

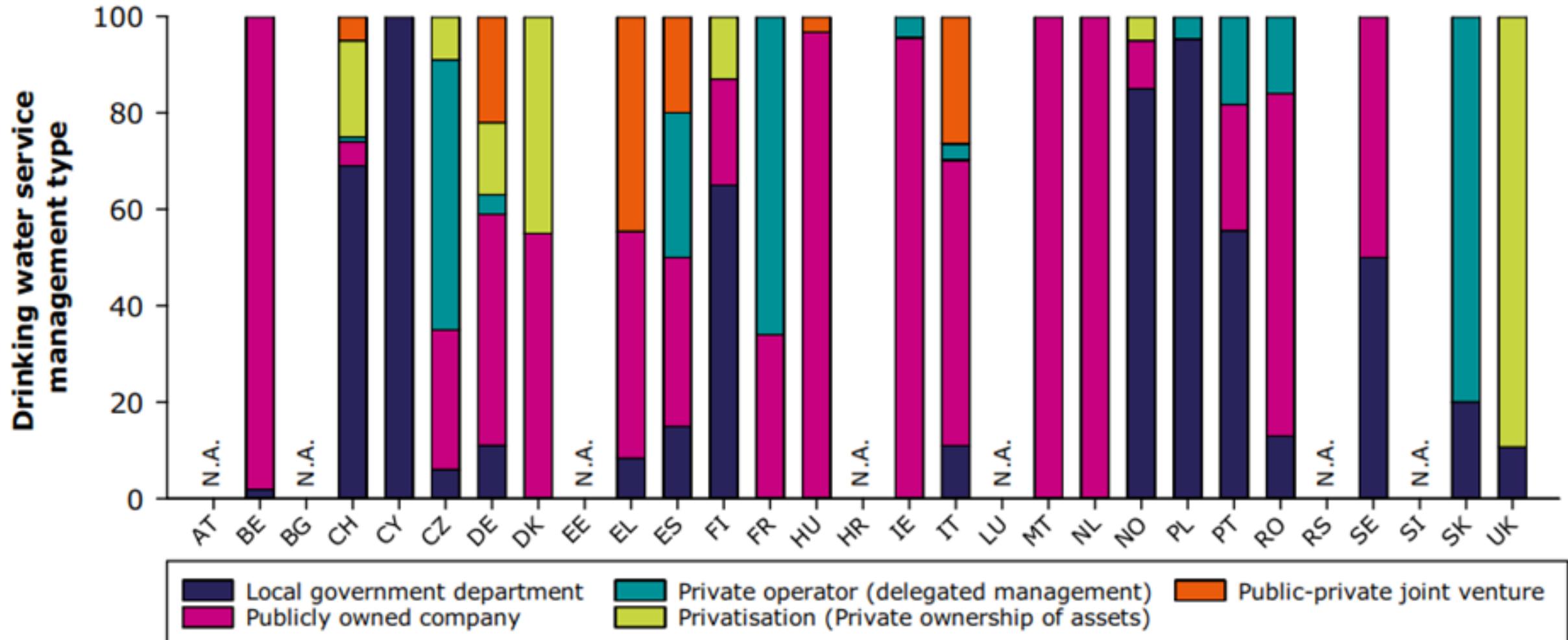


# THE NEED TO SPEED UP REHABILITATION RATE OF WATER AND WASTEWATER