



Energy neutrality in the water sector: where are we and what can we do?

Bertrand Vallet – Policy Officer

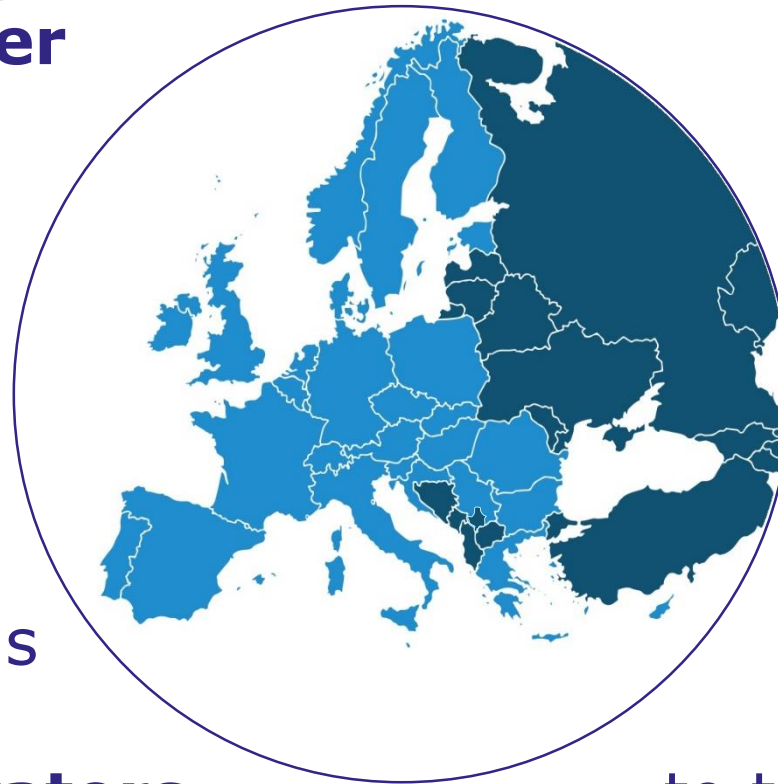
EEAC Working Group on Fresh Water Affairs – 16 June 2020

EurEau - Who we are



EurEau is the **European federation of water services**

We represent both **public** and **private** sector



We represent **32** national associations of **drinking and waste water operators** from **29** European countries

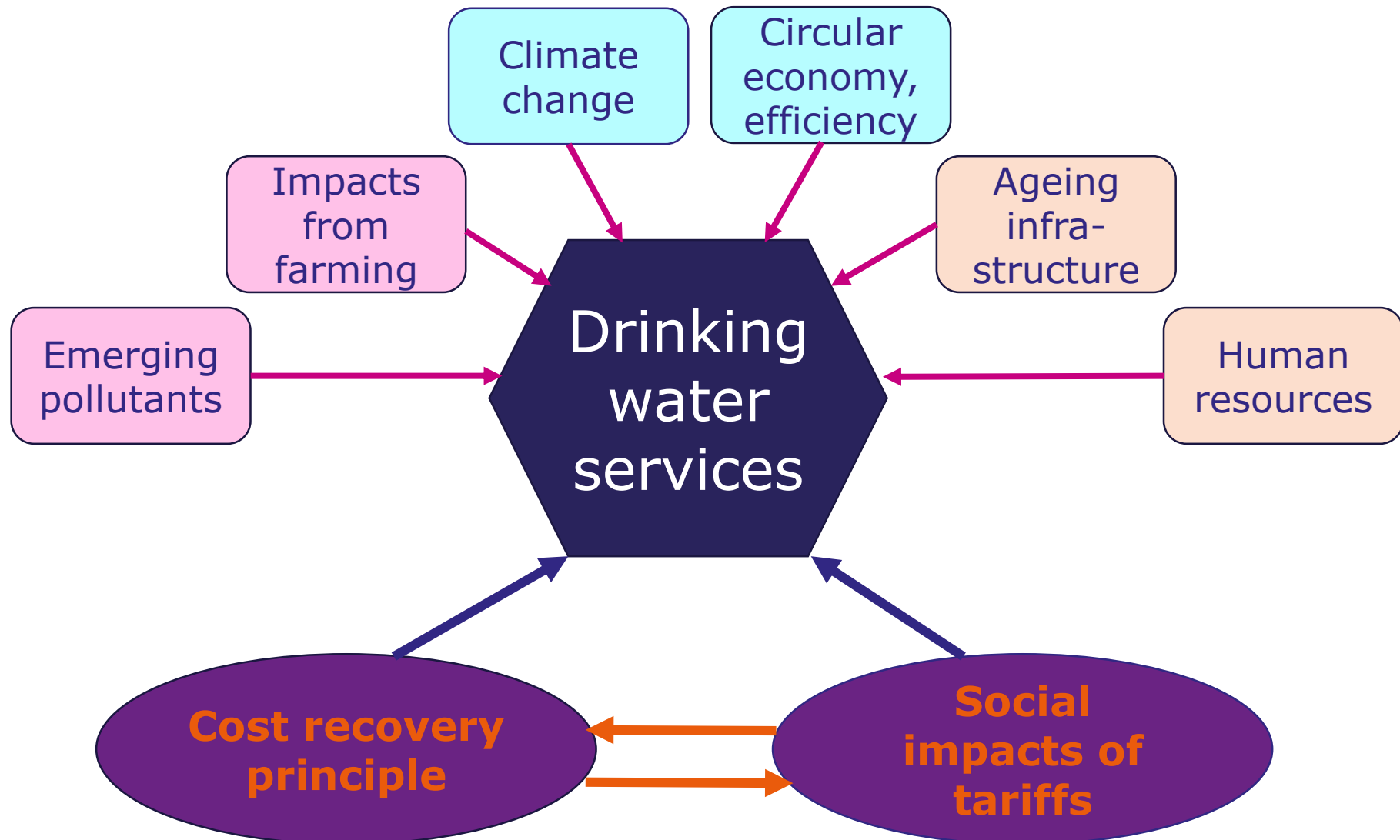
With **470,000** direct **jobs**, we make a significant contribution to the European economy.

