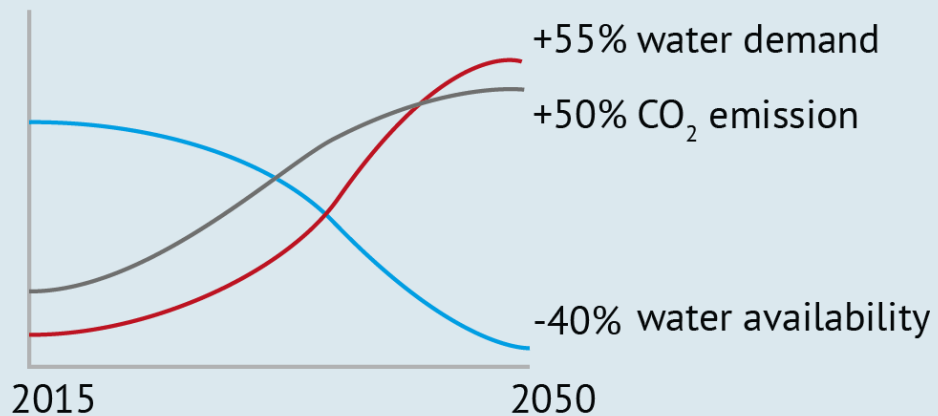
**A circular economy can be a key lever in bridging the emissions gap to a 1.5°C pathway.**