SYSTEMS

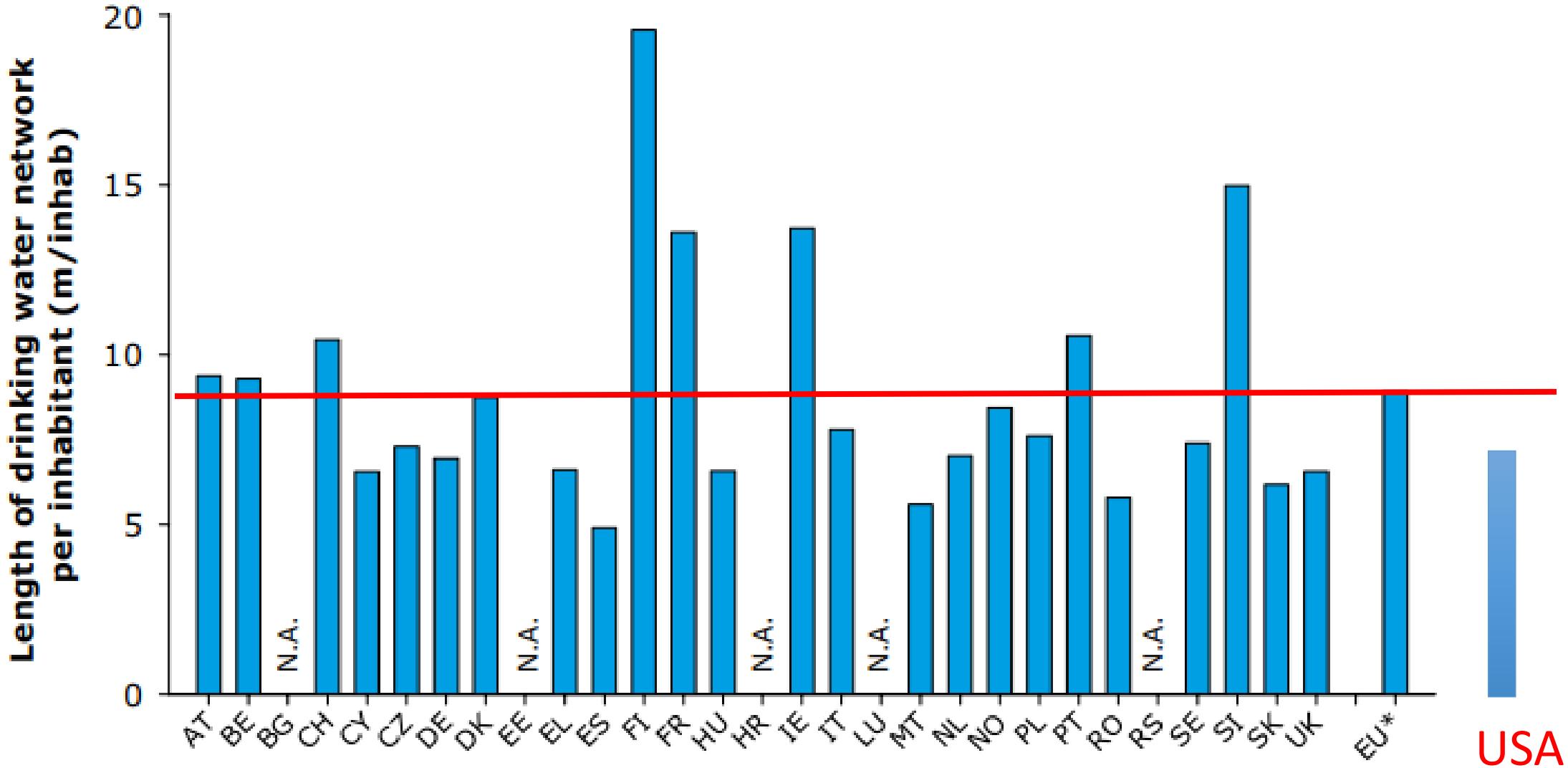
DSc Pekka Pietilä  
Tampere University of Technology

