



Local Governments
for Sustainability



WORLD
WATER
COUNCIL

WEBINAR SERIES

CitiesWithWater

TOO DIRTY

och en trevlig kväll till dig också

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CitiesWithWater

TOO DIRTY

Facilitator



Ms. Kobie Brand

Deputy Secretary General

ICLEI



Local Governments
for Sustainability



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ICLEI'S REACH

ICLEI – Local Governments for Sustainability is a global network.

We have put 'urban' firmly on the sustainability agenda, working with and effectively advocating for local and subnational governments in the global arena for

30+ years



Working with

2500+

local & regional
governments



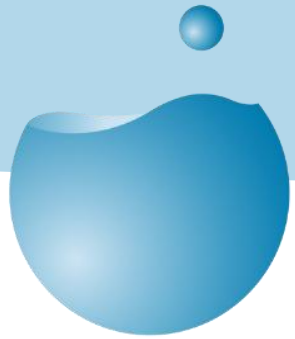
Active in

125+

countries



Together we make water a political priority for all.

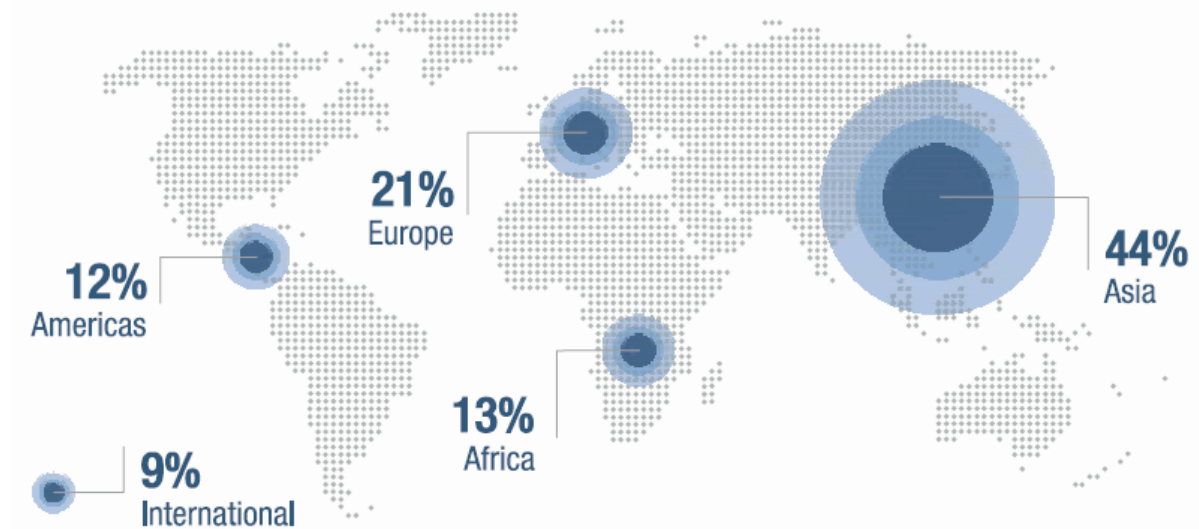


WORLD
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250⁺ members accross **50⁺** countries

Created in 1996 to :

- Promote political action, advocacy and hydrodiplomacy
- Bring together every stakeholders to enhance new innovative solutions to protect water
- Organize every three years the World Water Forum, gathering more than 20 000 persons



An International Multi-Stakeholders Platform Organization

Webinar 1 - "TOO LITTLE"

Challenges:

- Climate change has increased the severity and frequency of droughts
- Rapid urban growth has led to over-abstraction
- Waste is a problem with non-revenue water over 30% globally

Call to action:

- Preserve sourcewater through catchment conservation
- Develop non-conventional sources
- Reclaim wastewater
- Treat water fit for use purpose
- Communication & stakeholder engagement



Webinar 2 - "TOO MUCH"

Challenges:

- Climate change has increased the severity and frequency of floods
- Rapid urban growth has reduced infiltration zones
- Health impacts of flooding - pathogens and disease vectors are spread

Call to action:

- Community engagement is essential for flood preparedness
- Work with nature to create permeable zones in the city and in the upstream catchment
- There is no "one solution" - but a constellation of small significant actions
- Multi-level leadership needed to engage beyond the city.



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Photo Competition:

Join us today for:

- Showcase of the 16 finalists
- Presentation of the winning entries
- Interviews with the winning photographers



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SURVEY :

Which 3 sources of dirty water pose the greatest risk to urban communities?

Join using the link:

<https://www.menti.com/alpwm58qozo7>

OR

Join at menti.com with the code: **6982 2695**



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City of Istanbul

TÜRKIYE



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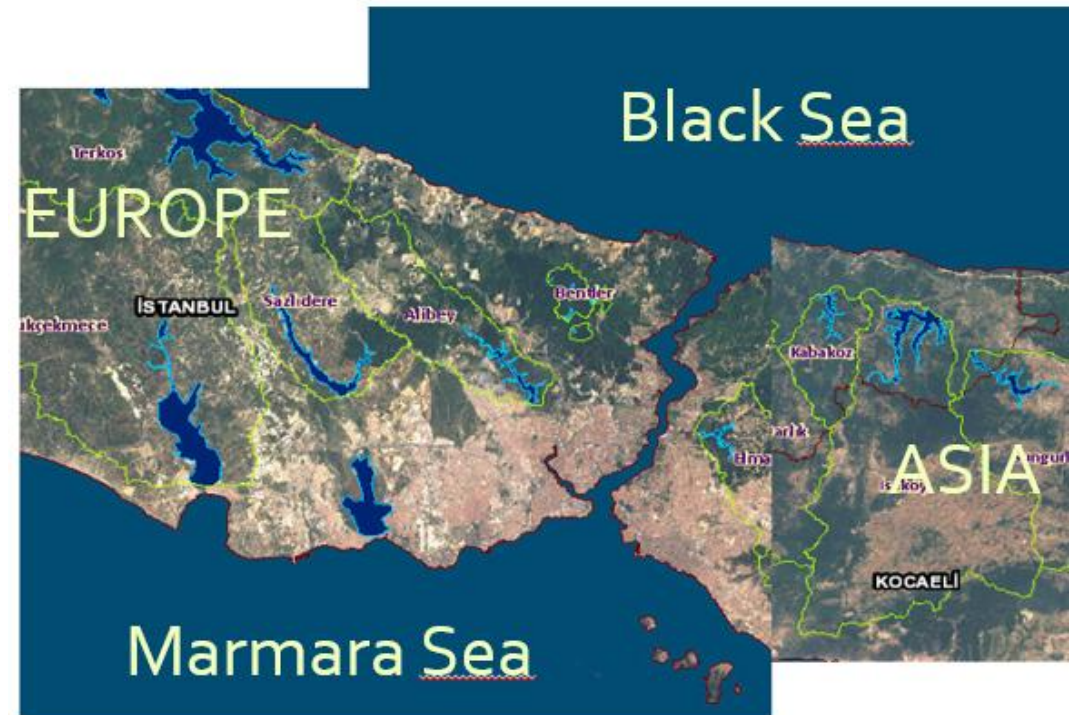
Dr. Ahmet Mete Saatci

*Senior Professional Officer , Water and Sanitation
Directorate*

City of Istanbul

İSTANBUL'S WATER SUPPLY Challenges and Solutions

- Bringing water from a basin 185 km away,
- Solving the pollution of a major drinking water reservoir.



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TÜRKİYE ON TWO CONTINENTS

WEBINAR

TOO DIRTY



İSTANBUL CITY: WATER RESERVOIRS

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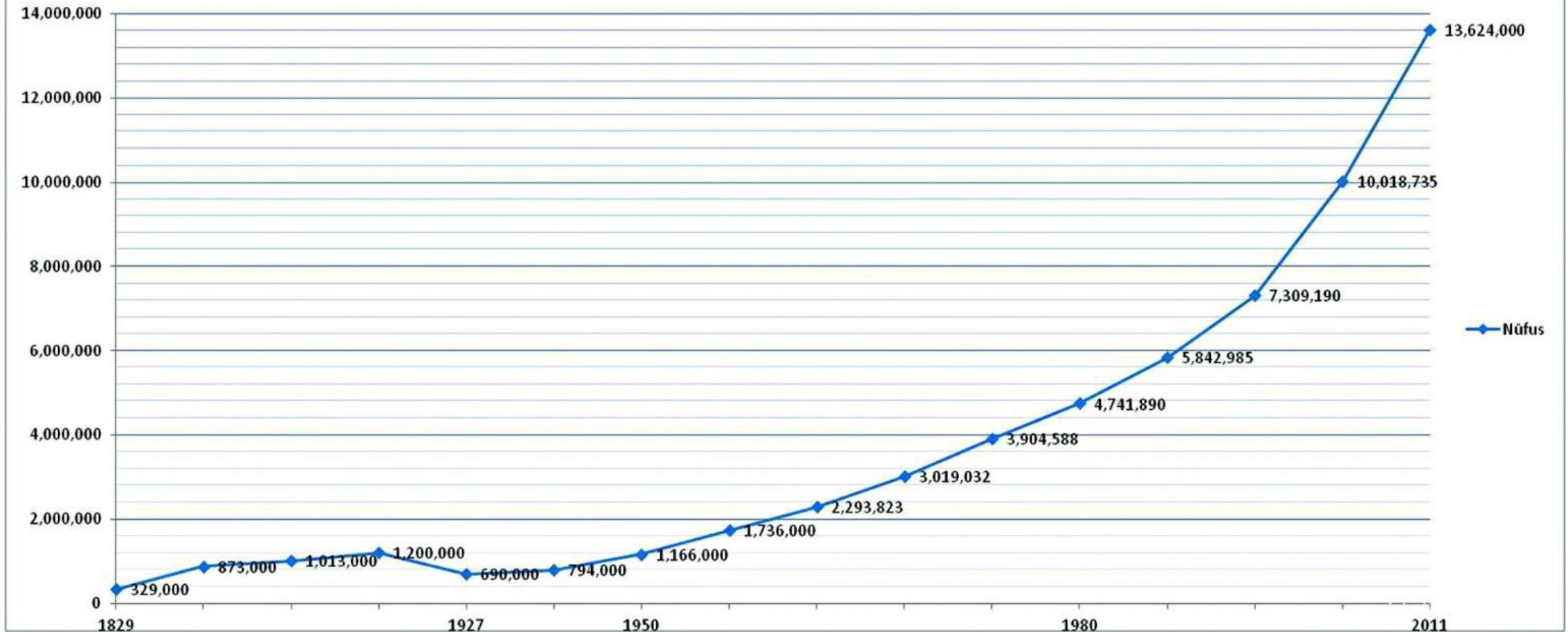
CitiesWithWater

