WORLD BANK GROUP

THE WORLD BANK
IBRD • IDA

IFC International Finance Corporation

MIGA Multilateral Investment Guarantee Agency

Scaling ReWater

A Programmatic Approach to Developing Sustainable Wastewater Treatment and Water Reuse Infrastructure for Water Security and Climate Change Resilience

A World Bank Group initiative to scale-up sustainable wastewater treatment and water reuse infrastructure in emerging economies through unlocking public and private finance using blended financing models

Sustainable wastewater treatment contributes to water resource management, human and environmental health, water security and climate change adaptation and mitigation strategies.

Population growth and urbanization, higher food production, and industrialization have driven global pressure on water resources.

Many countries are facing rising water stress and competing demands on freshwater while experiencing an increase in unregulated or illegal discharge of contaminated water. In addition, climate change exacerbates the looming water crisis: nine out of ten natural disasters are water related. Water-related climate risks cascade through food, energy, urban and environmental systems. Climate change increases the incidence and uncertainty of these events, and their frequency and negative impact are projected to rise in the future.

If we are to achieve our global climate and development goals, water must be at the core of adaptation strategies.

Wastewater reuse is a reliable, climate resilient and local source for water and generation of energy and other resources.

Technology can help tackle these challenges by doing what nature has been doing all along: recycling water. Treating wastewater and reusing it for industrial, agricultural, and potable purposes improves water security while at the same time combating environmental degradation and reducing greenhouse gas (GHG) emissions such as methane from untreated or inadequate wastewater treatment processes.

Treated wastewater is a reliable source of water that often requires lower investment costs and energy use than alternative sources such as desalination or inter-basin water transfers and is more resilient to climate shocks.

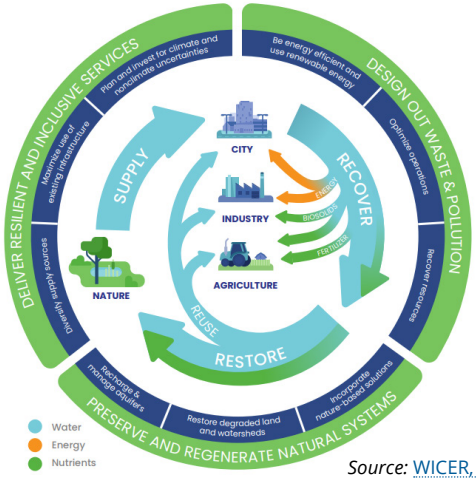
Applying circular economy and resilience principles to wastewater treatment and reuse.

The benefits of a circular and resilient approach to developing infrastructure and services, including for wastewater treatment, are well documented in the work of the World Bank (Waste to Resource report, WICER framework)

The circular economy model has emerged as a response to the current unsustainable linear model of "take, make, consume, and waste." The circular economy offers an opportunity to recognize and capture the full value of water—as a service, an input to processes, a source of energy, and a carrier of nutrients and other materials as well as optimizing the quantitative impact on water resources.

Adopting these principles can also transform wastewater treatment from a costly service to one that is self-sustaining and adds value to the economy: additional revenue streams from selling treated water can help cover operation and maintenance costs.

Water in Circular Economy and Resilience (WICER) Framework



Source: WICER, World Bank

Solving the Immense Water Challenge

Countries face a number of challenges to scaling up investment in sustainably managed wastewater treatment and reuse infrastructure:

- Establishing effective policy, institutional and regulatory incentives and increasing service efficiency
- Carrying out adequate planning, feasibility assessments, project preparation and design
- Addressing revenue constraints, and mobilizing financing
- Managing complex construction procurement processes
- Ensuring long-term technical and financial sustainability so wastewater treatment facilities are effectively operated and maintained

Smartly-designed and implemented Public-Private Partnerships (PPPS) can be an effective tool to bring in private sector expertise and capital to bridge financing gaps, mitigate risks, and minimize the lifetime cost of service. These factors ensure the long-term technical and financial sustainability of capital-intensive and technologically complex wastewater treatment and reuse projects.