# Why is it important to include water in a circular economy?

## Water demand will rise, while water availability will drop



ca. 5Gt CO<sub>2</sub>

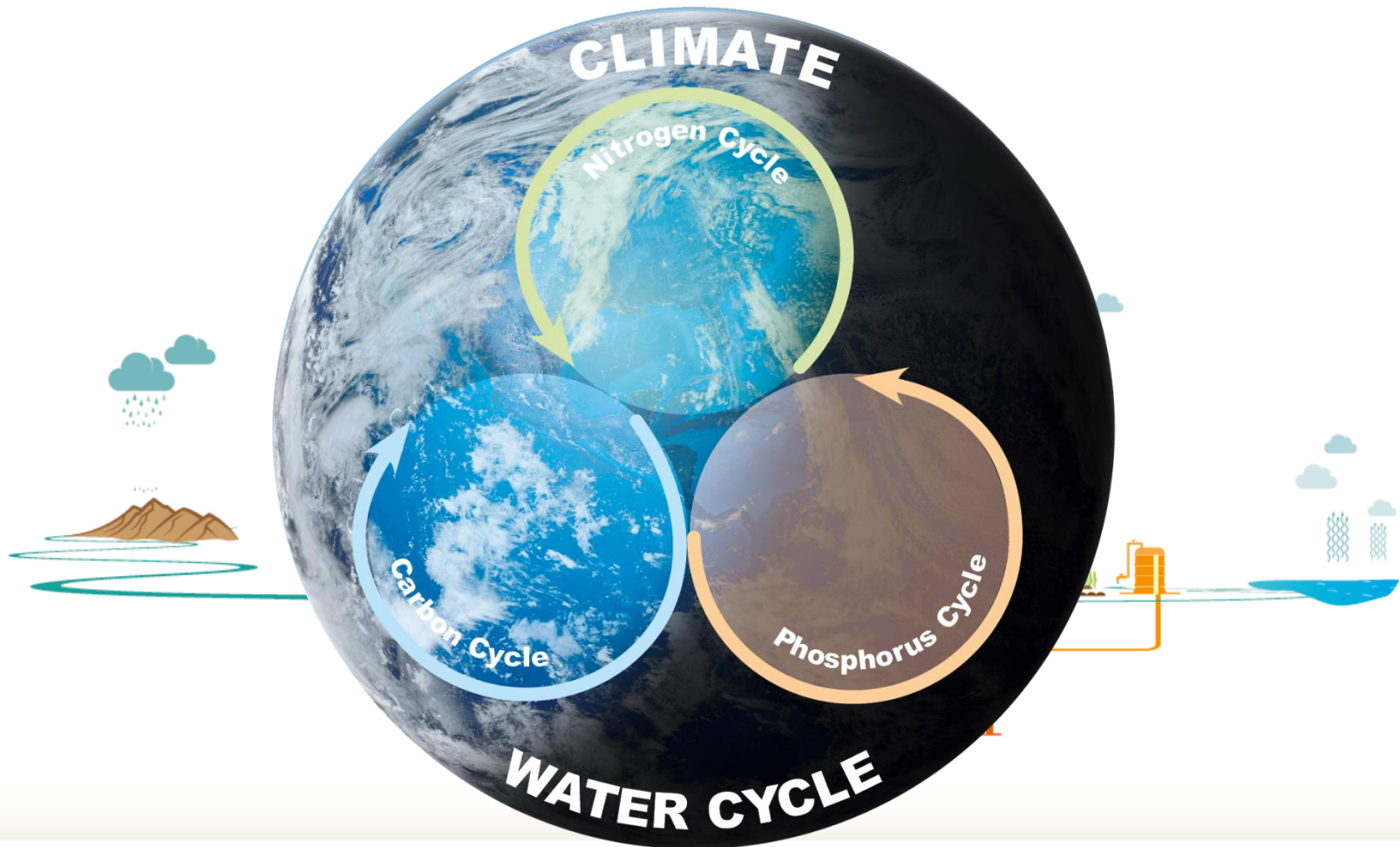


ca. 8Gt CO<sub>2</sub>



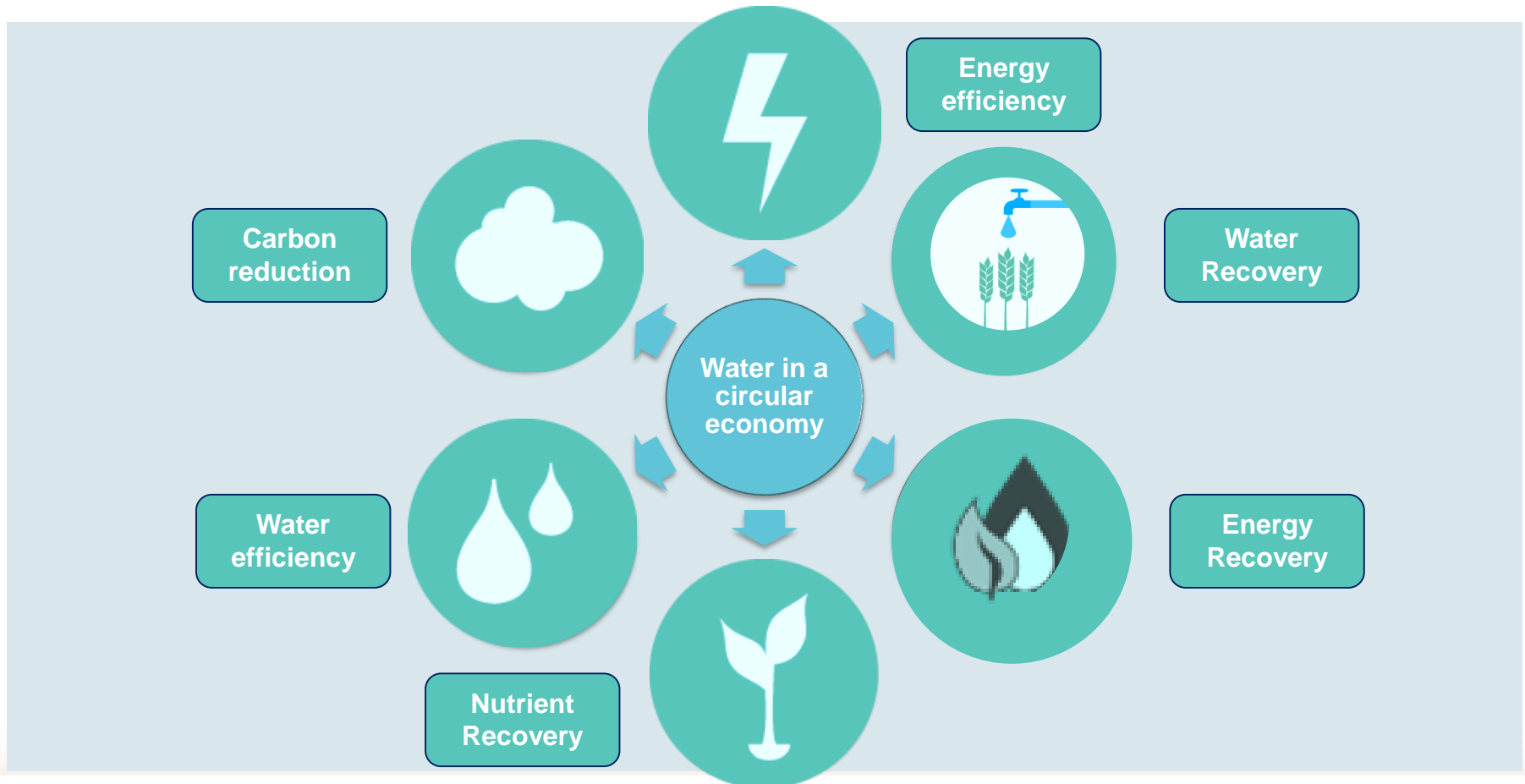


# A paradigm shift is needed from linear to circular...





