

# SUSTAINABLE WATER FINANCE

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## A. Why a keynote about WATER FINANCE -

a topic of „bad guys“ in the sector dominated by „do-gooders“

- We all want to meet the Sustainable Development Goals (SDG) in the water sector (which include wastewater and water re-use, of course) but there is **little chance to reach these SDG without financing**.
- We all know: Money is not everything. The **bottleneck of success is rather sustainable water management** than the lack of money (often found: poor operation and maintenance – O&M).
- Still: Financing is a fundamental issue to be considered when talking about SDG, especially in DTC (developing and transformation countries), because **financing mechanisms are of governing influence** on water management (on concepts, technologies, O&M).

## B. Three Megatrends

### 1. Increasing variety of water systems

- Downscaling in technologies vs. upscaling in management, operations  
(MBR, decentralized systems vs. remote monitoring&control, IWRM, Global players)  
**Don't believe that ALWAYS „small“ is beautiful and „big“ is cost-efficient !**

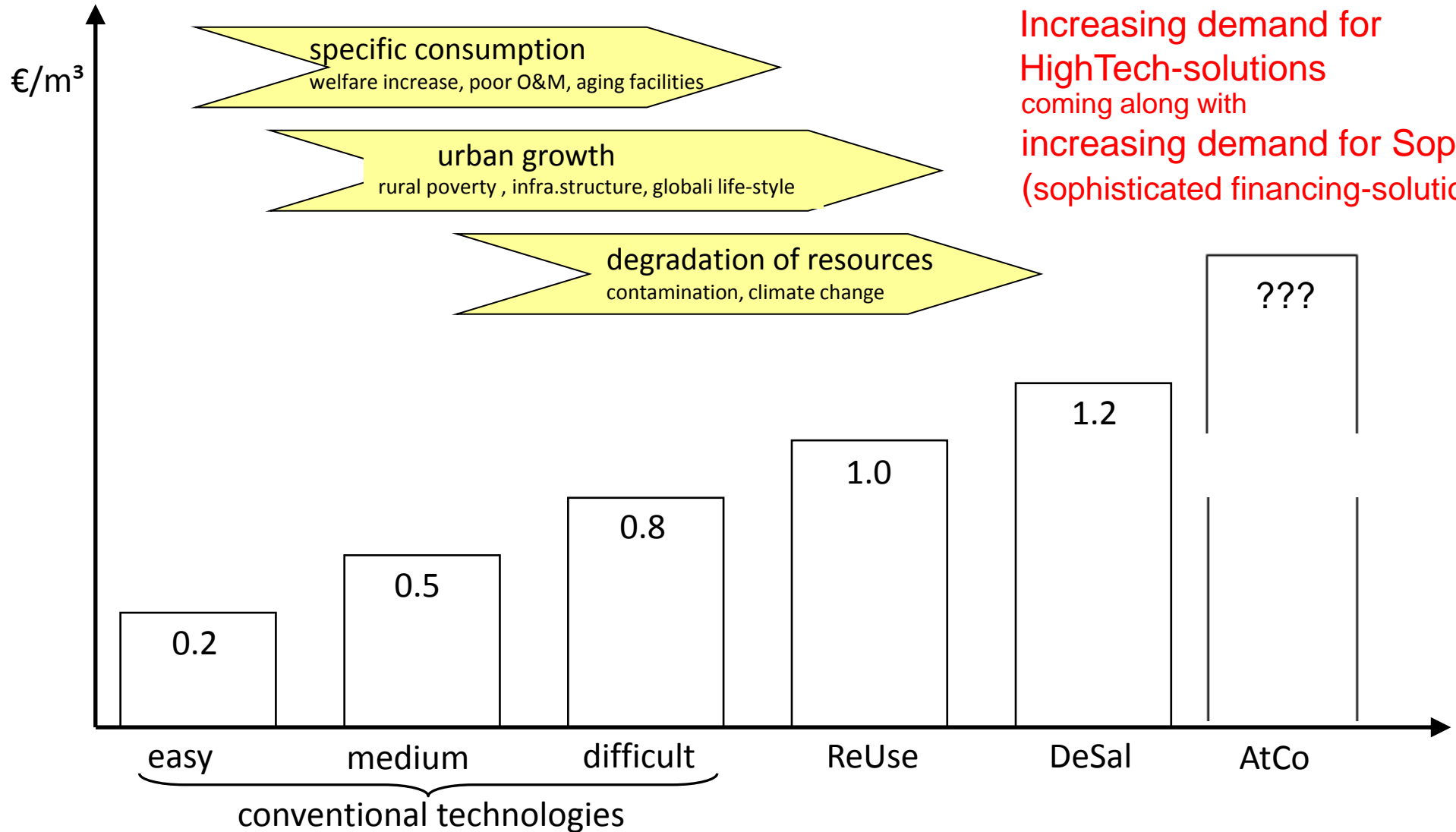
### 2. Increasing importance of „hybrid markets“

- Donor Dominated mixed with Customer Dominated Market drivers  
(DE municipalities vs. industries, VN,IN,CN go PPP, TR with KfW+IPEX etc...)  
**Financing concepts are getting more complex** (“blended” hybrid finance)  
**which may have peculiar effects on SDG** (like negative real interest rates).

