HUNGARIAN WATER PARTNERSHIP

UN 2023 WATER CONFERENCE

NEW YORK 22–24 MARCH 2023

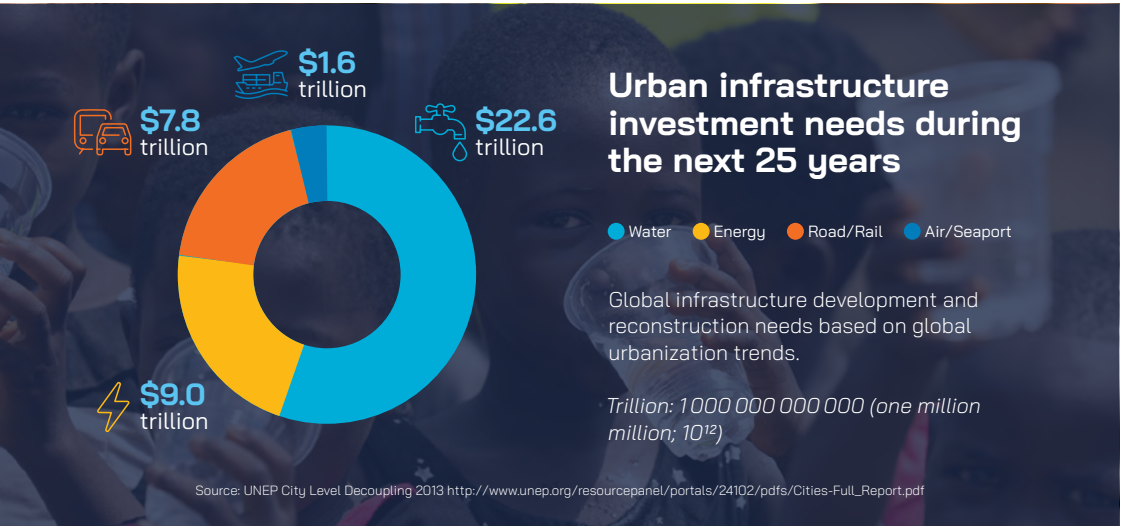
Cost recovery constraints in water infrastructure development

Bankable and sustainable WASH solutions

to overcome affordability barriers limiting the mobilization of private capital.

The challenge

Even in Europe, water utility infrastructure, management, and development face profound financing gaps. The reconstruction of the aging water infrastructure is underfinanced and underperforming. Capital costs are not, or are only partly, included in tariffs or covered by public spending. The yearly reconstruction rate of the existing infrastructure is less than 1%–0.1%, which is presuming an unrealistic life expectancy of up to over 1 000 years.



Detailed and large-scale investment and asset evaluation results show that EU standard (nearly full-scale) water and sanitation utility infrastructure investment/replacement costs are **1 500–7 500 € per capita.** With the collection and distribution network fluctuating between **1 200–5 700 € per capita** (75–80% of the total) depending on local conditions, but mainly on the size of the municipalities – the smaller the more expensive.

> If the world's richest regions' full-scale and inclusive water infrastructure development is unbankable, how do we expect it to be worldwide?

Private investments must be mobilized to supplement limited and ineffective public financing, but there is little to no cost recovery. Limited capacity and/or readiness to pay (partially but not exclusively due to affordability constraints) and mounting sustainability demands necessitate new, efficient, essential, and appealing public and private approaches and solutions.

The **UNEP City-Level Decoupling Report** estimates the financial resources required to finance city-level WASH investments at **22 600 billion USD,** but this amount is too high to be financed and invested in. On a global scale, this enormous amount of capital can and must be converted into individual spending. Dividing the 22 600 billion USD by the number of people (6 billion in 2050) living in cities as indicated in the report, we are coming to 3 500–4 000 USD in investment needs per capita! This precisely corresponds to the conclusions that we reached based on the results of the asset evaluation for the "nearly full-scale" water infrastructure systems in Europe.

The solution

The solutions are based on existing, affordable and sustainable WASH approaches and solutions that are proven and can be attractive enough for the private sector as well. We have to focus on solutions, both for **drinking water provision** and **liquid waste (septic sludge) handling,** for communities where there is no adequate water supply or sewerage network.

Providing access to drinking water for less than a **60 €** initial investment per person and providing service for less than a 25-euro annual fee, including cost recovery for initial capital expenses. Liquid waste management and purification for an initial cost of less than **25 €** per person and a service cost of less than 5 € per person per year, including cost recovery for early capital.

The UNEP City-Level Decoupling Report makes a significant mention of the CAPEX and OPEX variations between WASH expenditures. To solve the problem, we have to highlight the alternative **"near-to-consumer" solutions.**

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The total capital required for 4 billion people living in less developed cities and rural areas will **only be 340 billion USD** thanks to alternative **"near-to-consumer" solutions** with investment costs for drinking water supply and liquid waste handling of less than **85 € per capita.**

Comparision of full-scale and near the consumer solutions

	Full-scale solutions	Near the consumer solutions
Infrastructure costs /person		
drinking water	500–2 500 €	<60 €
wastewater	1 000–4 500 €	<25 €
drinking + wastewater	1 500–7 000 €	<85 €
Supply cost /person/year		
drinking water	35–70 €	<25 €
wastewater	50–100 €	<5 €
drinking + wastewater	85–170 €	<30 €
Global capital needs USD drinking + wastewater	$22 600 billion	$340 billion

The impact of the implementation of the alternative **"near the consumer"** solution will be

- reduction of required investment capital by nearly **99%,**
- safe drinking water provision for less than **25 €/person/year,**
- liquid waste management, and purification service of **less than 5 €/person/year,**
- **affordable WASH services,** with tariffs including initial capital costs,
- **return on the invested capital,** involvement of private capital.

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