## Water plays a vital role in a circular economy





# What are the barriers to go circular?





## Benefits of a circular economy of water

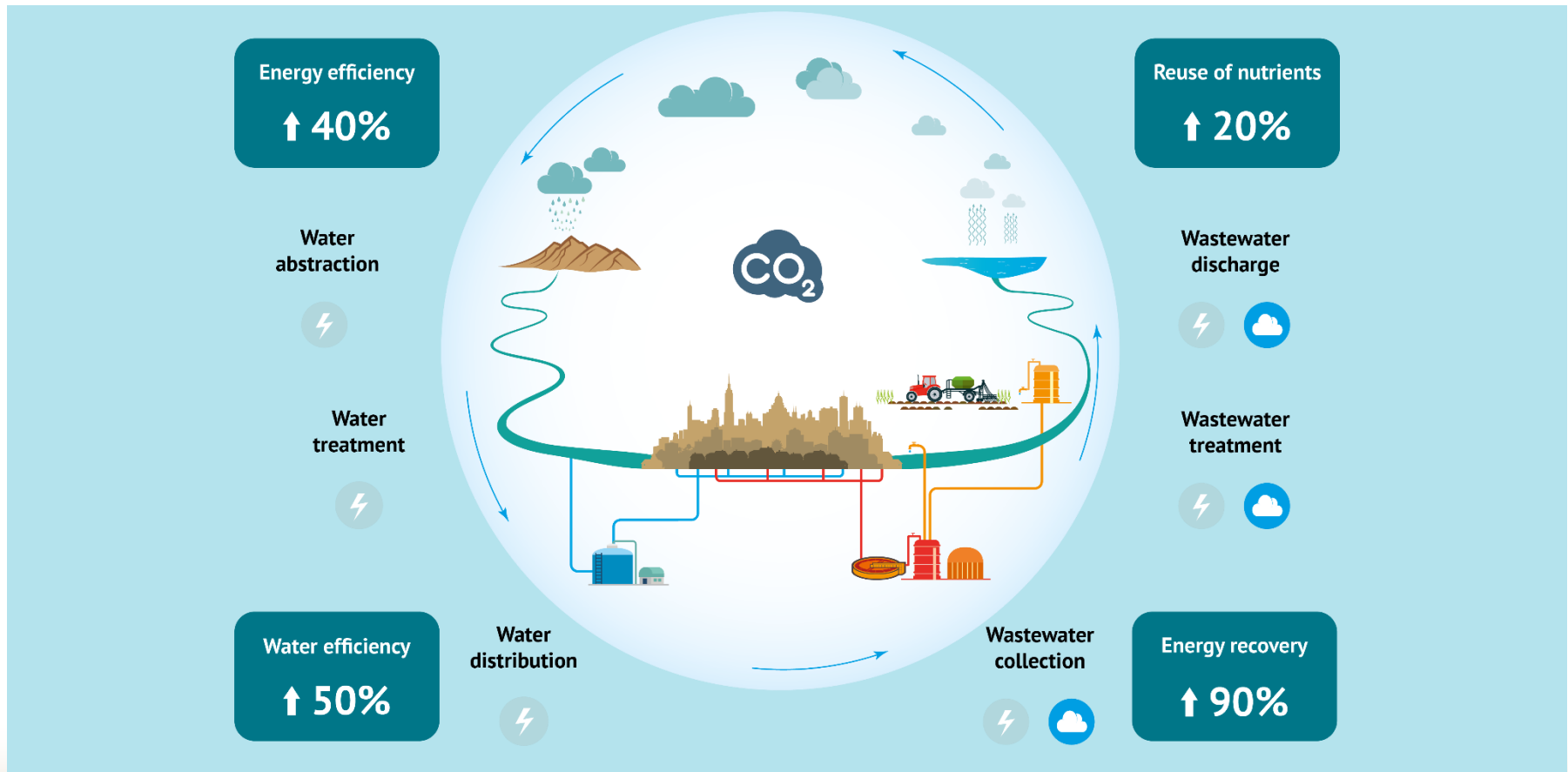
- Costs
- Economic growth
- Resource security
- Legal compliance
- Environmental impact reduction
- Create wealth and jobs
- Meet future demand





