



**21st African Water Association International Congress & Exhibition
and
The 7th International Faecal Sludge Management Conference**

Sustainable safe drinking water supply for rural areas as a point-like technology giving instant solution for the water-challenges with an investment value of less than €25 per capita and less than €5 per capita/year supply cost



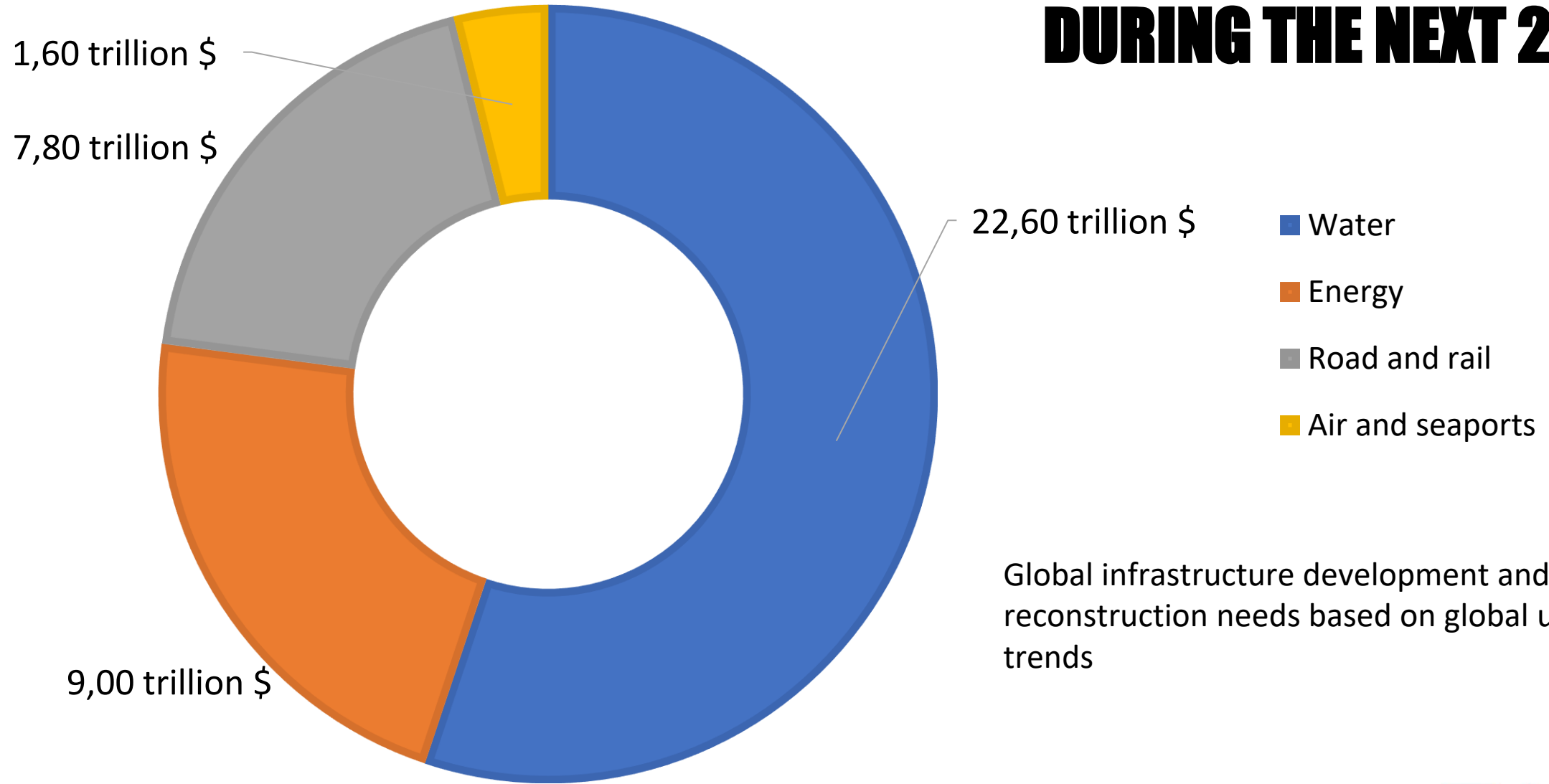
Abidjan, Côte d'Ivoire
19-23 February 2023

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www.puraset.hu

Hungarian Water Partnership
www.hungarianwaterpartnership.com

URBAN INFRASTRUCTURE INVESTMENT NEEDS DURING THE NEXT 25 YEARS



Source: UNEP City Level Decoupling 2013
http://www.unep.org/resourcepanel/portals/24102/pdfs/Cities-Full_Report.pdf