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Three Bridges Connecting Europe and Asia

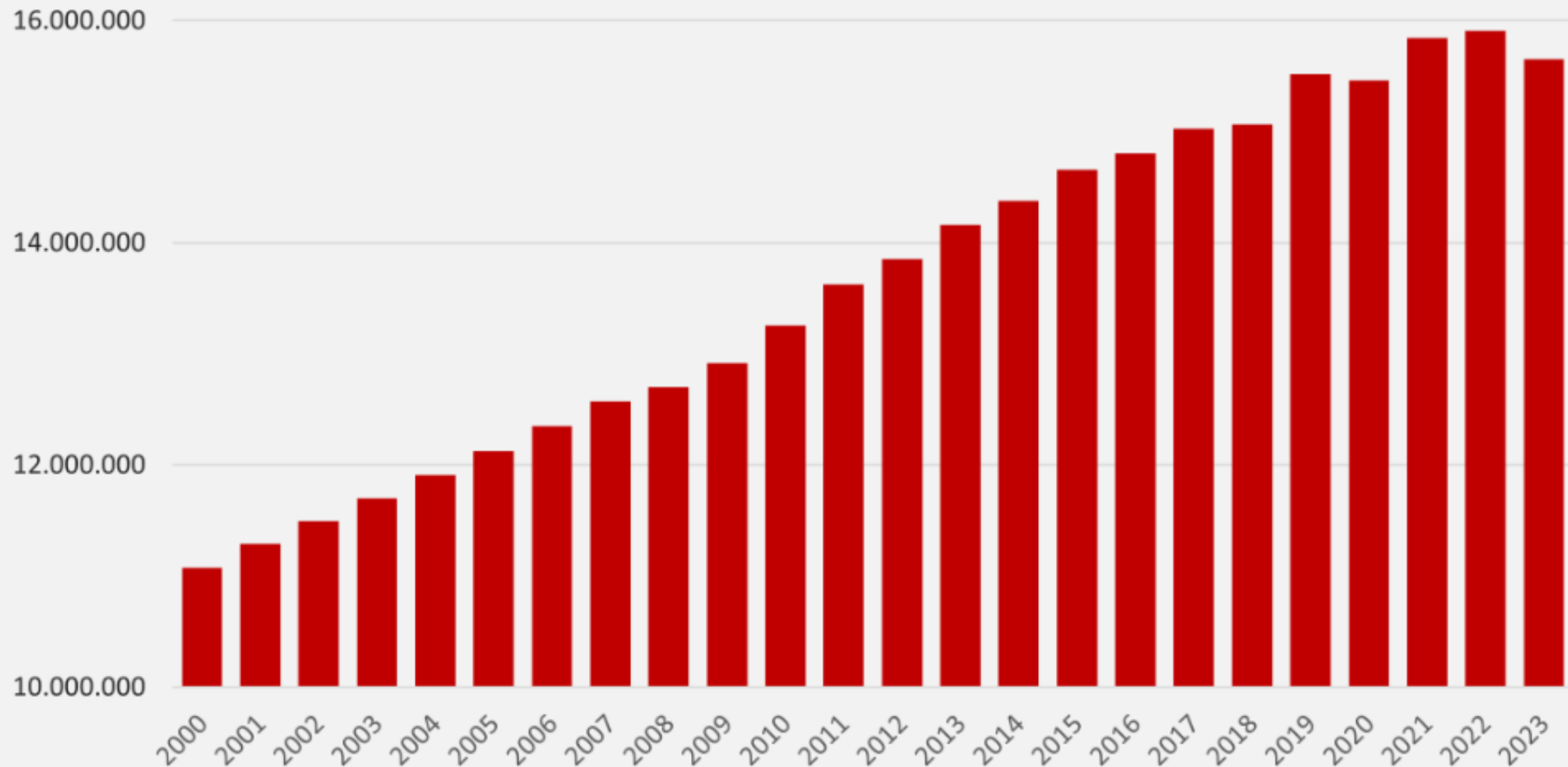
İstanbul Nüfusu: 1829-2011



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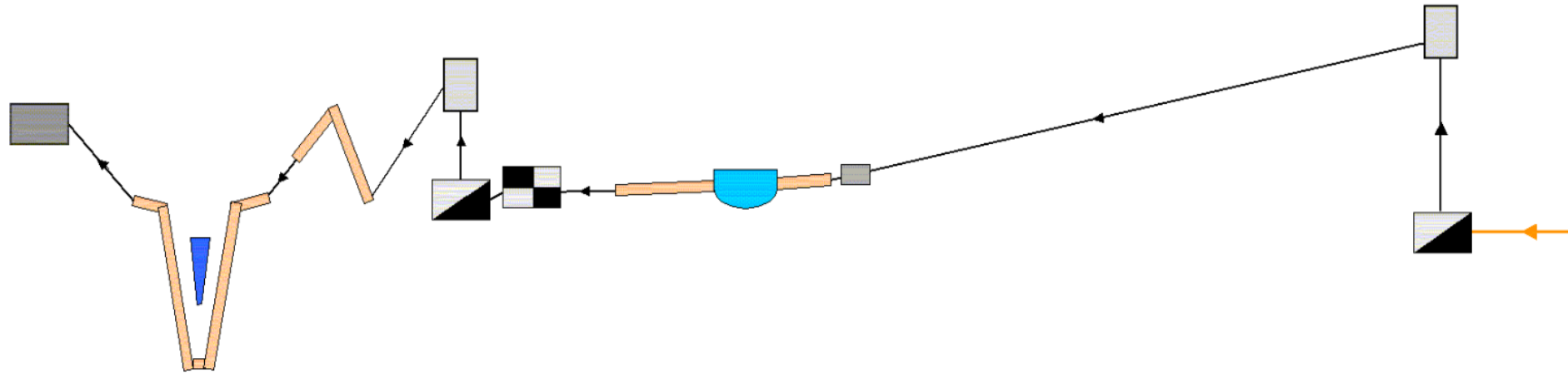
POPULATION OF ISTANBUL 2000 - 2023

