

2030 WRG Karnataka:

Perspectives on Water Transformation in the Urban and Industrial Sector

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Overview

- ❑ 2030 WRG - anno 2014
- ❑ Hydro-Economic Analysis of Water Resources in Industrial and Urban sectors in Karnataka
- ❑ PaCT - Partnership for Cleaner Textile, Bangladesh



The 2030 Water Resource Group (2030 WRG) is a unique public-private-civil society partnership



Goal: facilitating **governments** to accelerate reforms that will ensure sustainable water resource management, for the long term development and economic growth of their country, while respecting social access and the environment.

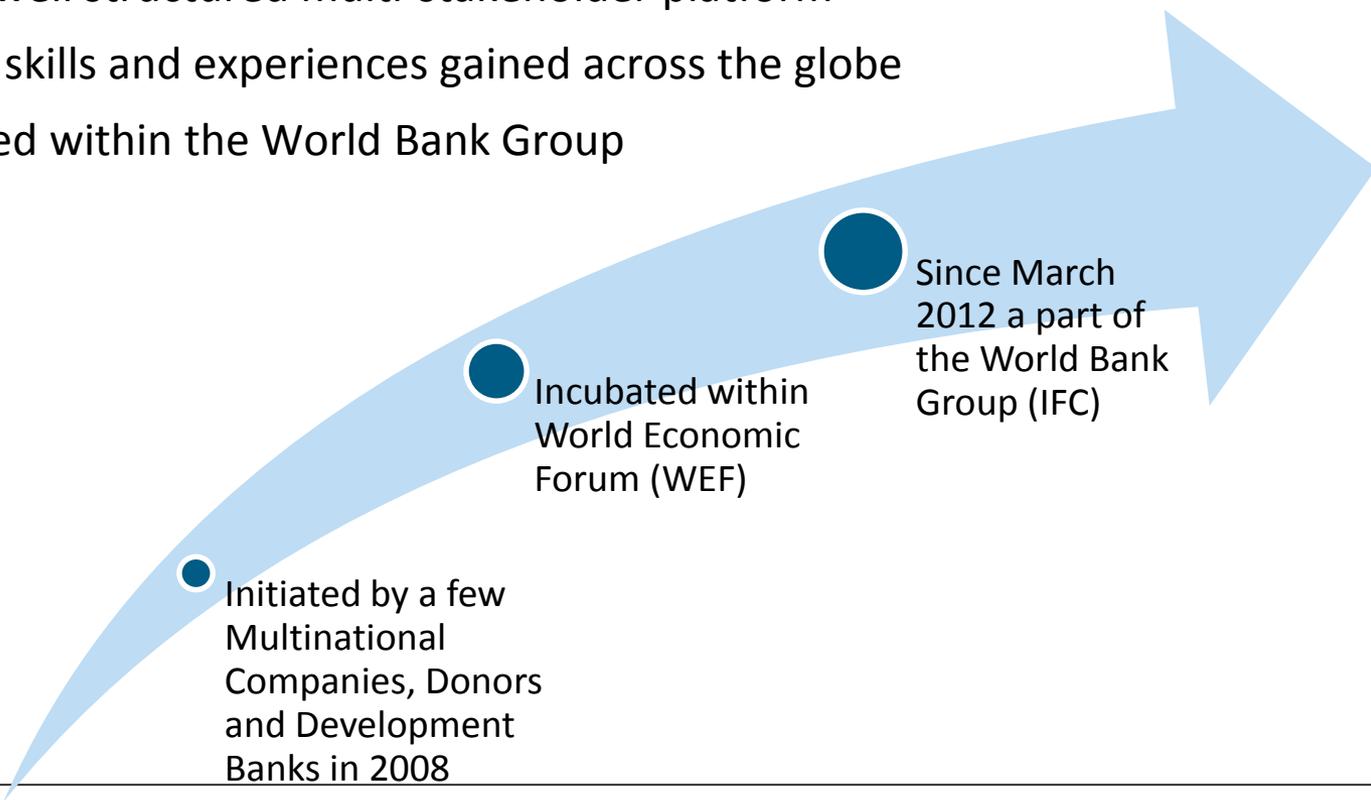
What makes the 2030 WRG unique?