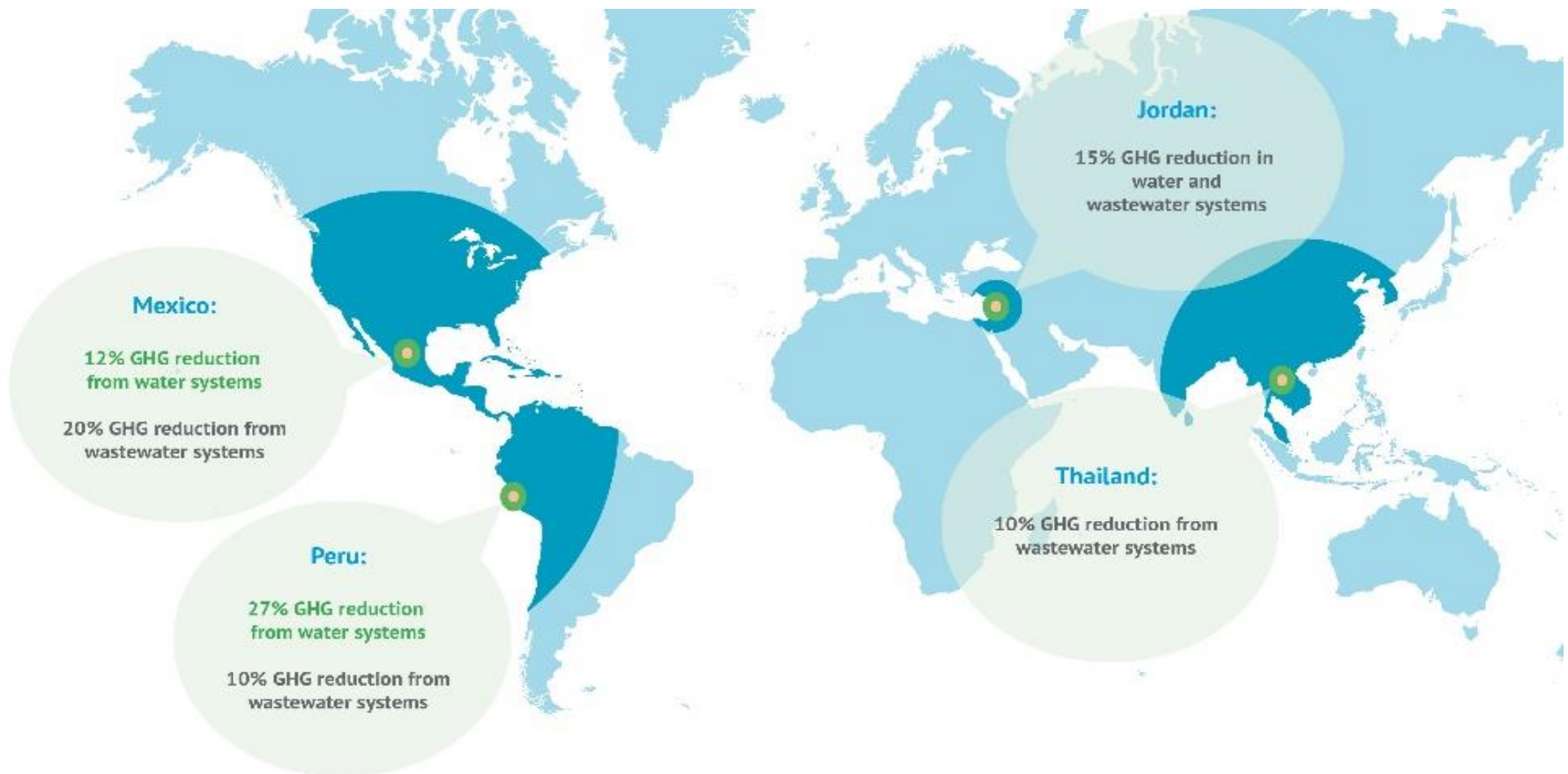


# What are the opportunities for creating loops in the urban water cycle?





# Water and Wastewater Companies for Climate Mitigation (WaCClIM): Where are we working?



# Cusco, Peru: Wastewater a wealth of energy

Climate change and increased demand for water intensify pressure on water infrastructure