. Future Water Supply of İstanbul: MELEN Project: Interbasin Water Transfer

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MELEN PROJECT

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Tarabya

Beykoz

Boğaziçi

Soft

Tunnel

180 mt

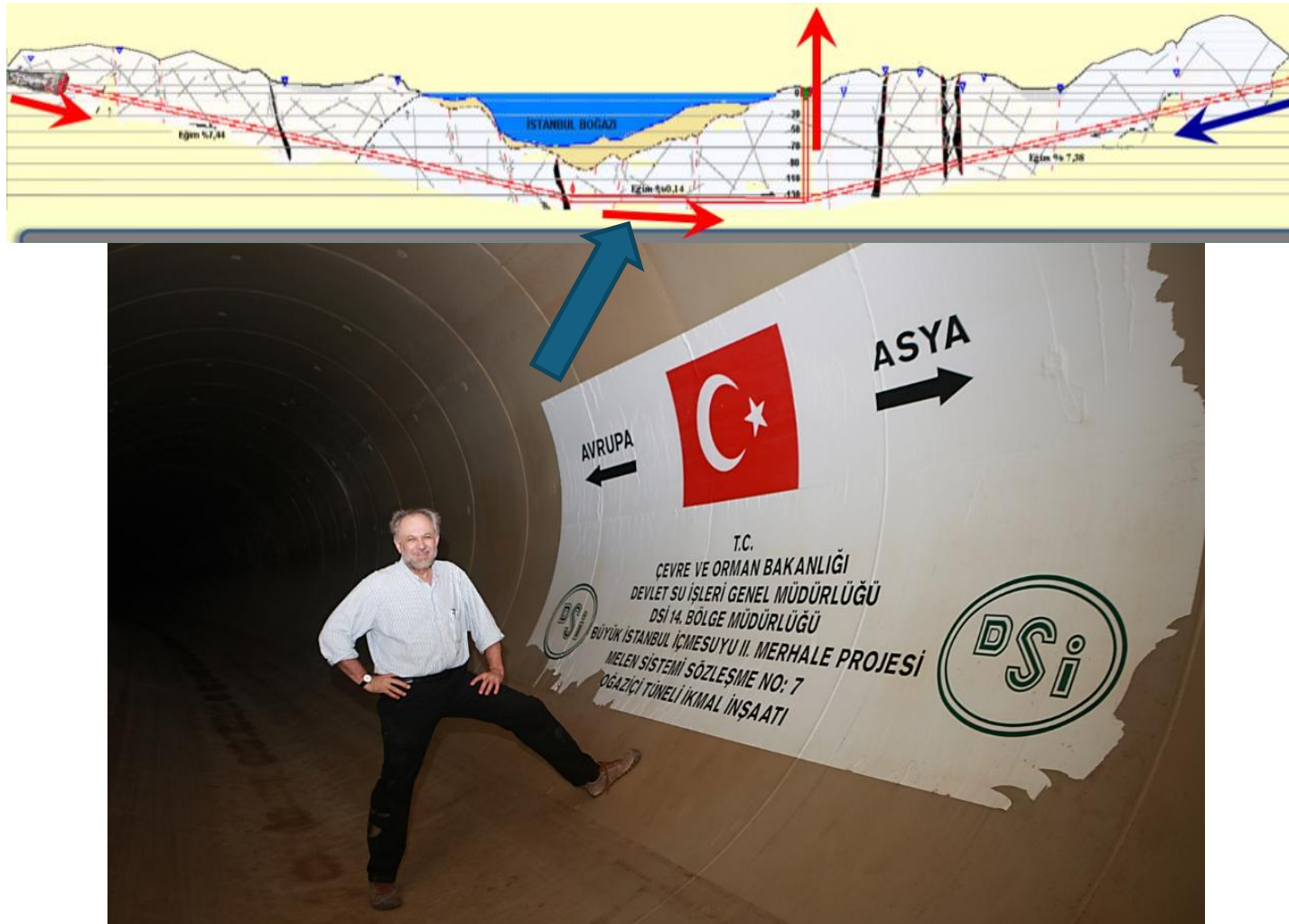


Distance 4 km, 11.55h, 125 km/h

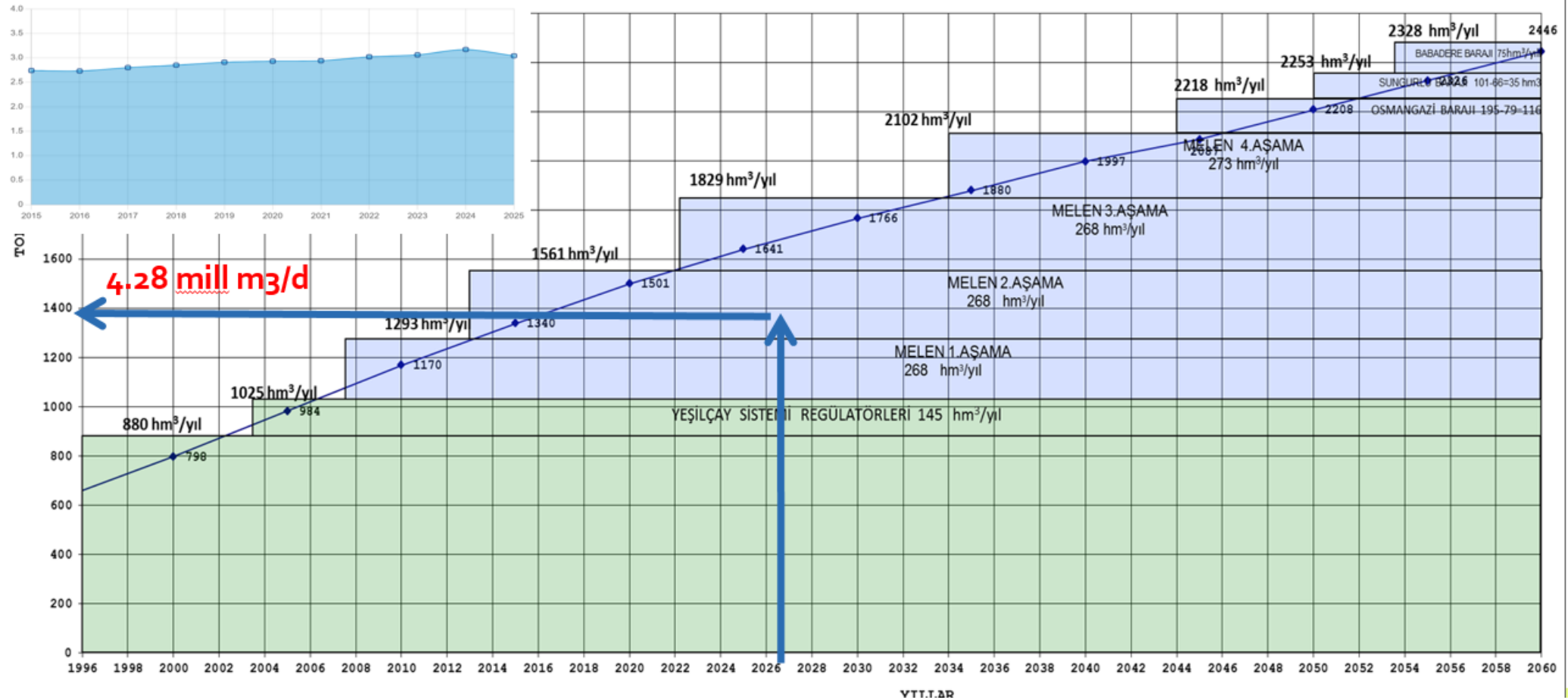
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Bosphorus Tunnel: Water transfer from Asian side, to the



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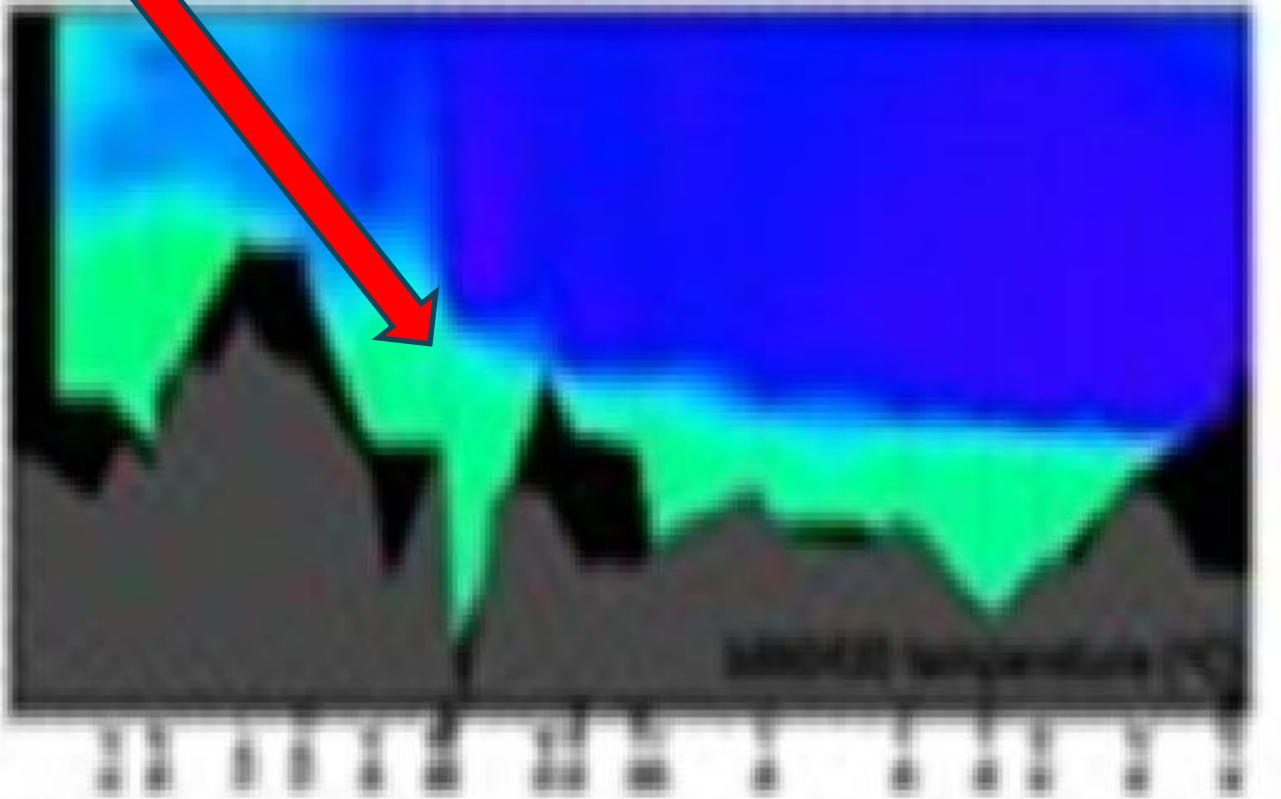


ISTANBUL WASTEWATER TREATMENT PLANTS

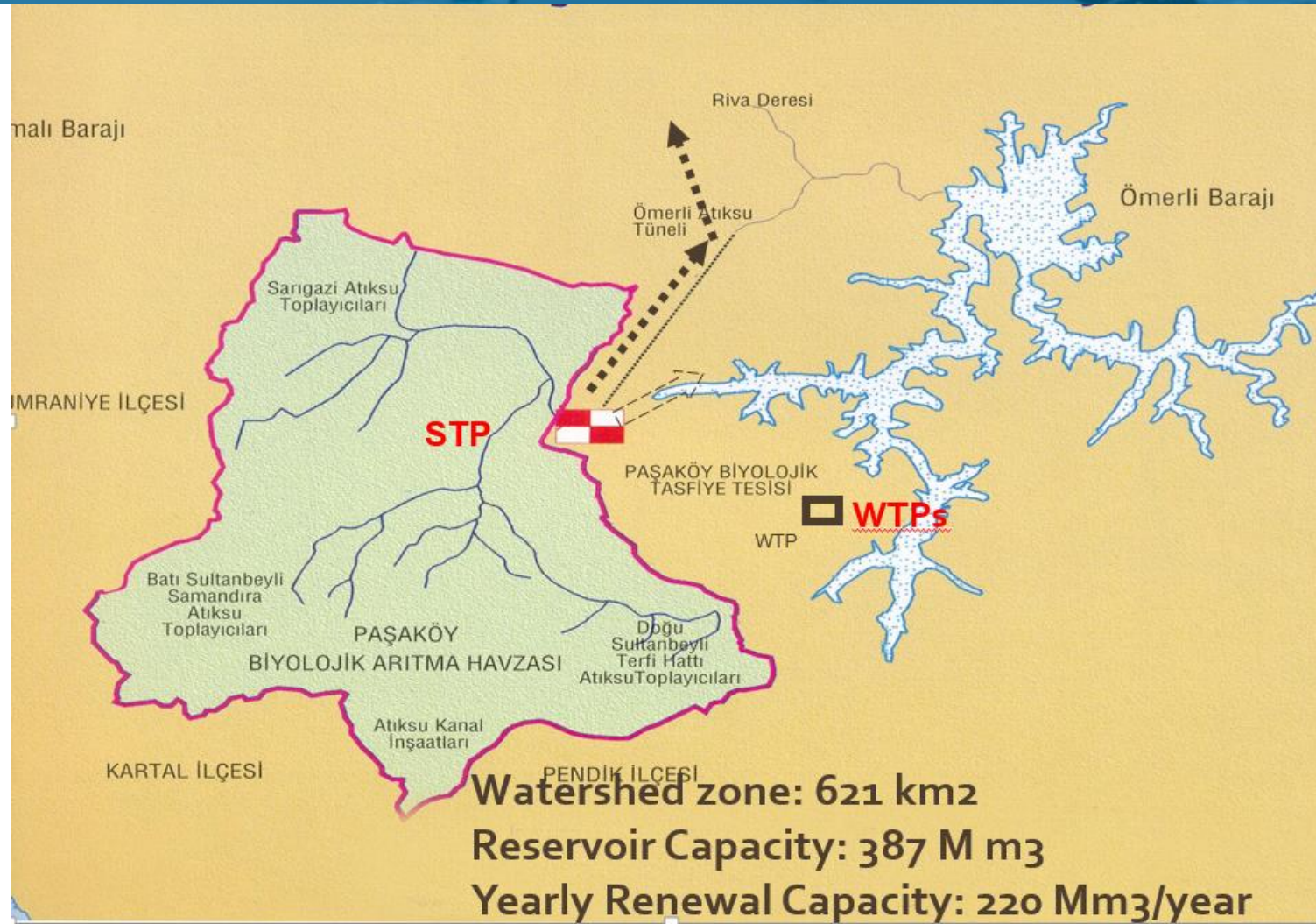
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DEEP SEA DISCHARGES INTO THE BOSPHOROUS