- ✓ Involvement of the Private Sector
- ✓ The use of Hydro-economic models to describe Costs, Benefits and Risks of Water Resource Management
- ✓ Strong Convening Power: can establish resourceful multi-stakeholder platforms
- ✓ Partners basis: include organizations representing all stakeholders across Society



Development of 2030 WRG in past 5 years (global)

- From a loose stakeholder association with limited governance
- To a well structured multi-stakeholder platform
- With skills and experiences gained across the globe
- Hosted within the World Bank Group



Initiated by a few
Multinational
Companies, Donors
and Development
Banks in 2008

Incubated within
World Economic
Forum (WEF)

Since March
2012 a part of
the World Bank
Group (IFC)



2030 WRG is well placed to drive water sector transformation

2030 WRG has gained traction and speed since its formation in 2008...

Formed in 2008 to contribute new insights to the critical issue of water security in the context of economic growth

Brought together a consortium of stakeholders including McKinsey & Company, the World Bank Group and a growing consortium of business partners, including the World Economic Forum (WEF)



Published 'Charting our Water Future' in November 2009

Now 'taking insight to action' at the country level

...and has developed skills and capabilities required to lead a new approach

Experience

In-country experience in conducting targeted analysis and strategic economic planning aimed at senior decision makers and business leaders

Tools

Private sector tools and techniques

Proven systems transformation methodology applied to water sector

Share service model of engagement designed to support needs of all stakeholders

Legitimacy

Facilitation of coalition of parties who have a stake in water enabled growth including public institutions, private companies and water experts

Leads to credible 'co-created' solutions

Strong brand developed through early country work

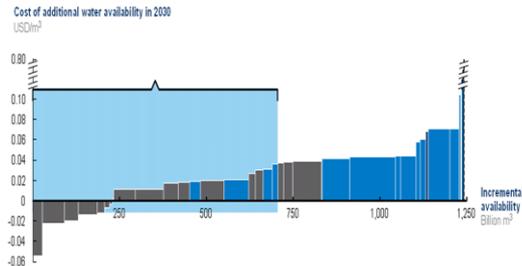
SOURCE: 2030 Water Resources Group



The 2030 WRG “ACT” Process

Step 1

- **Analysis**
to support better decisions



- **Comprehensive fact base** with broad agreement.
- **Cost, Benefit or Risk analysis** depending on countries needs

Step 2

- **Convening**
public-private-civil society stakeholders



- **Multi-stakeholder platforms** to help government shape and take forward priority programs, plans and actions

Result

- **Transformation**
to higher performance and sustainability



- **Concrete proposals** to ensure lasting change on the ground
- Can be Programs, Plans, but also PPP-proposals



2030 WRG can help the Multi-Stakeholder Platform prioritize actions through hydro-economic analyses

✓ Economic Cost Perspectives

- Projections of future demand of water
- Cost to country for not having enough water
- Marginal cost-curve analysis to prioritize interventions

✓ Benefit Perspectives

- Quantifying economic, social and environmental benefits of different uses of water
- Making scenarios for different allocation of water between different sectors, and thereby creating different benefits as a result