EWA-JSWA-WEF  
16 May 2018

# Who is in charge?

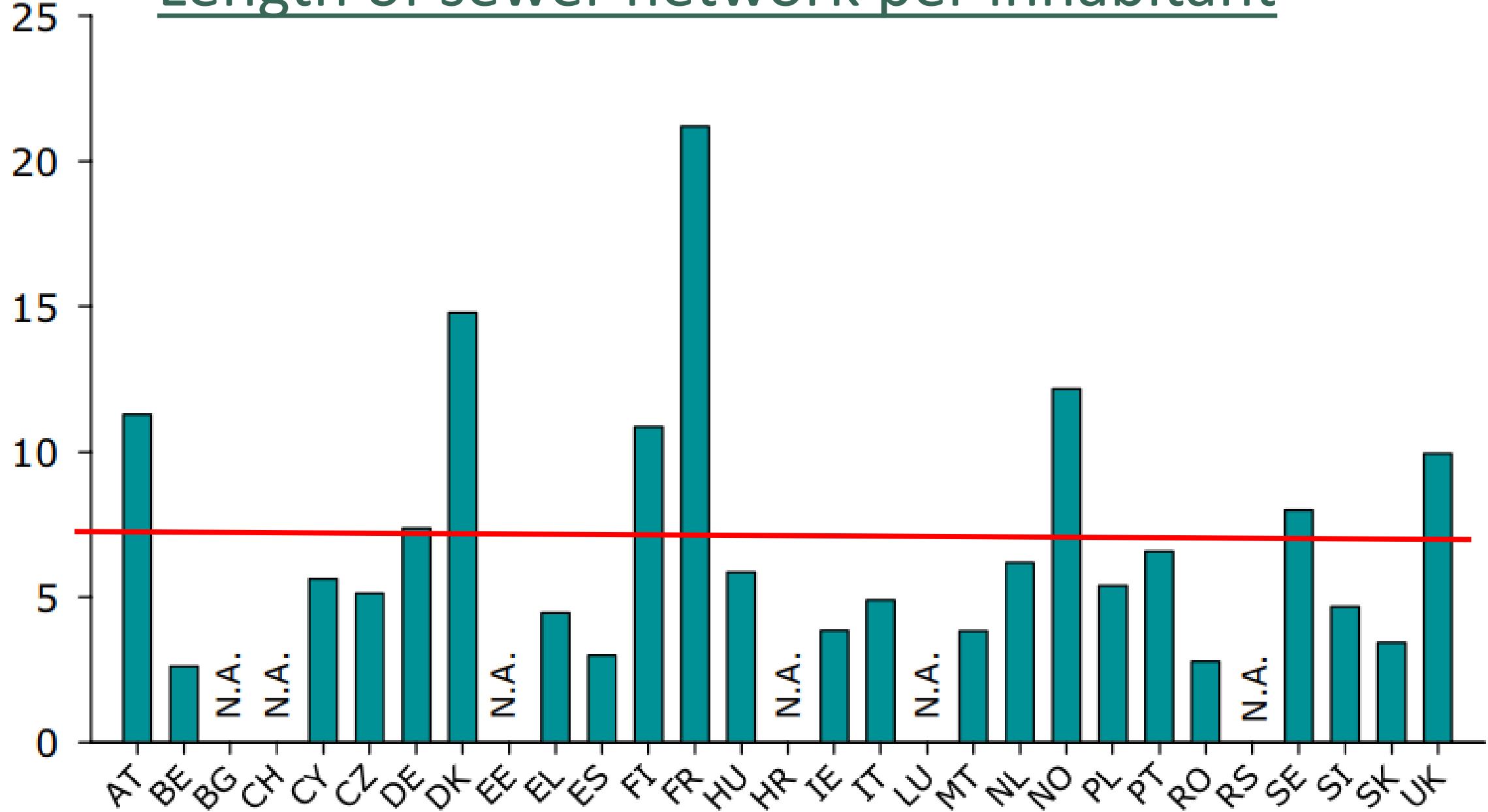


# Length of water network per inhabitant

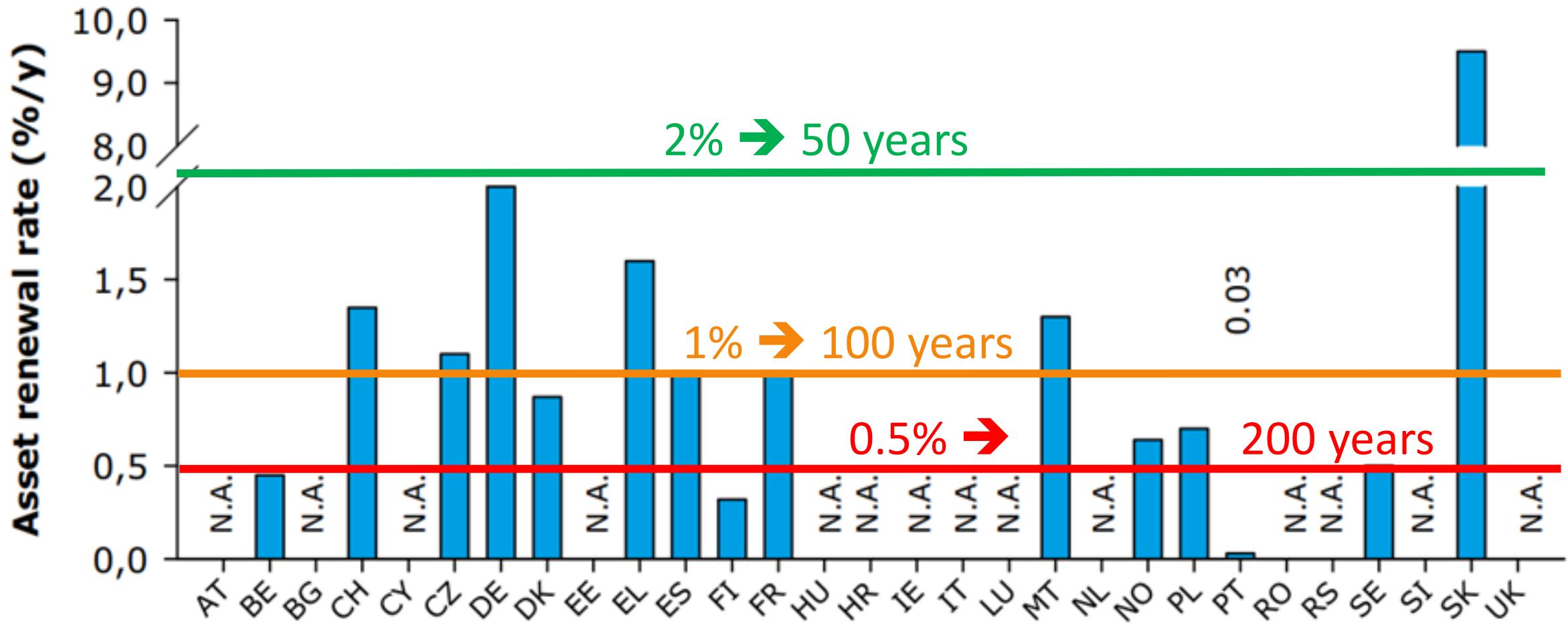