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ILLEGAL SETTLEMENTS IN THE WATER SHED ZONE

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SHANTY TOWNS IN THE PROTECTION ZONES

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DEMOLITIONS

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DEMOLITIONS

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NEW CONSTRUCTIONS

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NEW CONSTRUCTIONS

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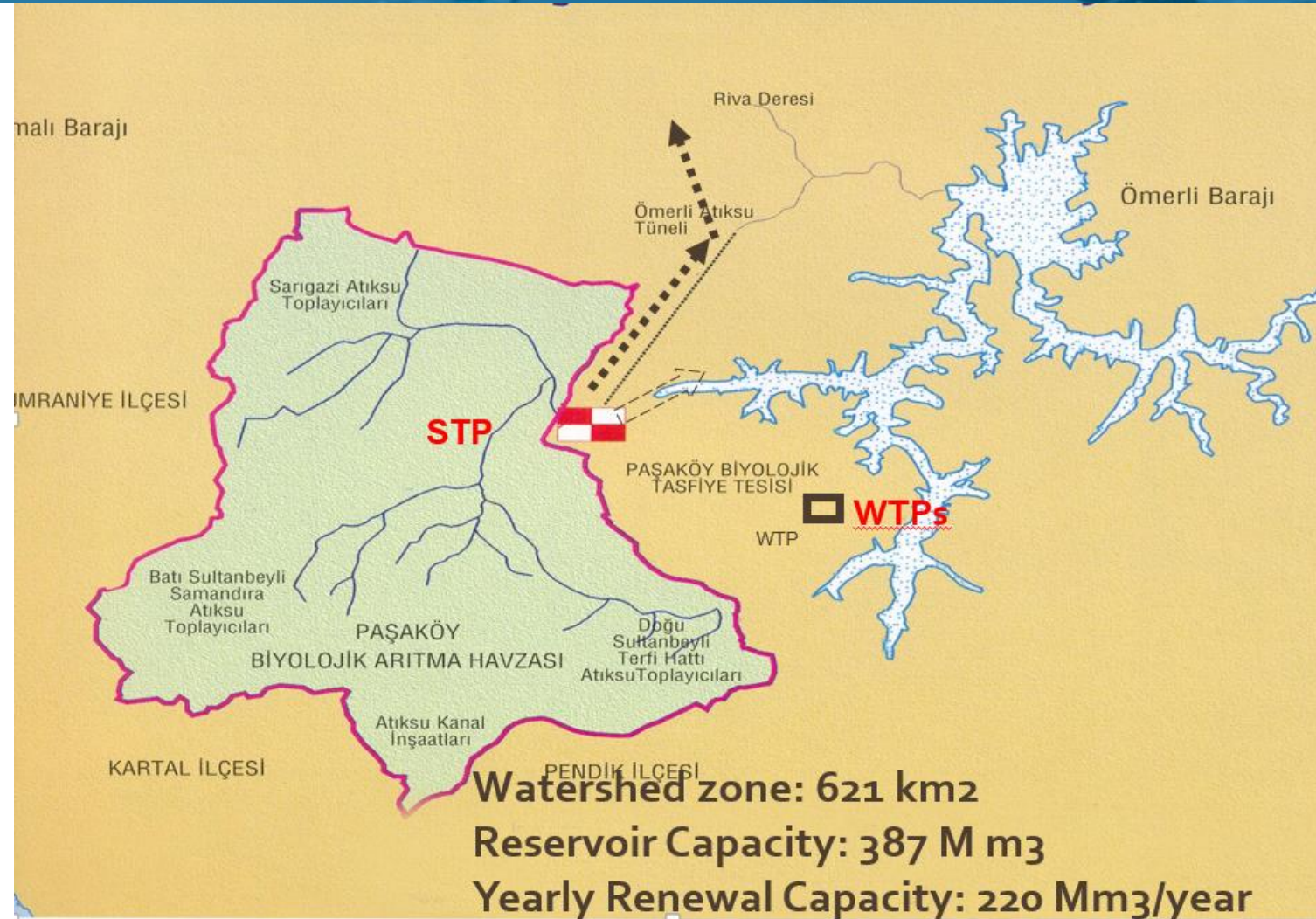


NEW CONSTRUCTIONS

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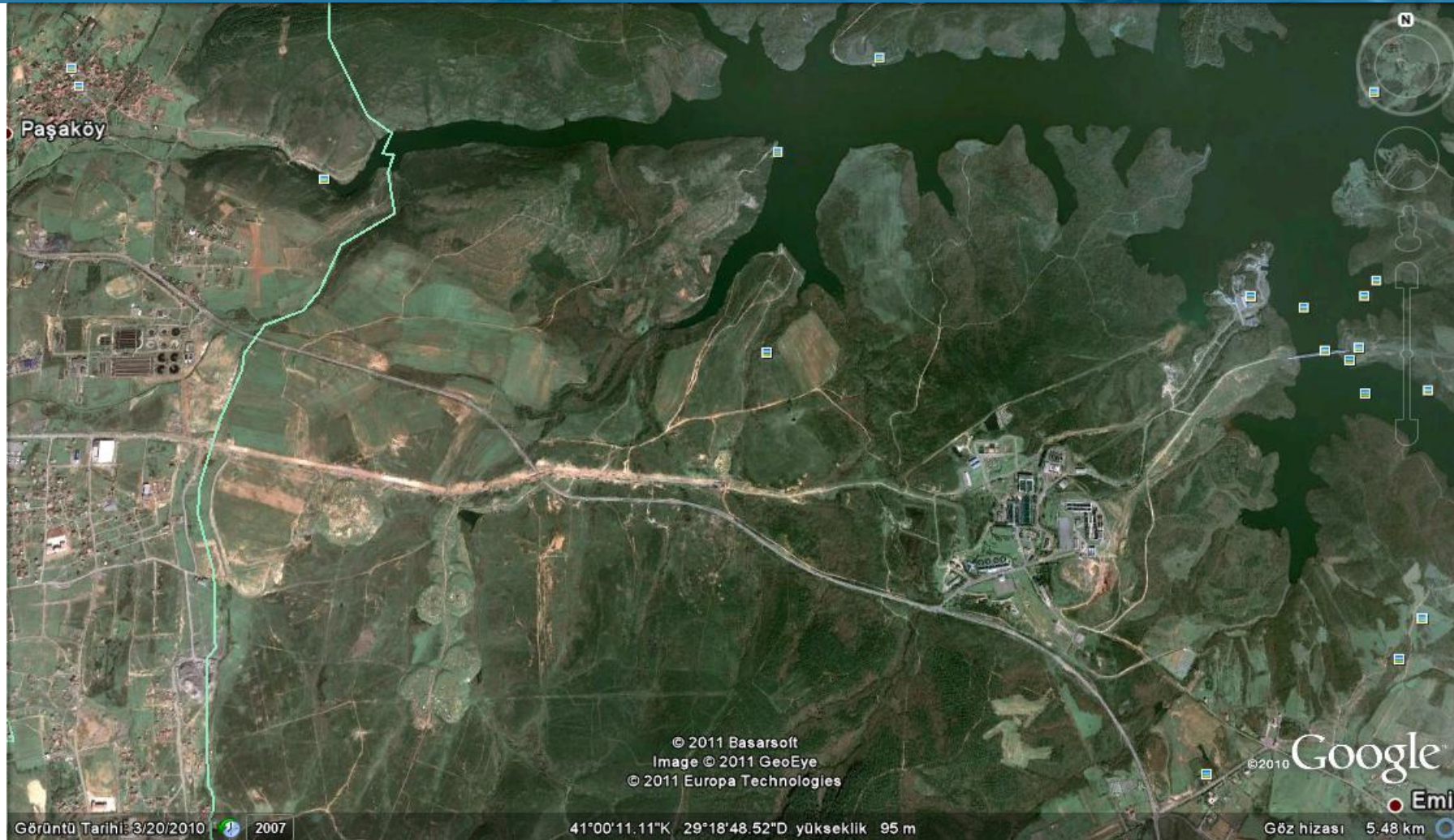