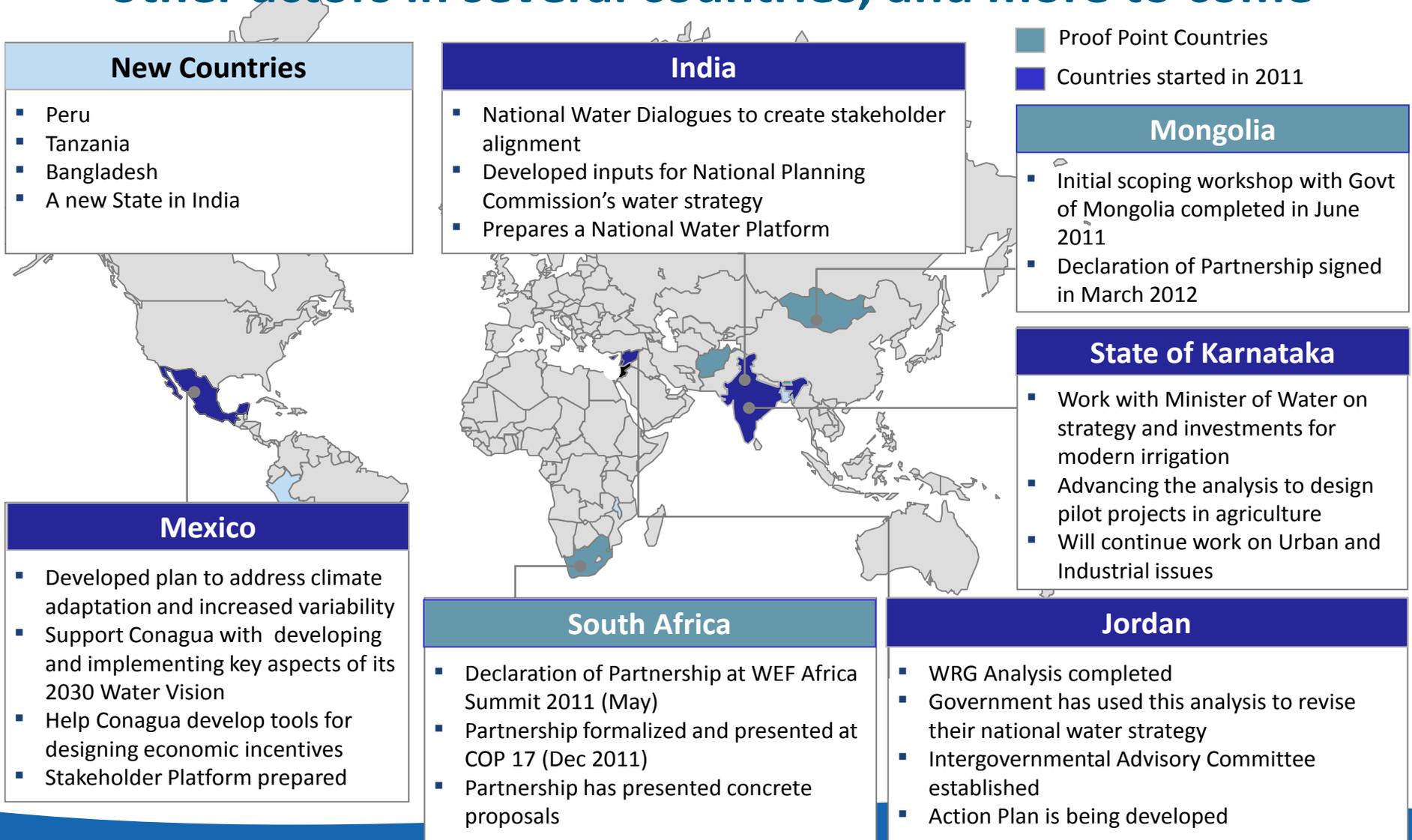
✓ Risk perspectives

- Determine which geographic areas , economic sectors and social groups are most at risk due to water scarcity, flooding, water pollution, and poor water governance. Today and with scenarios for the future
- Quantify the consequences

All 3 analysis can be performed at different scales, and with different spatial resolution



The 2030 WRG is working with governments and other actors in several countries, and more to come