# Length of sewer network per inhabitant

Sewer network per inhabitant (m/inhab)



# WATER INFRASTRUCTURE RENEWAL RATE



What will we get with low renewal rate?



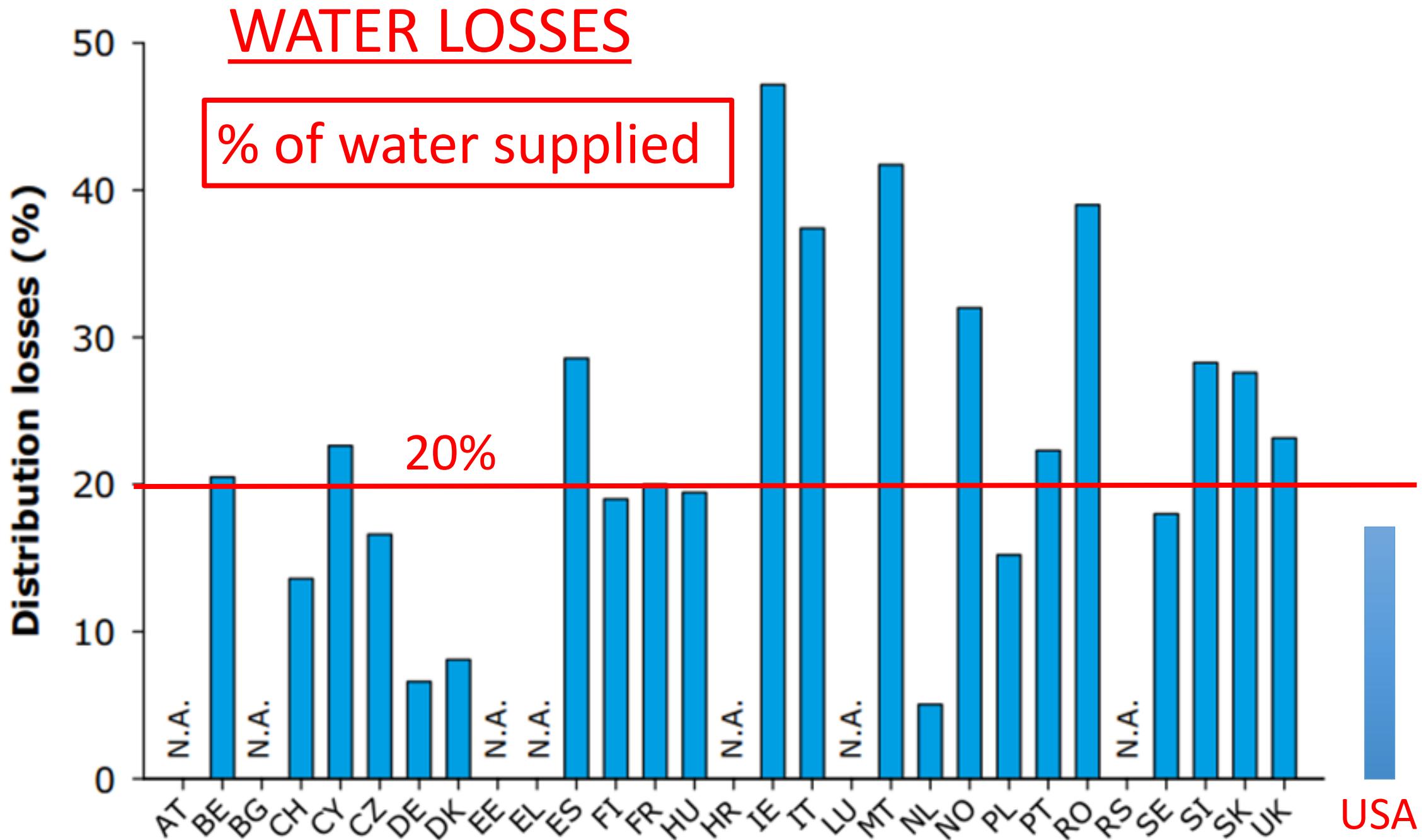
Pipe breaks!