POLLUTION FROM ILLEGAL SETTLEMENTS

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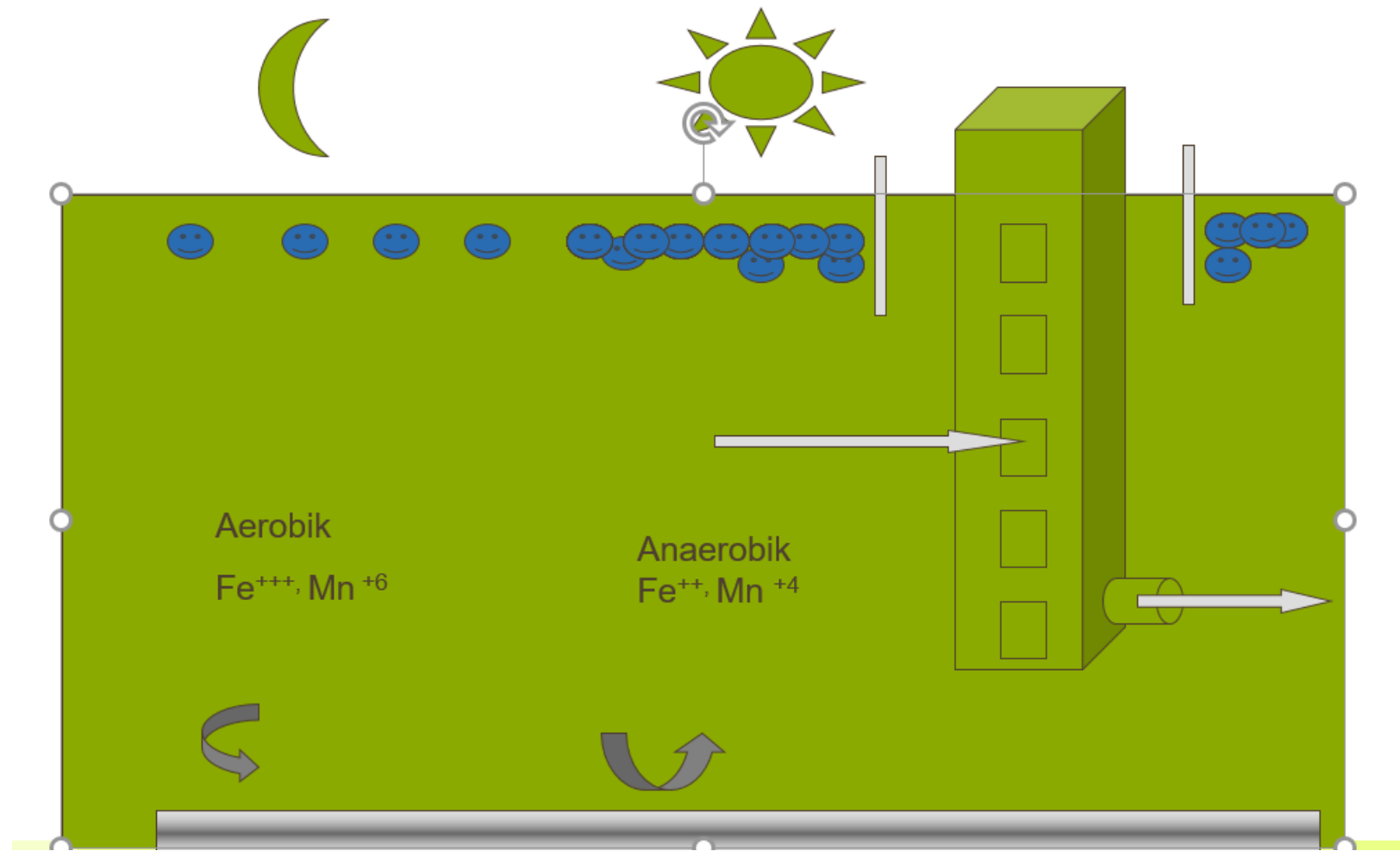


WATER & WASTEWATER TREATMENT PLANTS

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POLLUTION ? ALGAE GROWTH ? RED WATER PROBLEM

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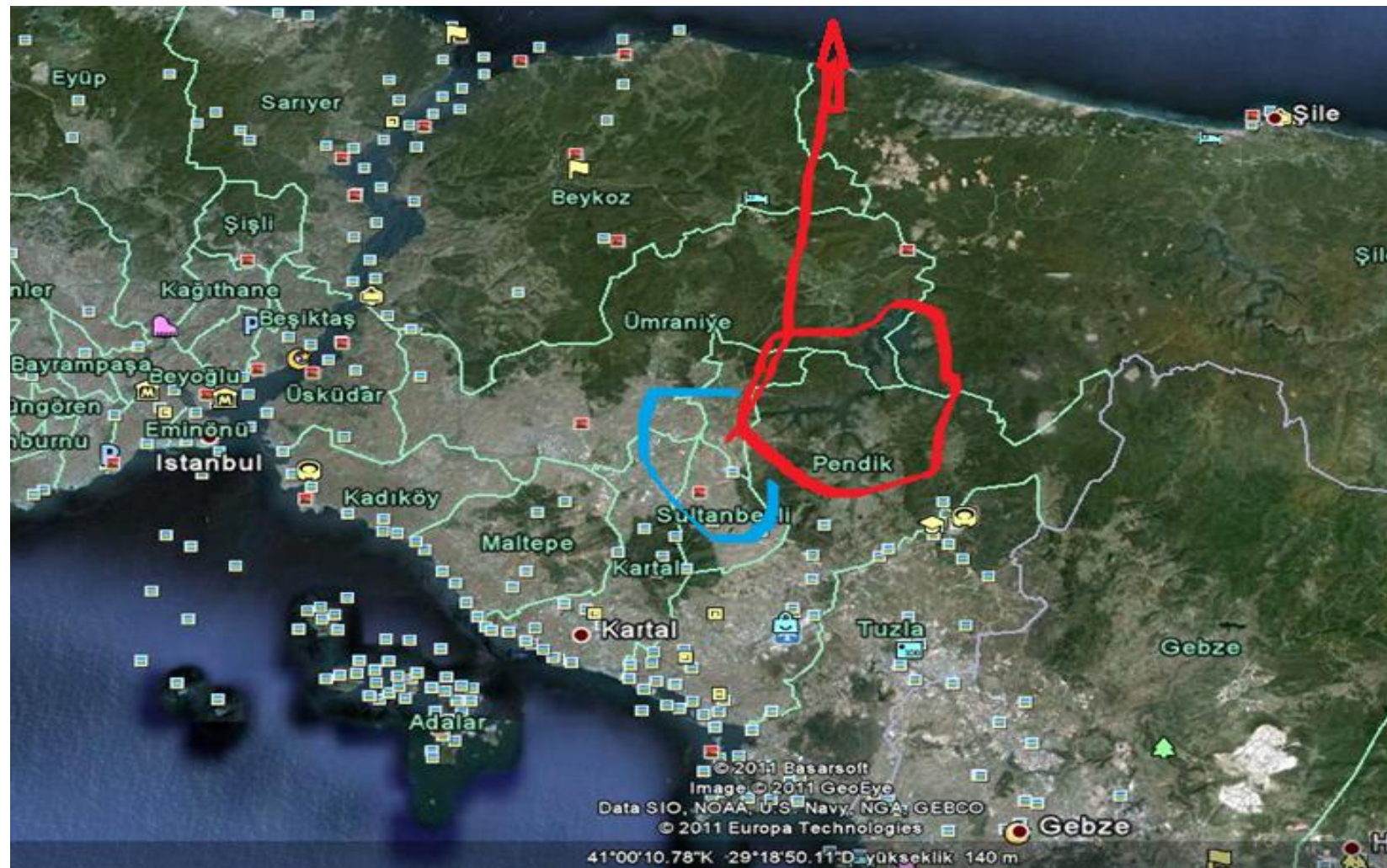


ALGAE

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WASTEWATER TREATMENT AND DISCHARGE TO THE BLACK SEA

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FIRST PAŞAKÖY WASTEWATER TREATMENT PLANT

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FIRST & SECOND PAŞAKÖY WASTEWATER TREATMENT PLANTS

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FIRST & SECOND PAŞAKÖY WASTEWATER TREATMENT PLANTS

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EFFLUENT FROM THE WWTP AFTER FILTRATION AND

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DISCHARGE TO THE RIVA CREEK AND TO THE BLACK SEA



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THANK YOU

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City of eThekweni

South Africa



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Russell Stow

Manager

**Transformative Riverine Management Programme,
eThekweni Municipality, South Africa**



Water Quality and the Transformative Riverine Management Programme in Durban

Russell Stow, Manager: TRMP

eThekweni Municipality, Durban, South Africa

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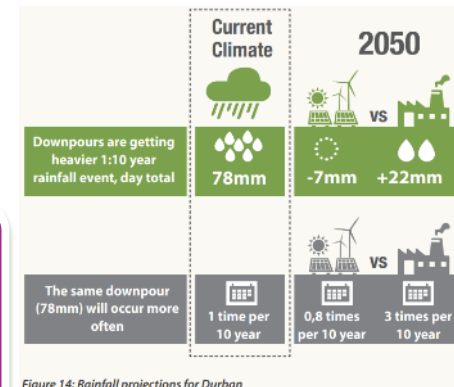
eThekweni Municipality Context



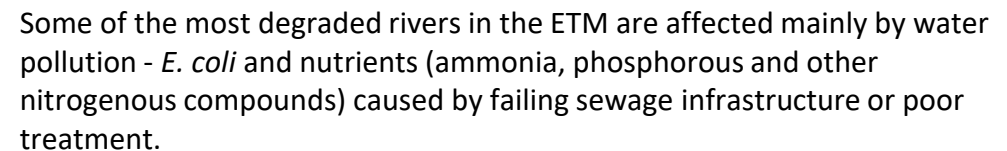
- Municipal extent: 2 556 km²
- 95 000 ha (950km²) of Durban Metropolitan Open Space System
- Unique and challenging topography – steep valleys and gorges
- Population: 4.1 million
- Global biodiversity hotspot
- Length of rivers : 7400 km
- 18 River Catchments
- 16 Estuaries
- 98 km of coastline
- Over 587 urban informal settlements (1/4 of city pop)
- ~ 160 settlements within environmentally sensitive areas and high flood risk zones



- Annual temperature increases likely to be twice the global average (3.0°C to 5.0°C by 2100).
- Increased frequency and severity of extreme weather events, like heat waves, droughts, rainfall events (flooding, lightning, tornadoes)
- Increased seasonal variability of rainfall (downpour – 78mm increasing to 100mm or 1/10year to 3/10)
- Sea-level rise of +2.75 mm per year



eThekweni Water Quality July 2025



- 145 sampling points – monthly
- Problem sites sampled weekly or bi-weekly
- E. coli, pH, conductivity, temperature, dissolved oxygen, nutrients
- 95% of the assessed rivers (690kms) were degraded.
- Prepare reports or detailed analysis as required by specific projects
- No rivers are noted to be in a “natural” state and only 5% were in good condition.
- Only 1 river – Lovu River in acceptable state from “s to s”