2030 WRG Karnataka - Background and Objectives

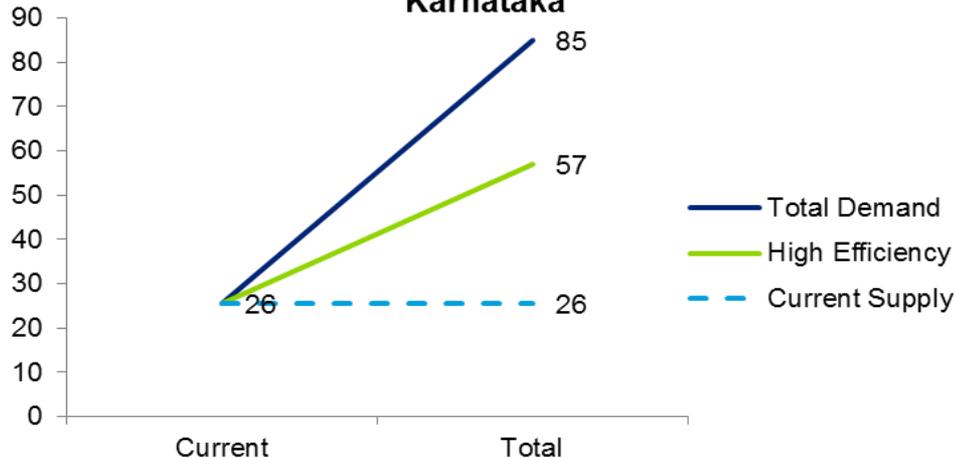
- ❑ In 2010, the 2030 Water Resources Group entered into a MoU with Government of Karnataka to:
 - ❖ Review water security challenges including Demand - Supply Gap
 - ❖ Identify a range of practical options to close the gap
 - ❖ Estimate the cost of the options
 - ❖ Identify economic / institutional challenges in implementation
 - ❖ Suggest a road map for transformation of the sector

- ❑ Analysis conducted in Two phases
 - ❖ Phase - I: Agriculture Sector
 - ❖ Phase - II: Industrial and Urban sector - **Present Study**

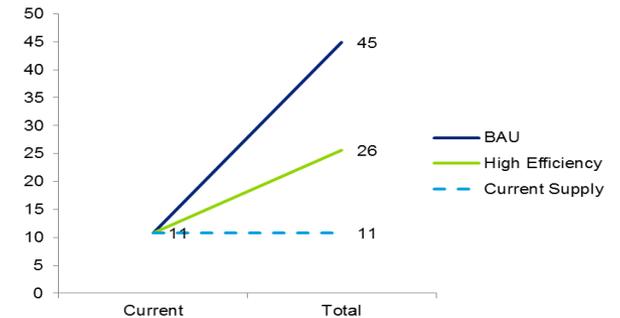


Growth Pattern of Increasing Industrial Demand

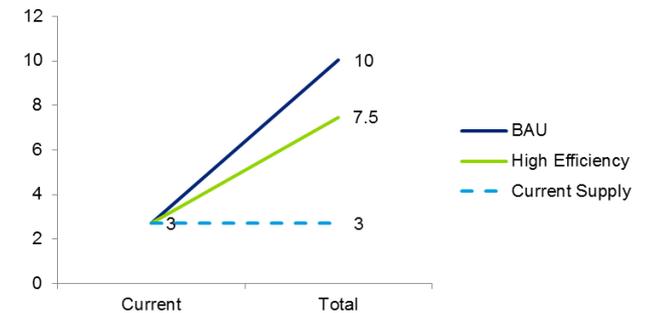
Water Requirement for Industrial Sector in Karnataka



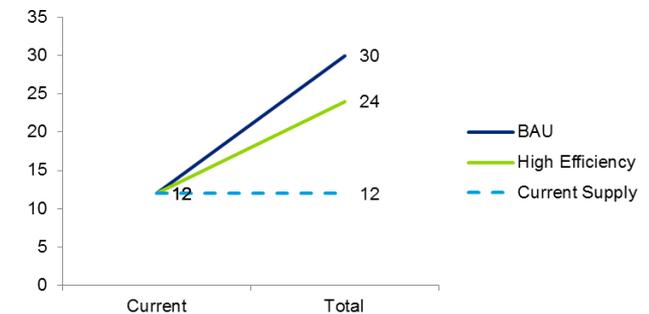
Water Requirement in Power sector in Karnataka