Leaks!

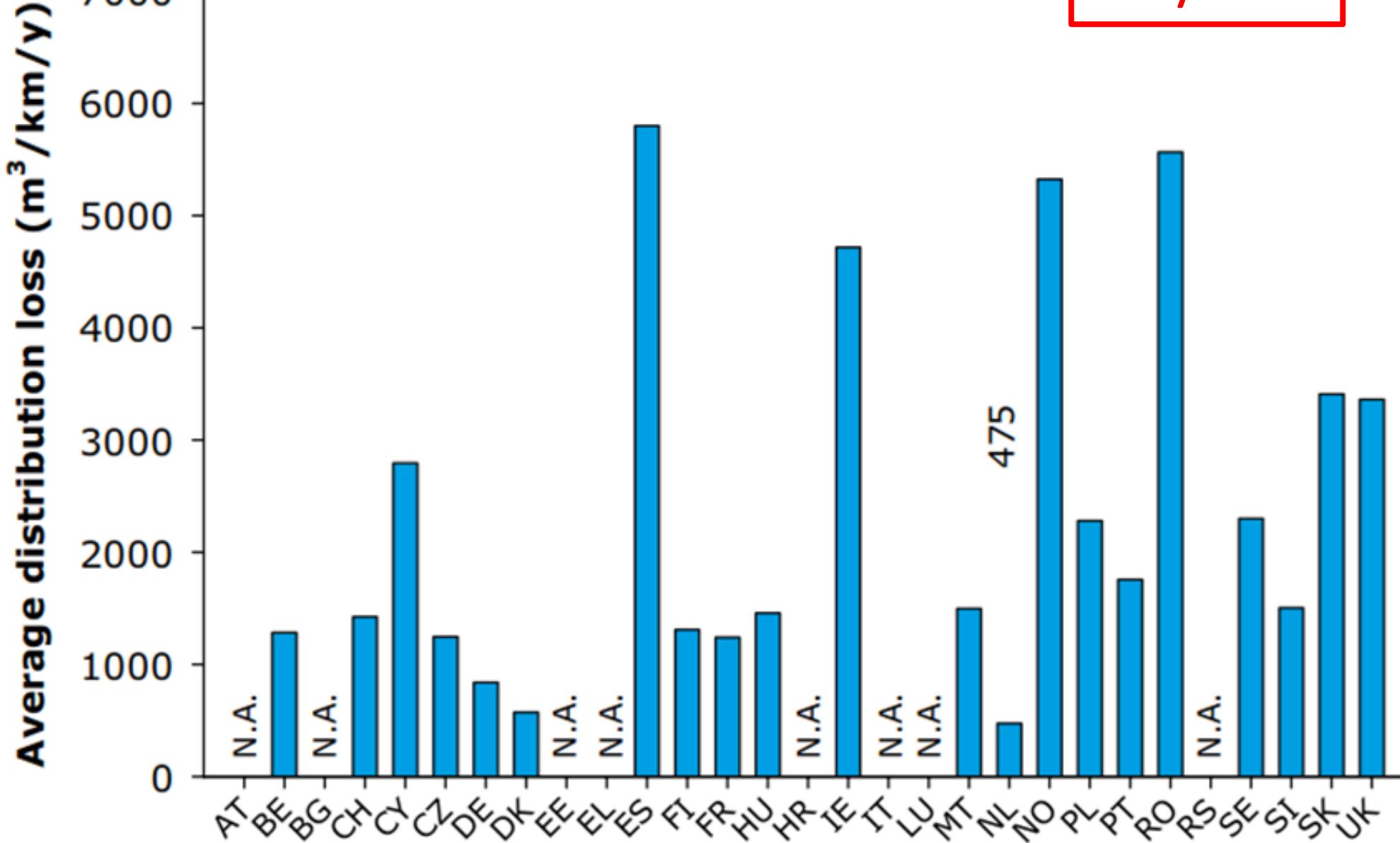
# Poor quality service!