Energy efficient pumps

Sludge management

Integration of water investment into long-term planning

5,300 t/a



650,000



6,400  
MWh/a



415,000





# San Francisco del Rincón (Mexico), expansion of wastewater treatment capacity

High water consumption, energy costs and overabstraction

Increased wastewater coverage  
40 % → 80%

Energy tariffs optimisation to reduce costs

Optimised wastewater treatment

Use of cogeneration system

Energy efficient pumps

Balancing financial risks & water tariffs at sustainable cost-recovery levels

2,800 t/a 

350,000 

3,400 MWh/a 

115,000 

# Madaba, Jordan: Water reuse for irrigation of crops

Energy efficient pumps in reservoir

Optimised wastewater treatment

Photovoltaics in wastewater handling

Identifying and preparing optimal project design & accessing climate funds

12,000 t/a 

4 Mio. \$ 

8.4 GWh/a 

200,000 



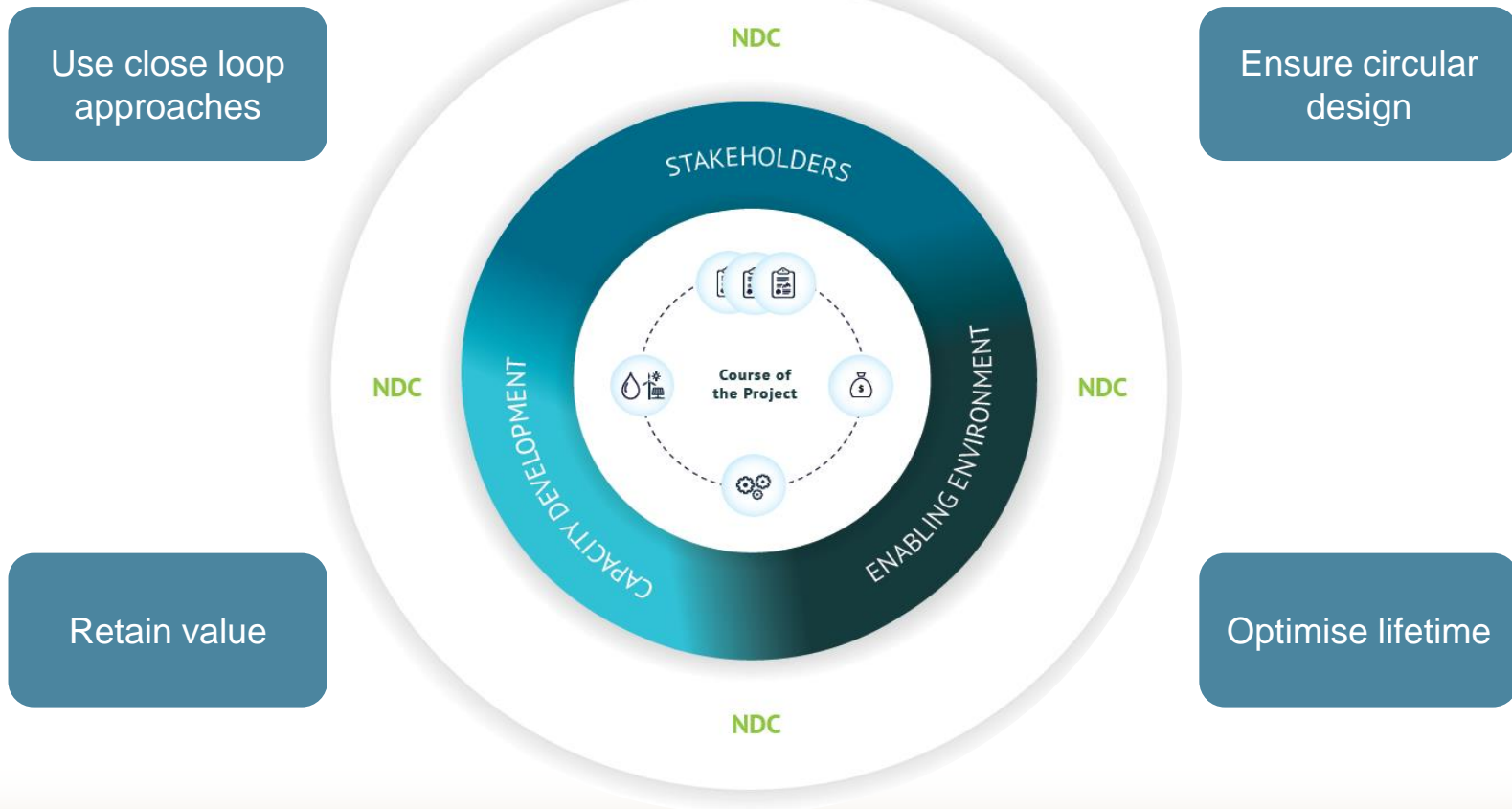


## How to overcome barriers?





## Next steps: Implementing NDCs and rethinking water





# Our Partners

On behalf of:



Federal Ministry for the  
Environment, Nature Conservation,  
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of the Federal Republic of Germany



Implemented by:





**Thank you for your attention**