Water requirement for Steel sector in Karnataka



Water requirement for other sectors in Karnataka

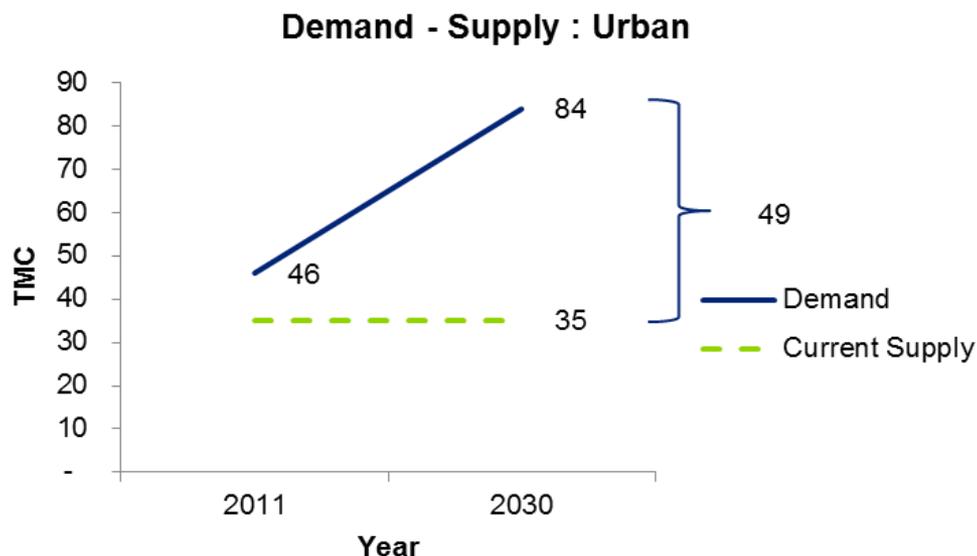


Key Observations

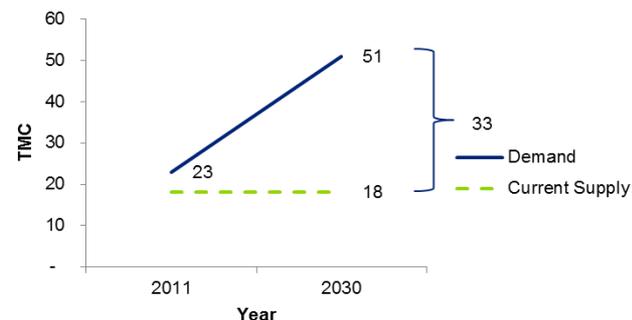
- ❑ Power sector contributes to more than half of industrial water demand
- ❑ More than 80% of the demand likely to be concentrated in Krishna basin
- ❑ Apart from quantity, ensuring availability of water for 365 days - a key challenge going forward
- ❑ Demand can be reduced by 33% if water is used with best-in-class efficiency



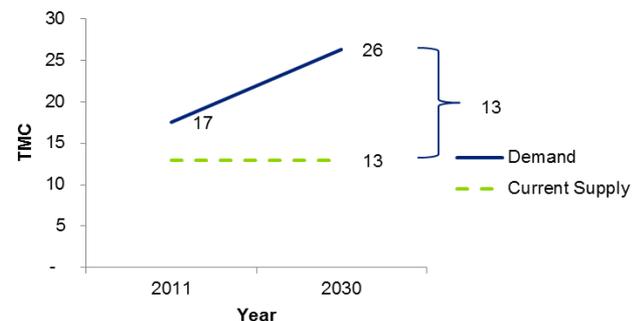
Growth Pattern of Increasing Urban Demand



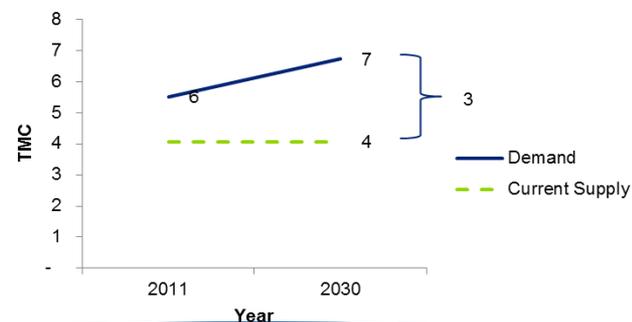
Demand - Supply : Greater Bangalore



Demand - Supply: 51 Large Cities



Demand - Supply - Other Smaller Towns



Key Observations

- Greater Bangalore Region likely to contribute to about 2/3rd of total water demand if present growth rates continue
- Cauvery Basin - the key source of supply for Urban sector (especially Bangalore)
- Consumptive use of water is only 20% and hence significant attention must be paid on wastewater management along with water supply