...with a Programmatic Partnership and Financing Solution

The World Bank Group's Scaling ReWater programmatic approach addresses the main barriers to structuring and implementing sustainable wastewater treatment and water reuse solutions: affordability, financial viability, investor confidence and the enabling environment, such as regulatory and institutional frameworks.

The World Bank Group Scaling ReWater programmatic approach helps our clients overcome capacity constraints in project preparation, lower transaction costs of individually negotiated contracts, and reduce the perceived investment and sector risks. These factors enable countries to scale up investment in wastewater treatment and recycling projects in a rapid, cost-competitive, and sustainable way.

Scaling ReWater brings together transaction advice, standardized tender documents, balanced project agreements, and World Bank Group financial products to support the mobilization of private capital in several ways, including:

- Financing critical public investments by facilitating access to environment, social, and governance (ESG)-linked or green financing and institutional investors on blended financing terms
- Supporting government decarbonization programs by aggregating through financial intermediaries to create new financing platforms and ecosystems
- Crowding in private sector for large-scale investment projects with credit enhancement mechanisms such as guarantees, first-loss provisions, and viability gap funding.

Scaling ReWater is a **Paris Agreement-aligned, GHG emissions reduction solution** led by the World Bank Group to: 1) address development barriers in the sector; 2) efficiently develop wastewater treatment and reuse projects through programmatic, competitive, transparent processes; and 3) mobilize a mix of long-term, low-cost public / concessional, and grant funds for climate action and private financing.

World Bank Group Scaling Rewater Programmatic Approach

STEPS 1–4
8–12 months
Program/Project preparation and design

STEP 5–7
8–12 months
Bidding process preparation
Tender Process & Award
Financial Close

1 ALIGNMENT AND PREPARATION OF POLICY, REGULATORY AND INSTITUTIONAL FRAMEWORK

- Assessment of wastewater treatment and reuse-related policy, regulatory and institutional aspects
- Assessment of PPP frameworks
- Roadmap of actionable reforms or measures required as part of program design

2 STAKEHOLDER ENGAGEMENT

- Mapping and objectives alignment
- Strategy development to maximize engagement and ownership
- Implementation and follow up across all process through multi-stakeholder platforms

3 EARLY PROGRAM DEVELOPMENT/ PROJECT PREPARATION

- In-country operationalization of circularity and resilience concepts and linkages with national climate change strategies
- Water security diagnostics and identification of reuse and resource recovery opportunities
- Value for money, commercial and financial viability
- Market sounding (including assessment of carbon markets and ESG-linked green financing opportunities)

4 DETAILED PROGRAM/PROJECT DESIGN AND FINANCIAL STRUCTURING

- Detailed technical, economic, environmental and social, financial, legal and institutional due diligence
- Financing plan, including concessional financing and credit enhancement mechanisms
- Capacity building for project development
- Site investigation

5 BID PREPARATION

- Adjustment of tender and concession templates to project specificities
- Preparation of indicative financing terms
- Market promotion

6 TENDER PROCESS & AWARD

- Request for qualification
- Bidder consultation
- Request for proposals
- Proposal review
- Signing of project documents

7 FINANCIAL CLOSURE

- Finalization of EPC and O&M contracts
- Final project approvals
- Finalization of financing documentation

STEP 8–9
18–24 months
Construction & Begin operations

8 CONSTRUCTION

- Construction and commissioning
- Operation and maintenance
- Capacity building for contract management
- Implementation support

9 OPERATION & MAINTENANCE

- Sustainable quality service
- Resilient asset management
- Capacity building and know how transfer
- Maximize value for money

Depending on context, project scale and complexity, Scaling ReWater can support programmatic approaches at national and subnational levels in taking one or more projects to financial closure and construction phase in 18-24 months.