Durban Rivers Source to Sea Pollution





EVOLUTION OF THE TRMP (2009 -)



Factors that worsened flooding

- Invasive alien plant material and solid waste blockages at culverts and bridges result in overtopping, diversion and causing significant and costly damage to infrastructure.
- Poor infrastructure maintenance
- Illegal river encroachment and infilling
- Stormwater concentration
- Illegal river diversion

Sihlancimvelo River Cleaning Project:

- RSWM Dept started an integrated watercourse management programme using community co-operatives clean and manage 5km stream stretches in Inanda, Ntuzuma, KwaMashu (INK) and Umlazi
- Created current 106 co-operatives with 8 to 10 members
- Started with 295km of rivers now up to 600km
- They were also tasked with reporting sewer leaks, blocked manholes, illegal dumping and pollution.
- Current Operational Cost: R46 million per year
- Estimated additional cost: R116 million per year is needed to cover the full 1200km of streams suitable for Sihlancimvelo creating 1500 jobs
- Source of funds: Currently operational budget (RSWM) Engineering

EVOLUTION OF THE TRMP (2009 -)



Poor River Management + Flooding



Sihlanzimvelo Stream Cleaning Project



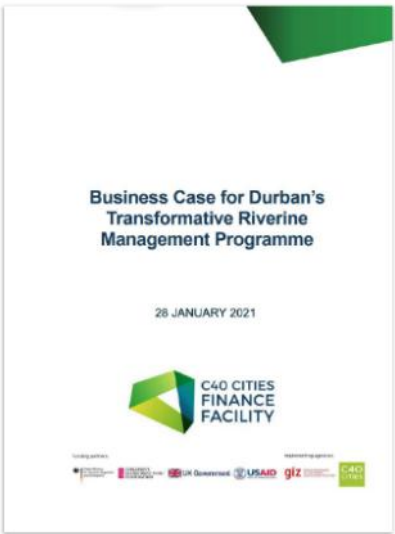
Team
Effort



Implementation
Plan



TRMP



Business Case for the TRMP

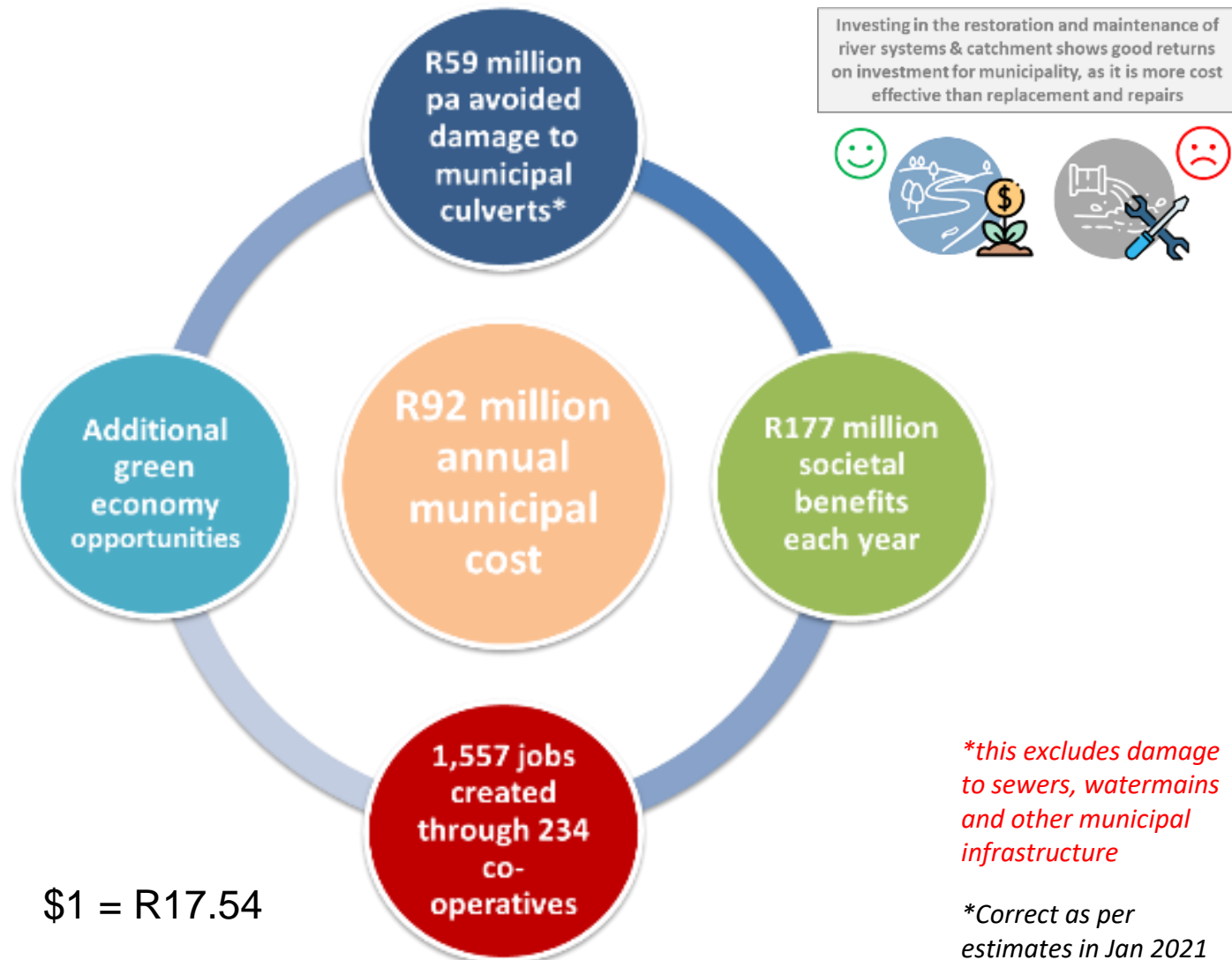
1,168km of rivers on municipal land

The Business Case for Upscaling Sihlanzimvelo on Municipal Land

**R1 spent = R2.60
municipal & societal
benefits (incl. coastal)**

Priority Actions for the City to Advance the TRMP

- 1 Establish a municipal 'hub' for TRMP
- 2 Upscale the existing Sihlanzimvelo Programme
- 3 Support existing line department, community and NGO/NPO initiatives
- 4 Extend the Support Programme to all external stakeholders across ALL rivers



Transformative Riverine Management Programme Concept

eThekweni Municipality in Durban is establishing the Transformative Riverine Management Programme (TRMP), which works in partnership with all affected stakeholders to collectively rehabilitate and sustainably manage all riverine areas within its boundaries.



The transformative climate adaptation approach of the TRMP seeks to:

- (1) **Transform** the human and economic relationship with rivers as part of a
- (2) **Sustainable** approach to addressing climate change vulnerability and building resilience by
- (3) **Incorporating** nature-based solutions, community ecosystem-based adaptation (CEBA), and
- (4) Green/circular **economy** considerations, with the
- (5) Intent to **scale-up** existing riverine management initiatives and **create** new opportunities.



River Projects

In addition to Sihlancimvelo, the city has been a partner in a number of other riverine management projects with organisations including:

- eThekweni Conservancies
- Green Corridors
- Use-It
- Palmiet River Rehabilitation Programme
- Adopt-a-River
- DUCT
- Umhlatuzana River Catchment Forum (NPO)
- Umgeni-uThukela Water (Parastatal)
- WildTrust – WildOceans
- Municipal Line Department Projects
- eThekweni Palmiet TRMP
- University of KwaZulu-Natal (UKZN)
- Durban University of Technology (DUT)
- Transnet National Ports Authority (TNPA)



Citizen Science - Enviro Champs

River Citizen Science involves community participation in river-based scientific research, contributing to data collection, analysis, education and awareness.



In Summary...



- The **TRMP** is a **proactive, integrated response** to Durban's environmental challenges, aiming to improve public safety, ecosystem health, and community livelihoods by transforming how riverine systems are managed.
 - TRMP projects working together will create **a more resilient, healthy, and inclusive urban environment** in Durban, contributing to long-term ecological and community benefits.
 - **Addressing the challenges** facing the TRMP requires integrated planning, sustained funding, capacity building, and active community participation.
-
- **Financing mechanisms** - need to be structured to ensure long-term, adequate and sustained availability of funding.
 - There are **many opportunities emerging** to link green economy enterprises to riverine management investments.
 - Requires **businesses to invest** in marginalised individuals and communities and to grow small enterprises outside of their profit-making focus. These contributions are made through Corporate Social Investment (CSI) or Enterprise Development initiatives



Russell Stow

**Manager: Transformative Riverine Management Programme
(TRMP)**

**Strategy and Integrated Development Planning Directorate
eThekweni Municipality**

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<https://c40cff.org/projects/ethekwini-durban-adaptation>