Key Solutions Considered

Industrial Sector

- ❑ **Common Solutions**
 - Zero Liquid Discharge
 - Municipal Wastewater Reuse
 - Rainwater Harvesting
- ❑ **Power**
 - Dry Cooling
 - Increasing Cycles of Concentration
 - Recycle Ashwater
- ❑ **Steel**
 - Dry Beneficiation
 - Dry De-dusting
 - Coke Dry-Quenching

Urban Sector

- ❑ **Bangalore**
 - Reduction of Physical Losses
 - Rainwater Harvesting
 - Wastewater Reuse
 - Lakes Rejuvenation
 - Desalination
 - Various Options for Primary Source Augmentation Measures
- ❑ **Similar measures for 51 largest towns**
- ❑ **Similar measures for other smaller towns**

Key Outputs of Study

- ❑ Key recommendations to enable sustainable development of industry and urban sectors from the perspective of water consumption
- ❑ Key policy / regulatory / institutional enablers to achieve the transformation
- ❑ Mechanisms to initiate and sustain the transformation
- ❑ Leveraging strengths of various stakeholders including private sector in the process

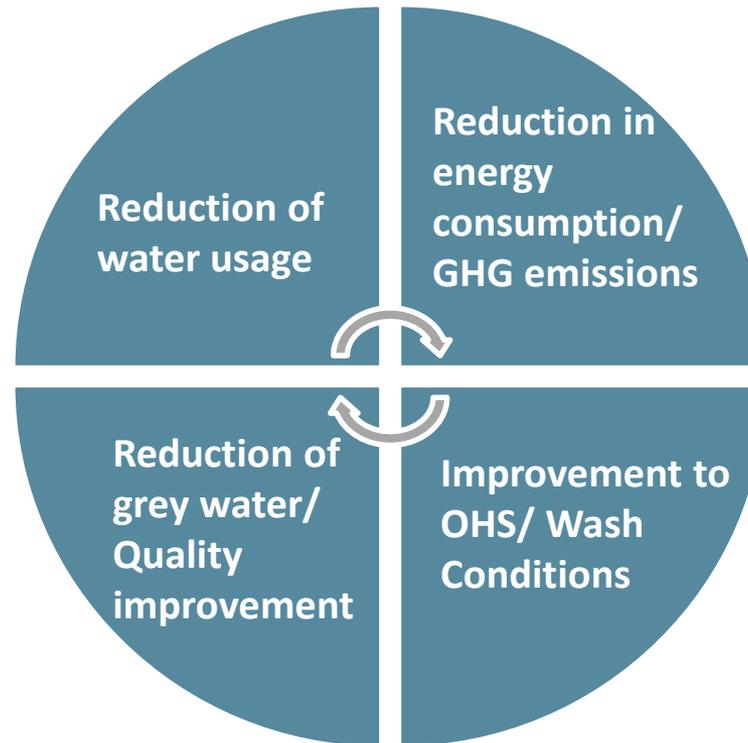
Partnership for Cleaner Textile (“PaCT”) Objectives

Program aims at transformation of the textile sector through positive social, environmental and economic impact creation

Goals of PaCT Program

- Water use avoided of up to **25 million m3**
- Catalyze adoption of low-cost/ no-cost cleaner production measures, as well as water treatment/ reuse and new WDF technologies

- Reduction of textile sector effluent through proper wastewater treatment and reduced wastewater generation



- GHG emissions avoided of up to **150,000 metric tons**
- Energy use reduction through water-energy nexus and CP efficiency measures