# WATER LOSSES

$\text{m}^3 / \text{km}$



## Water network renewal

EU 4.2 million km

✓ if 1% renewed annually → 42 000 km

USA 1.9 million km

✓ if 1% renewed annually → 19 000 km

# Water sector investment

## EU<sup>1)</sup>

- Annual investment 45 billion EUR

## USA<sup>2)</sup>

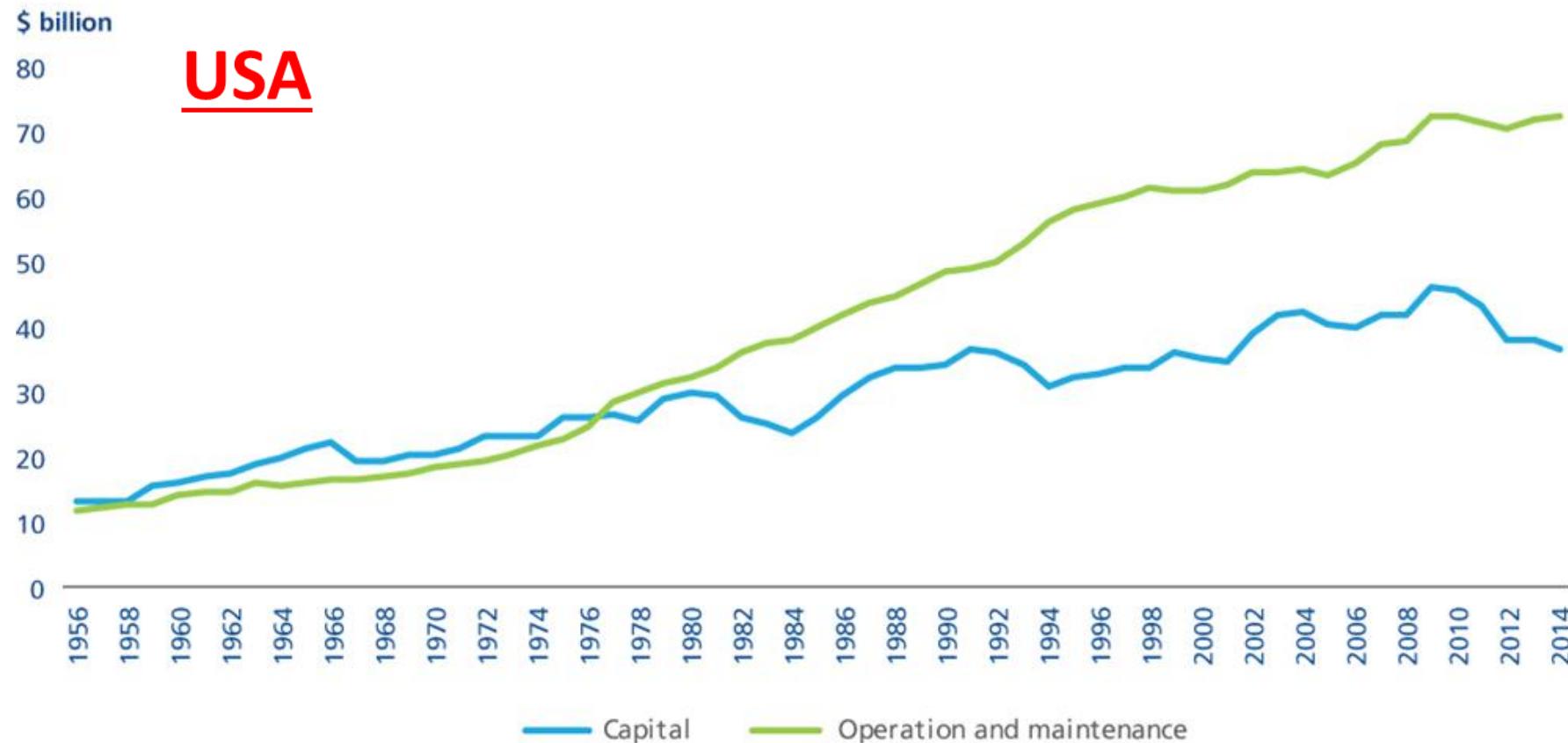
- Annual investment 35 billion EUR
- Funding gap 70 billion EUR

<sup>1)</sup> EurEau: Europe's water in figures

<sup>2)</sup> AWWA, ASCE & Value of Water Campaign reports



Figure 1. Public spending on water utilities (in 2014 dollars)



Source: Congressional Budget Office, "Public spending on transportation and water infrastructure, 1956 to 2014," table W-7, <https://www.cbo.gov/publication/49910>.