### 3. Increasing demand for **HighTech-based solutions**

which are efficient in production and valuable in consumption

# The Cost Hierarchy of Water Production



# C. Financing Mechanisms – for big projects, only?

## 1. Investment Finance

**Big Finance** is good for big investments

(like for dams, new plants, new networks with >>10 / 30 or even 50 million € or so.)

But: To meet the SDG,

**Small & Medium Finance** is required, as well

(like for decentralised and rural facilities, water loss reduction water efficiency, , refurbishment / extension / upgrade / stage-by-stage-implementations et al).

WHAT WE NEED is a kind of „**Programme Finance**“  
bundling a large number of single project investments,  
possibly with DFIs re-financed through regional funds,  
(as implemented with KfW through TNUDF  
under the BMBF-sponsored project „WaLUE“ [www.walue-india.de](http://www.walue-india.de) )

## C. Financing Mechanisms – for investment, only ?

The **Investment-only-financing** approach has failed in many cases, especially in DTC, mainly because O&M was insufficient, with the consequence of „**sunk investments**“. Banks have learned that O&M must be secured, even for successful investment-only- financing.

**WHAT WE NEED** is an **enhanced Financial Due Diligence** of the Lender's Business Model, preferably built on a professional performance guarantee - even if donor banks hold a sovereign state guarantee.

Furthermore, we need **innovative Financing Models** which allow for re-financing and incentivise successful O&M. This should be researched for application in DTC.

(**Forfeiting** has been applied in DE for WWTP investments of > billion 2.5 €, successfully, see dissertation Max Hermann, Witten University, 2015).

# C. Financing Mechanisms – appropriately designed for pay-back ?

## 2. Cost Recovery (Re-Finance, Debt-Re-Pay)

**Tariffs** (connection rates, fixed and working charges et al.) must recover those costs which are not yet covered through other revenues (like grants or taxes).

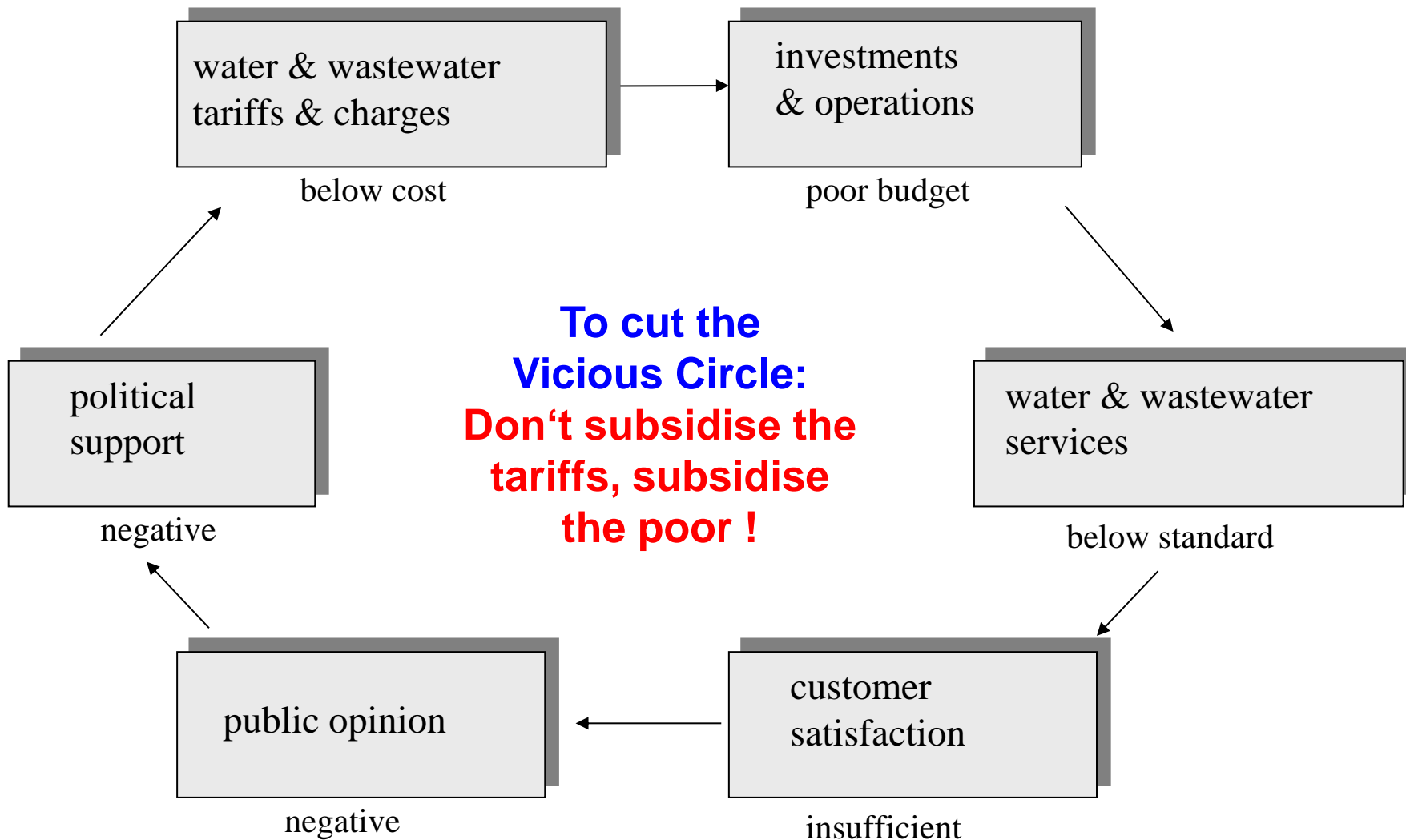
**Social and hygienic** considerations and political drivers are the reasons, why tariffs are set below costs in nearly all DTC.