- Introduction of better health and sanitation facilities in **200 factories**



Key PaCT Components

PaCT will partner with key stakeholders to improve textile sector sustainability

Component Overview		
Component 1	Component 2	Component 3
<p>BUYER CAPACITY BUILDING</p> <ul style="list-style-type: none">• Development of harmonized procurement guidelines for buyers on sustainable wet processing (Target: ~15 buyers)• Training for buyer's international and local procurement teams on harmonized procurement guidelines (Target: ~400 staff)	<p>FACTORY SUPPORT</p> <ul style="list-style-type: none">• Step 1: Awareness building/ motivation for CP (Target: 500 factories)• Step 2: Factory-specific advice on Cleaner Production (CP measures) (Target: 200 factories)• Step 3: Facilitation of systems improvement and investment in technologies (Target: 100 factories)	<p>MULTI-STAKEHOLDER ENGAGEMENT</p> <ul style="list-style-type: none">• Operational, multi-stakeholder Textile Sustainability Platform to raise awareness and build alignment among firms, associations, policy makers, civil society, financial institutions, and donors• Targets:<ul style="list-style-type: none">✓ 3 collective action plans at sector and/or cluster level



PaCT Innovations

Comprehensive and innovative program underlies program design

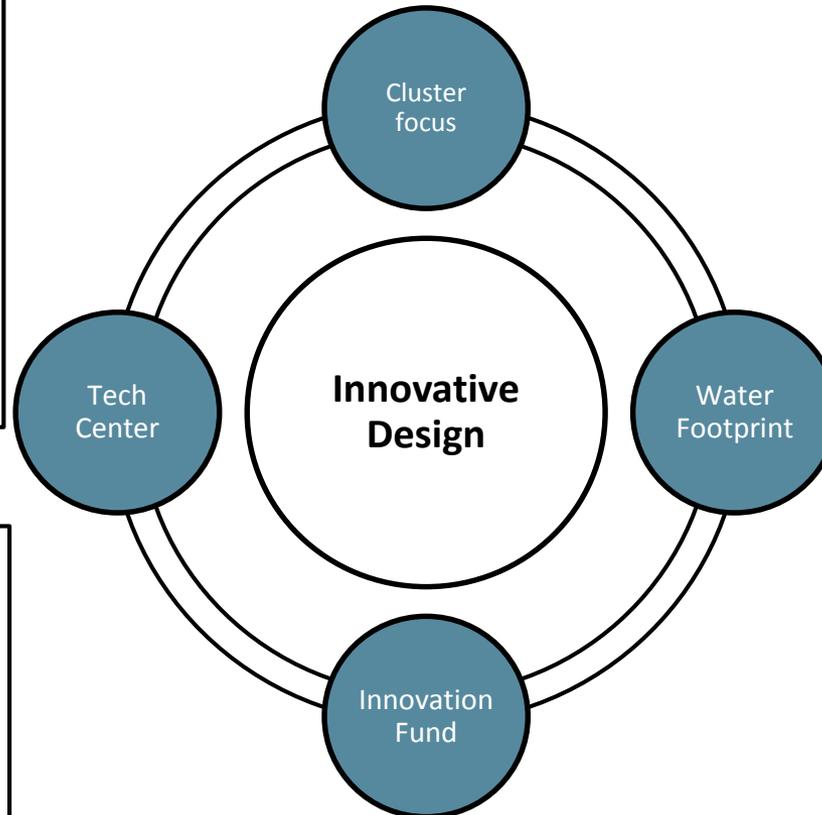
Program Innovations

CLUSTER FOCUS

- Program will focus on **4 textile wet processing clusters** around Dhaka to allow for a **measurable impact** on water footprint of factories, buyers and clusters, and on water quality/ availability

TEXTILE TECHNOLOGY BUSINESS CENTER (TTBC)

- Dedicated best practice technologies and operations platform



WATER FOOTPRINT ASSESSMENT (WFA)

- WFAs will establish a **common language** across all stakeholders and link initiatives at factory, buyer and cluster level

INNOVATION FUND

- Fund of \$500,000 will support **financing of new technologies** for water savings and/or treatment, and other resource efficiency investments



Partnership is broad-based

~200 WET PROCESSING MILLS (over four years)

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TNO

innovation
for life

Water Footprint
NETWORK



THANK YOU

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