Graphic: Deloitte University Press | DUPress.com



**USA**

# FEDERAL SHARE TO TOTAL INFRASTRUCTURE SPENDING

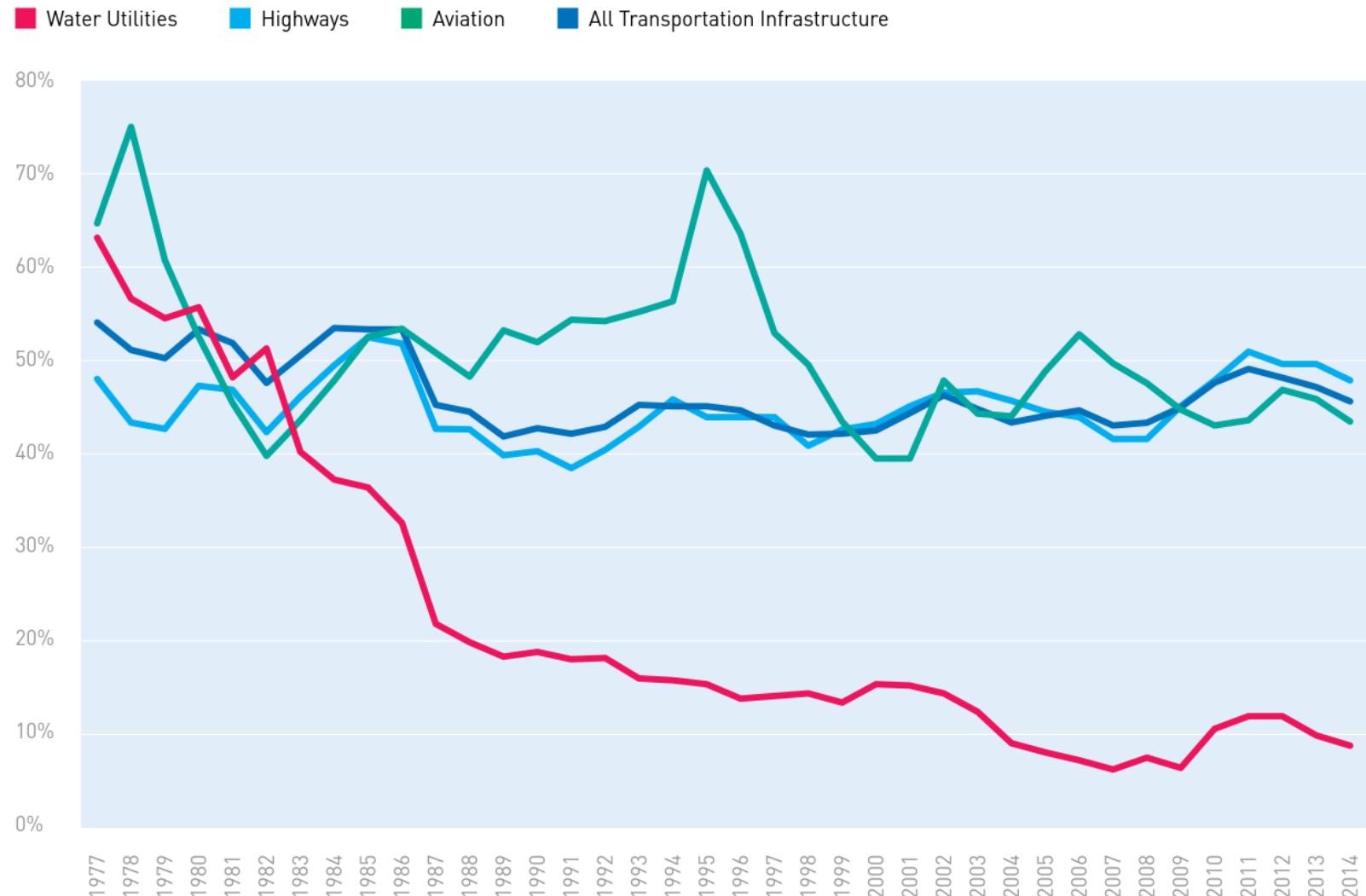
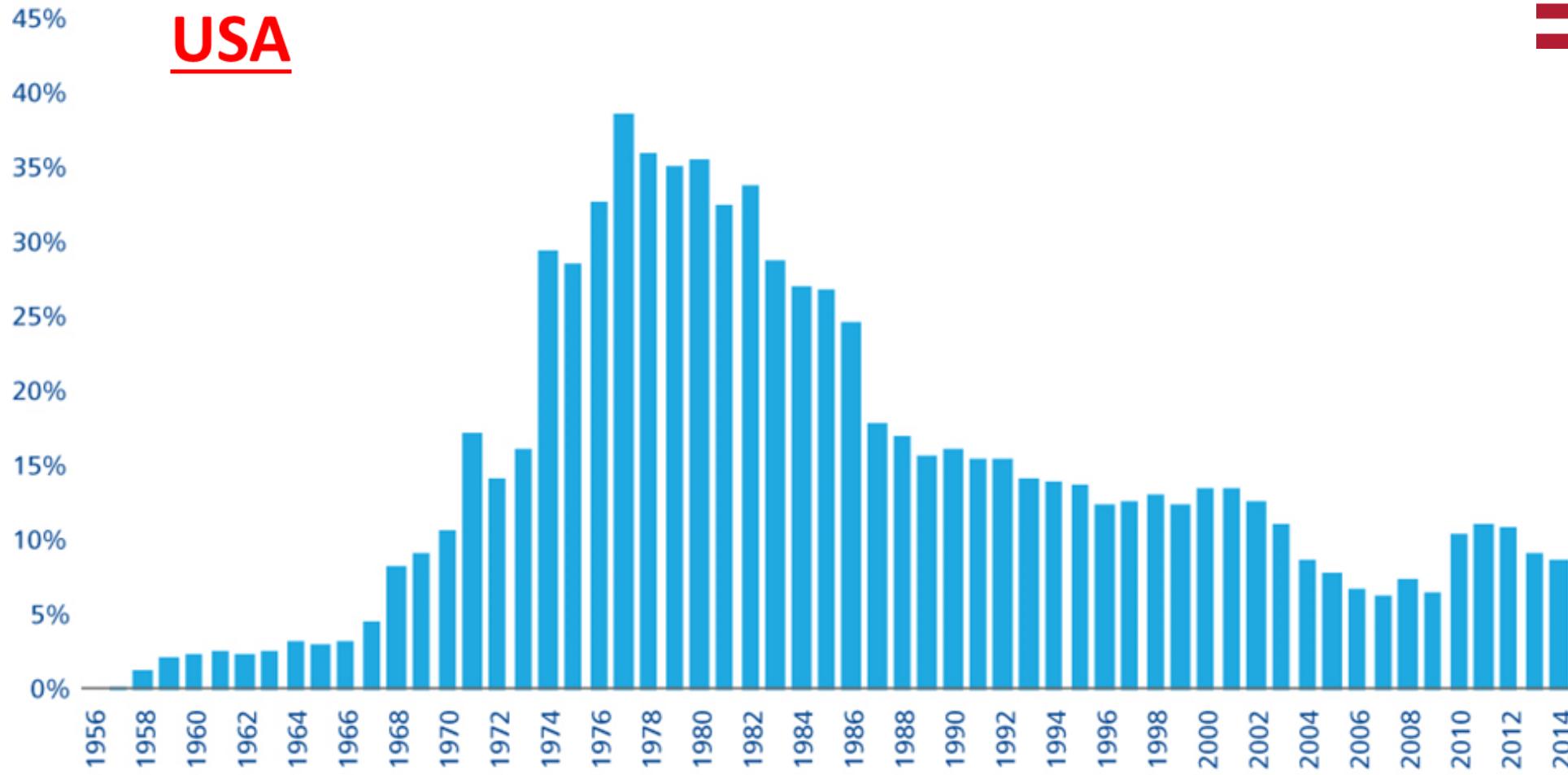




Figure 2. Federal share of water utility capital spending



Source: Congressional Budget Office, "Public spending on transportation and water infrastructure, 1956 to 2014," table W-2, <https://www.cbo.gov/publication/49910>.

Graphic: Deloitte University Press | DUPress.com



## If water sector investment gap is filled

Annual impacts <sup>1)</sup>

- 220 billion USD in economic activity
- Over 1 million jobs

Plus additional benefits due to less service disruptions

<sup>1)</sup> Value of Water Campaign report



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