Trillion: 1,000,000,000,000 (one million million; 10^{12})

Water utility infrastructure financing in Europe :

- underfinanced reconstruction of existing, aging infrastructure
 - 1%-0,01% reconstruction/year
- Not inclusion of capital costs into tariffs
 - EU and public funding equal to conditions of 50 years payback period of interest-free finance –cost recovery not provided due to affordability constraints

Infrastructure investments needs/capita to provide 100 liter/capita/day drinking water and the full-scale collection and treatment of polluted wastewater >> depending on local conditions and size of municipality

- 1 500 – 7 500 EUR/capita (investment costs water supply, wastewater collection and treatment)
- 85 -170 EUR/capita/year (operational costs)

Non-financable and non-affordable modell

If the EU WFD model for water, sewerage and wastewater treatment and sanitation infrastructure is expected to have in developing countries, the cost of this (20+ thousand Billion USD) is non-financeable from the available resources and due to the affordability limitations (3% of the family income).

Developing distribution and pipeline networks would make up 80-90% of a given project.

What can be the solution?

- to provide at least 3 litres per person per day of safe and affordable drinking water for a healthy life
- the proper management of wastewater/liquid waste of communities without sewerage networks

Solution for drinking water suppliers

Solution options	Complete infrastructure cost (€/person)	Per capita supply cost (€/person/year)	Main characteristics
Network supply according to EU Drinking Water Directive (EU) 2020/2184) based on HU stat data (100 litres/person/day drinking water)	500 – 2 500 Network from this: 400 - 1.700	35-70	Drinking water quality for total household water consumption, Significant wastewater production
Providing drinking water according to EU WHO directive (3 litres/person/day drinking water)	< 25	< 5	Ensuring access to healthy drinking water, limited wastewater generation

PurAID®- the technology



- Chemical free solution
- Small environment footprint
- Iron, manganese, arsenic, ammonia removal with regenerable adsorbents
- Disinfection (viruses) with UV
- Modular pallet size solution
- Online monitoring
- No desalination
- Ground water, borehole, network water
- Energy efficient

Daily water supply /

Transport size

Weight

6000- 10,000 Litre

max. 800 × 1200 × 2000 mm

max. 500 kg

Monitoring control system

requires low operation task



Advantage of the design & technology/ work with PurAID®

- No Plastic waste
- No Water loss, Revenue water → forecastable ROI
- **without high infrastructure investment and network operation cost**
- **Prompt solution** for rural communities, settlements without network water, public institutions schools, hospitals
- During backwashing, the drinking water supply is continuous. The backwash water can be drained into a rainwater system or filter beds.



School program, education Pipe it up



International recognition



Source: <https://sdgs.un.org/partnerships/sustainable-safe-drinking-water-supply-rural-areas-point-technology-giving-instant>



Source: <https://partners.wsj.com/aws/reinventing-with-the-cloud/3-ways-computer-vision-and-iot-can-transform-operations/>



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Project in progress:

Akim Wenchi- independent PurAID® water supplier

Installation at a campsite during high way- road construction

Expanding in Africa, Ghana, Ivory Cost, Sierra Leone, Tanzania, Rwanda, Egypt and worldwide Vietnam, Sri Lanka, Bangladesh

If you are:

SGD committed individual, business entity

Water supplier

Government, Community Leader

Technology supplier, developer for sustainable water supply solutions

Multinational, stake holders active in CSR



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Solution for liquid waste

Solution options	Complete infrastructure cost (€/person)	Per capita supply cost (€/person/year)	Main characteristics
Wastewater management (sewerage and treatment)			
According to EU UWWTD 91/271 with main collection and treatment	1 000 – 4 500 Network from this 800 – 4 000	50 – 100	Discharging and treatment the total quantity of wastewater
Wastewater treatment (100% liquid waste) without sewerage network	< 45	< 10	Treatment of the entire volume of wastewater discharged to the surface
Drinking and wastewater / EU	1 500 – 7 500	85 - 170	Without infrastructure replacement cost
Drinking and wastewater / SDG	< 70	< 15	With infrastructure replacement cost





Thank you for your kind attention!

Important links:

www.puraset.hu

www.hungarianwaterpartnership.com

https://www.youtube.com/channel/UCvSa-ULjFRB_RNXs1-jZDtA

<https://www.linkedin.com/company/puraset-ltd/>



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