WBG Offerings

POLICY, INSTITUIONAL AND REGULATORY ADVISORY to address policy, institutional, and regulatory issues

TECHNICAL ASSISTANCE AND AD-HOC SUPPORT to operationalize circularity and resilience concepts, engage stakeholders, structure projects and perform due diligence

BALANCED RISK ALLOCATION AND CREDIT ENHANCEMENT products to lower financing costs, deliver sustainable projects, and attain more affordable tariffs

COMPETITIVE FINANCING AND INSURANCE solutions for certain private sector players and some public counterparts

TRANSACTION ADVICE AND STREAMLINED TENDERING to attract concessional climate funds and broaden competition from specialized industry players

STANDARDIZED, BALANCED PROJECT DOCUMENTS using template documents (e.g., concession agreement, government support agreement, prequalification documents) to reduce negotiation delays and to facilitate the mobilization of private and public (where available) funding, while maximizing affordability.

The Benefits of the World Bank Group Scaling ReWater

Countries & Governments

LONG-TERM DEVELOPMENT IMPACT: Improvement of water quality, resulting in better health and educational outcomes, reduced pollution and environmental degradation, sustainable management of water resources and reliable source of water for multiple economic uses, as well as and other possible economic opportunities, such as nutrient recovery and energy generation.

CLIMATE: Reduction of GHG emissions from untreated wastewater (mitigation), optimization of water resources management and climate resilience (adaptation) and opening access to blended and climate finance.

EFFICIENCY: Standardized templates expedite project preparation and tendering to achieve more efficient contractual and financial close.

CERTAINTY: Balanced, bankable tender documents and project agreements that can be offered to bidders with optimal risk allocation and visibility on potential financing options available to all suitable bidders.

AFFORDABILITY & LOWER COSTS: Tenders designed to attract competition among top-tier investors and minimize resultant tariffs.

Donors and Development Partners

REACH: Support (technical assistance and financing) to emerging markets to improve water security and related SDGs as well as climate action.

LEVERAGE: Donor support can leverage significant amounts of private capital and technology through blended finance schemes and transparent, competitive tenders.

Project Developers and Investors

MARKET CREATION: Consistent tendering and a programmatic approach to develop a pipeline of regional opportunities for qualified developers looking for new markets.

REDUCED DEVELOPMENT TIME AND COSTS: Quality due diligence will mitigate technical, environmental, social and legal risks. Provides a set of bankable documents and financing offerings.

LEVEL PLAYING FIELD: Clear and transparent award process allowing developers and investors to compete on the basis of lowest tariffs, quality of service, and long-term commitment.

RISK MITIGATION AND SHARING: Collaboration with development partners and risk mitigation through concessional financing and credit enhancement (such as guarantees, Viability Gap Funding and other components).

Clean Water and Sanitation Sustainable Development Goals.

The achievement of clean water and sanitation goals SDG 6 includes reducing pollution by halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally, improving water quality and management of ecosystems and implementing integrated water resources management. Currently, 80% of global wastewater is flowing back to water bodies without proper treatment, including around two million tons of human waste per day. This rate is predicted to increase with population growth and urbanization.

Sustainable wastewater treatment is needed as part of climate change adaptation and mitigation strategy.

Climate change will affect the availability and reliability of water resources. With 36% of the global population living in water-scarce areas and water demand expected to rise by 55% by 2050, water reuse is a natural and smart adaptation strategy. Countries are shaping their enabling environments to more circular and resilient approaches, where treated wastewater could serve multiple water uses.

The Paris Agreement identifies the reduction of methane emissions, energy production from wastewater, and the expansion and rehabilitation of wastewater as key climate change mitigation measures related to wastewater treatment.

Sustainable wastewater treatment can mobilize additional climate financing instruments.

By promoting investments that incorporate clean and green technology and approaches that contribute to climate change resilience and mitigation and carbon emission reductions, developing countries can access climate financing instruments. These include resources for technical assistance and advisory services for public and private sector operations, often through non-reimbursable grants, and for investments, deployed through a variety of instruments, including convertible and contingent recovery grants, investment grants, and guarantees, as well as carbon credits from carbon markets.

In Partnership with

GWSP
GLOBAL WATER SECURITY & SANITATION PARTNERSHIP

Contact Us

The WBG Scaling ReWater Team welcomes the opportunity to work with you to help catalyze this exciting programmatic approach, in support of the development, environmental and climate change agendas, through private sector participation.

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www.worldbank.org/water
www.ifc.org/water
www.miga.org/improving-access-water