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City of Stockholm

Sweden



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Katarina Forslöv

Project Leader in the Land and Water Administration

City of Stockholm, Sweden

Water management in Stockholm

Katarina Forslöv

Project leader Land and water Administration,
city of Stockholm



Stockholms
stad



Lake Mälaren

The Baltic Sea

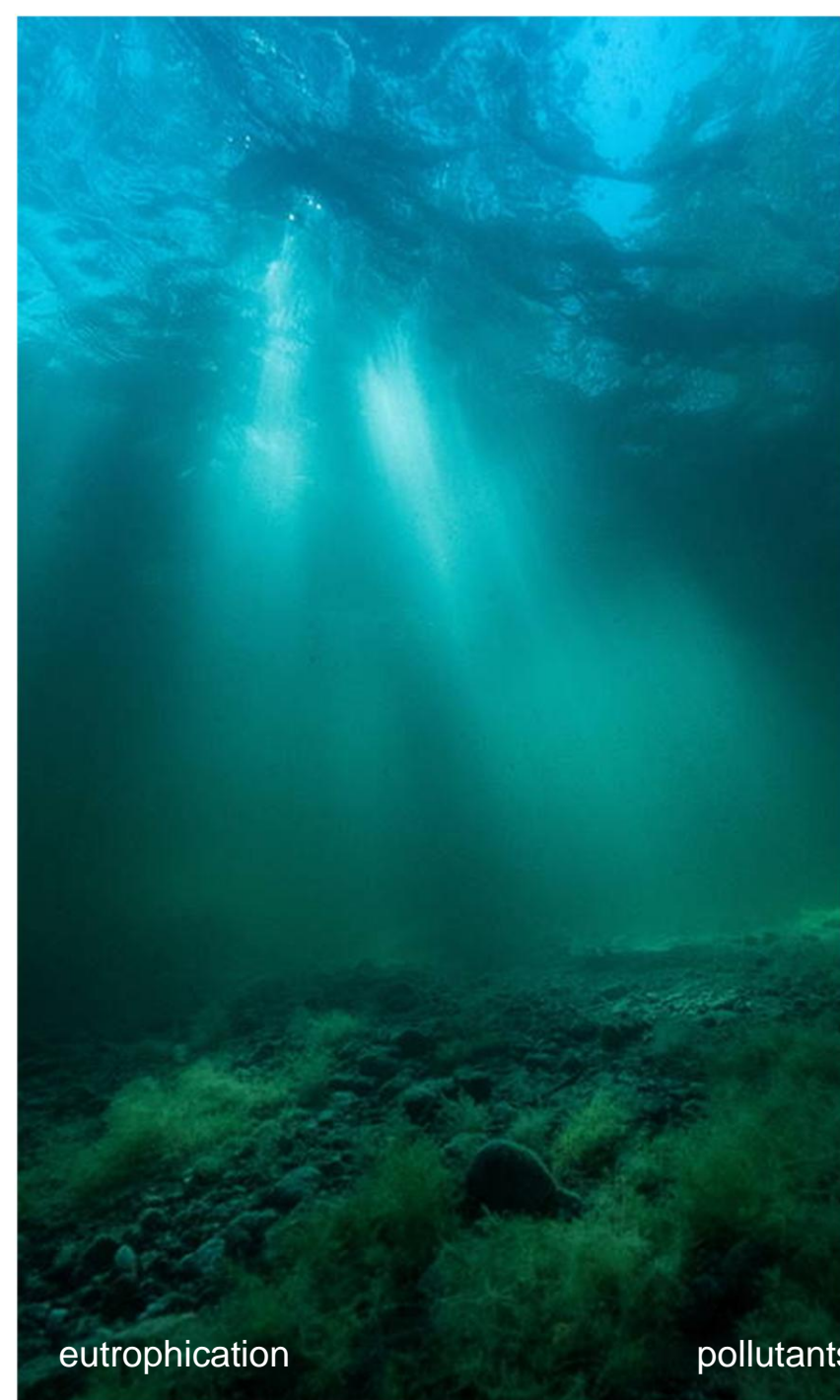
Our journey



Foto: Stockholmskällan

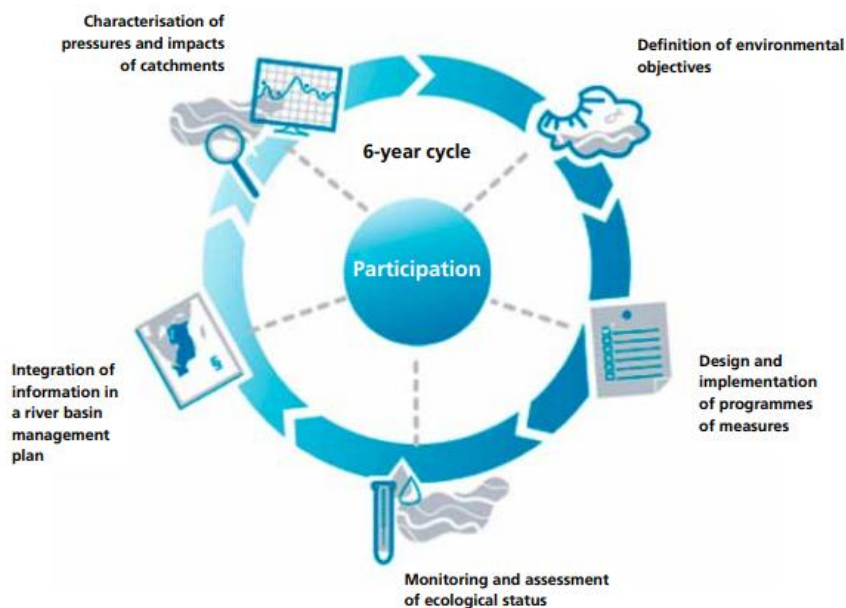
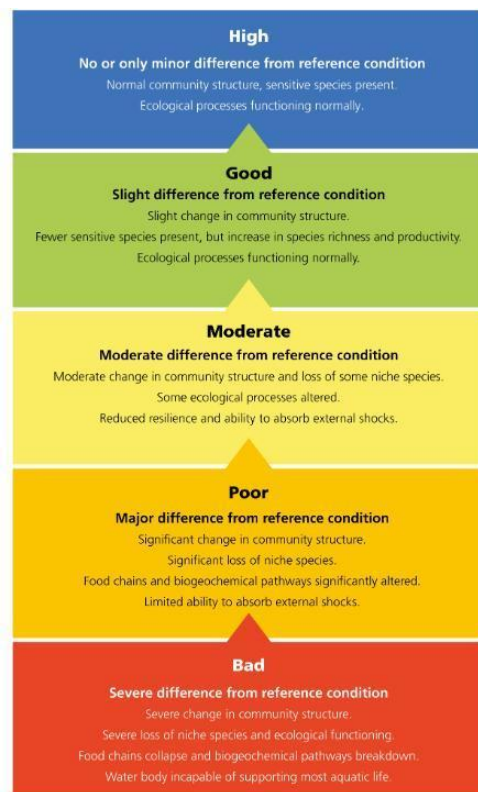


Foto: Stockholms stad



The European Water Framework Directive (2000)

The municipalities important actor- strategic plans, actions, supervision



national - local organisation
budget

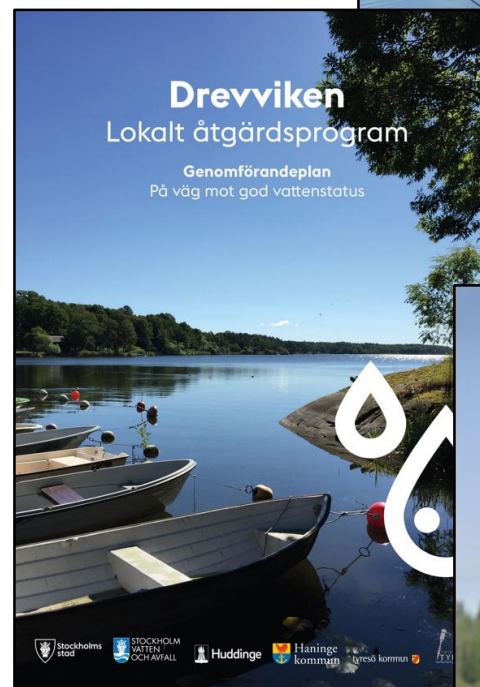
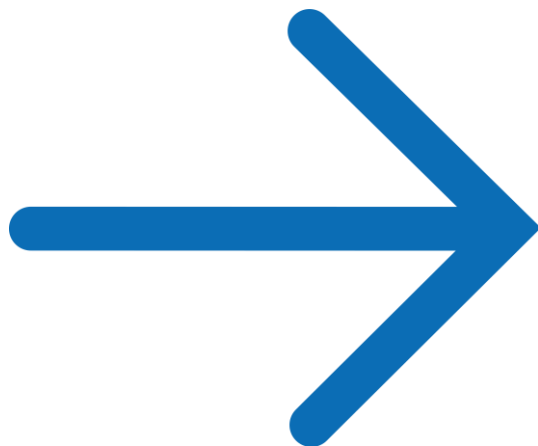


engagement

(Crown Princess Victoria)

common understanding and goals

Strategic plans and programmes



Actions



sewage treatment from 1940, membrane technology 2031



treatment of sediments (phosphorus)



stormwater treatment



Artinns



treatment of contaminated soil



supervision



maintenance



new habitats



SportFiskarna

SKANSEN



WWF
NÅR ANSÖKAN
FÖR EN NY BOTTEN
PROJEKT I
STOCKHOLM

Stockholms
stad

STRÖMMA

Dialog with the citizens



"your lake starts here"



Fish peak (fish counter)

[Fiskdata.se](https://fiskdata.se) - Fiskräkning i Slussen, Söderström



[H2O | Hands 2 Ocean | Hjälp oss rädda miljön](#)

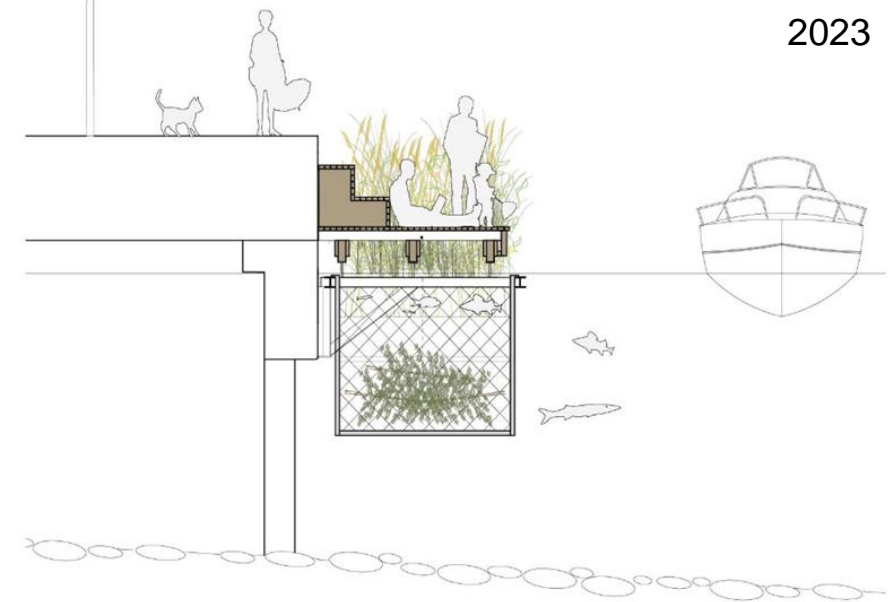
civil society engagement

Munkbrohamnen

- dock for fish and humans



2024



2023

Water management conclusions

- patience
- common understanding and goals
- budget
- reserve land for actions

Thank you for listening!