**Financial** sustainability requires cost-recovering tariffs

(If tariffs are set too low, there is no driver for water, energy-, resources-efficiency, no demand management, no water reuse and poor customer services).

**The DEMAND is for applied research and development to make this idea work** (which has seldom come through for several reasons, so far),  
**or to find better ideas how to change the „Vicious Circle“.**

# The Vicious Circle in water and sanitation





# C. Financing Mechanisms – incentivising sustainability ?

## 3. Financial Incentives

**Institutional framework** should be

- realistic (VN decree does not include structural maintenance as a eligible cost component)
- transparent (DE by-law allows to charge for virtual-only-costs in ww, different for w-supply)
- enforced (ZA -practice in water abstraction control and wastewater effluent monitoring)

**Local water business** development should happen („job per drop“) instead of importing full-serviced-solutions

(a well functioning PPP is better than a malfunctioning municipal scheme. Disregarding “P2or “P”, it’s mainly local empowered schemes which sustain - like Water Franchise developed and piloted under the BMBF-funded IWRM project MOSA [www.iwrm-southafrica.de](http://www.iwrm-southafrica.de) )

**Financial incentives** should empower SDG implementation  
(okay, again, money is not all, but.....)

The DEMAND is for performance oriented financing,  
like **SPV-lending** (SPV, special purpose vehicles with operational responsibility)  
or performance-based **virtual debt-repayment**

(e. g. „negative“ ww effluent charge) **which will need further research**

# C. Financing Mechanisms – incentivising sustainability ?

## 3. Financial Incentives

**Institutional framework of water finance** should be

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- transparent (DE by-law allows to charge for virtual-only-costs in ww, different for w-supply)
- enforced (ZA -practice in water abstraction control and wastewater effluent monitoring).

**Local water sector development** („job per drop“)

preferable before imported, fully-serviced-solutions

(a well functioning PPP is better than a malfunctioning municipal scheme. Disregarding “P2or “P”, it’s mainly local empowered schemes which sustain - like Water Franchise developed and piloted under the BMBF-funded IWRM project MOSA [www.iwrm-southafrica.de](http://www.iwrm-southafrica.de) ).

**Financial incentives** should drive SDG implementation

(okay, again, money is not all, but without money nothing might well be all we can get).

The DEMAND is for performance oriented financing,  
like **SPV-lending** (SPV, special purpose vehicles with operational responsibility)

or performance-based **virtual debt-repayment**

(e. g. „negative“ ww effluent charge) **which will need further research.**

## D. Conclusions

**Financing may be unpopular in applied water research, but it is an indispensable and valuable part of water & sustainability.**

**To contribute innovations to reach the SDG, economics & financing need attention and „grounded“ efforts in research.**

**Thanks to BMBF for funding projects including water-specific modules in economics & finance, especially**



# E. The End of the Key-Note Presentation

**Thank you for your attention!**



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