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[Vatten - Stockholms stad](#)

www.massaprojektet.se



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City of Andong

Republic of Korea



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Building the future with water: Sustainable vision of Andong

Gi-chang Kwon

Mayor

Andong, Korea



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Clean water saves lives

Clean water is **the Foundation of All Life**

Andong, City of Water



▲ Andong dam



▲ Imha dam

- Abundant Water Supply from Two Major Dams
- The Origin of the Nakdong River : Supplying Water to 13 Million People

Algal Bloom Issue



▲ Over 50% of nonpoint pollutant source comes from livestock waste



▲ Algal Bloom at Andong dam

Algal Blooms → Degrading Water Quality, the Higher Purification Cost

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Heavy Metals & Contaminated Sediments Issue



▲ A smelter in the upper stream of Andong dam



▲ Fish kills and contaminated sediments



Toxic heavy metals → threat to safe drinking water

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Local Solutions

Innovative Solution for Water Pollution



▲ Removing suspended solids



▲ Algal Removal Vessel



▲ Eco-friendly robot for algal removal

National Algal Bloom Control Center

→ real-time monitoring & algae removal

Local Solutions

R&D in Solving Water Pollution



- Developing Water Purification Technologies for Heavy Metals & Sediment Remediation
- Testing & Verifying water quality and related equipment
- Developing sustainable & eco-friendly solutions for water resource management

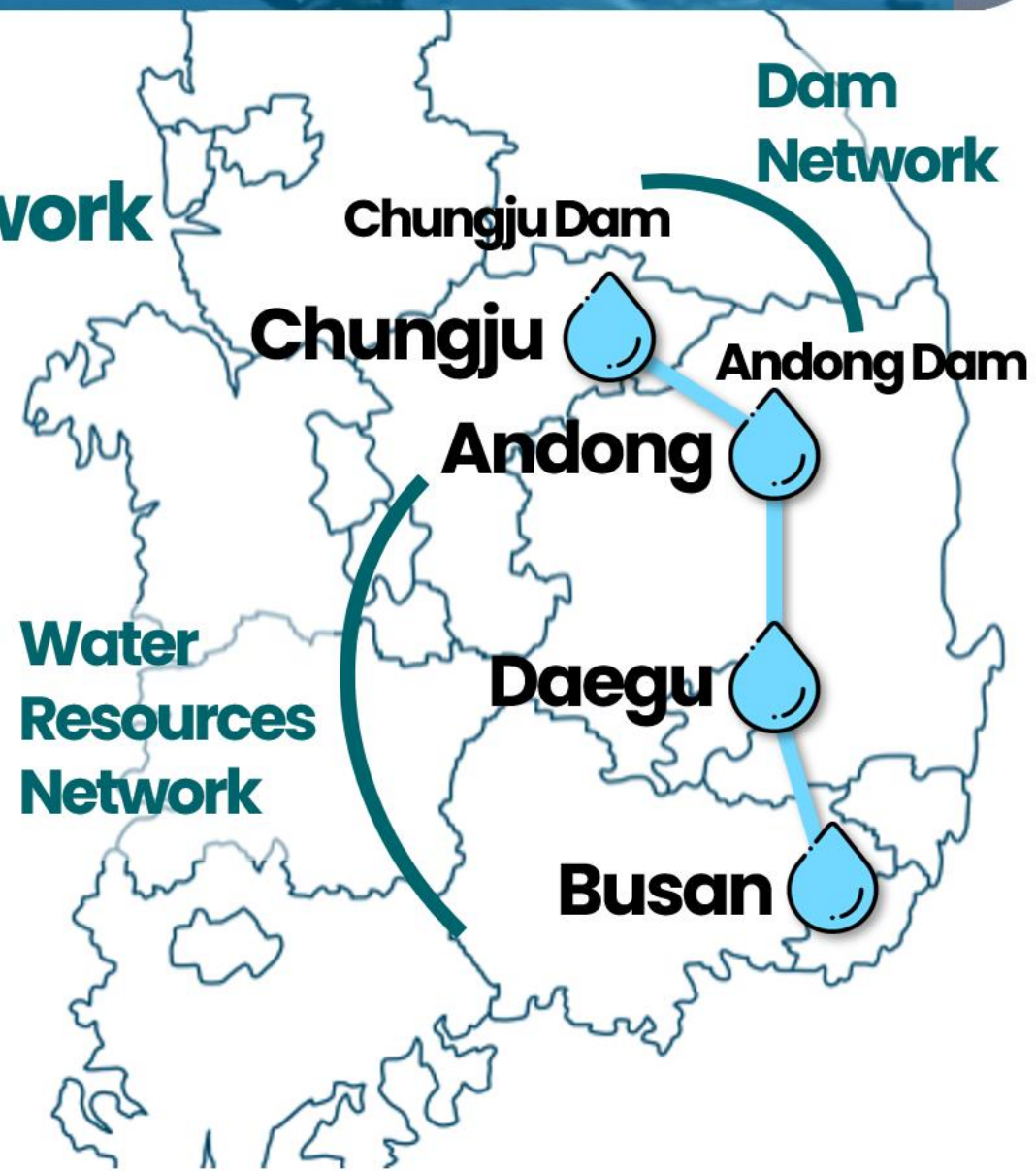
Water Resources Technology Research Institute

→ R&D in advanced water treatment

Expanding Impact

Establishing Dam & Water Resource Network

- Integration of Water Supply System, not individual locals
- Leading clean water to more citizens



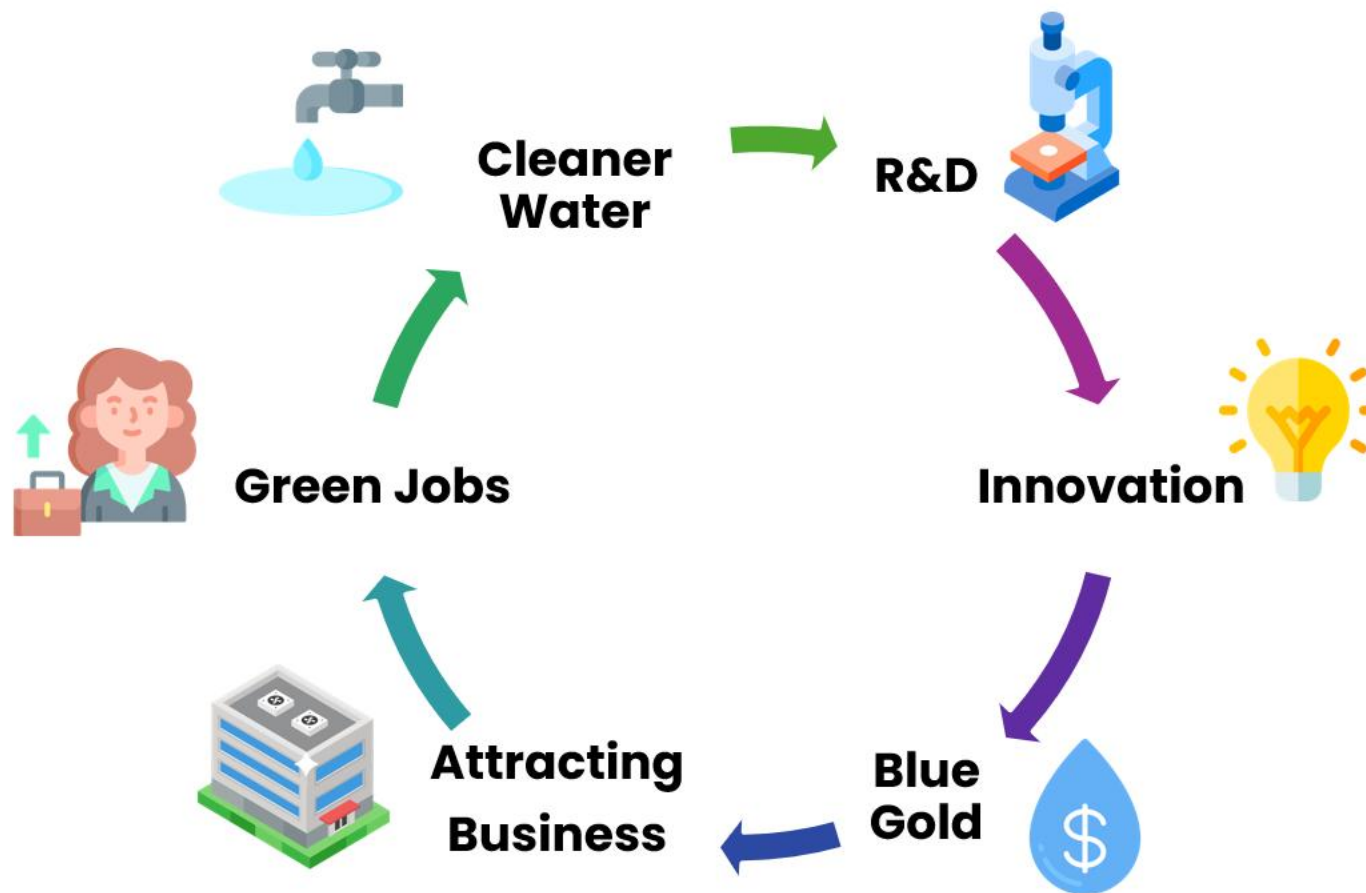
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Expanding Impact

The Value Chain for Delivering Clean Water





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Sustainable Vision of Andong

**Let's work together
to Preserve Clean Water
for Future Generations**

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International Photo Competition

How are cities and their residents responding to pressing water challenges?

169 entries, 16 finalists, 4 winners across 40+ countries & 4 categories: ***Too Little, Too Much, Too Dirty, Young Storytellers***

Winning prize of €1,000 per category, thanks to our generous sponsors and judges:

ARUP



Government of the Netherlands



Water as Leverage
For Resilient Cities



**Scan the QR code
below to view the
online exhibition**