EurEau - What we do

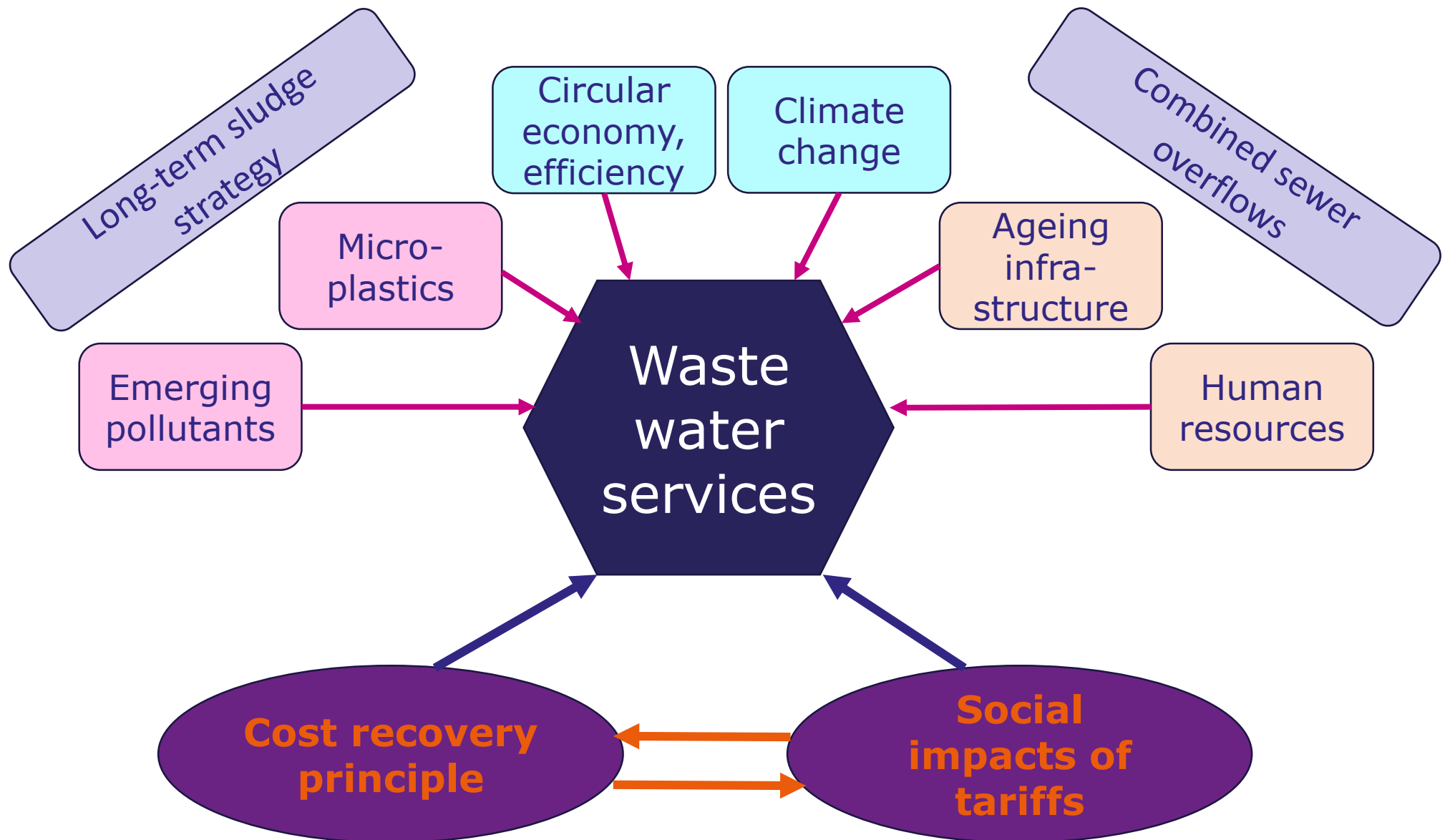
- ~ Our experts exchange knowledge
- ~ We establish positions
- ~ We engage with EU policy makers.



Challenges of drinking water services



Challenges of waste water services



And regarding energy?

- ~ Water sector seen as energy intensive
- ~ GHG emissions targets push for improvement
- ~ Electricity is the largest source of energy used for:
 - ~ Pumping
 - ~ Treatment
 - ~ Sludge processing
- ~ Monitoring allow progress



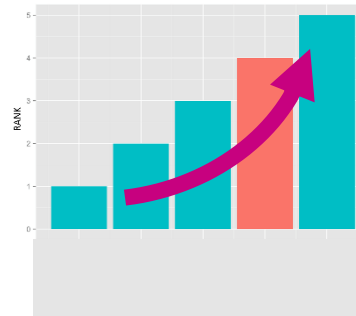
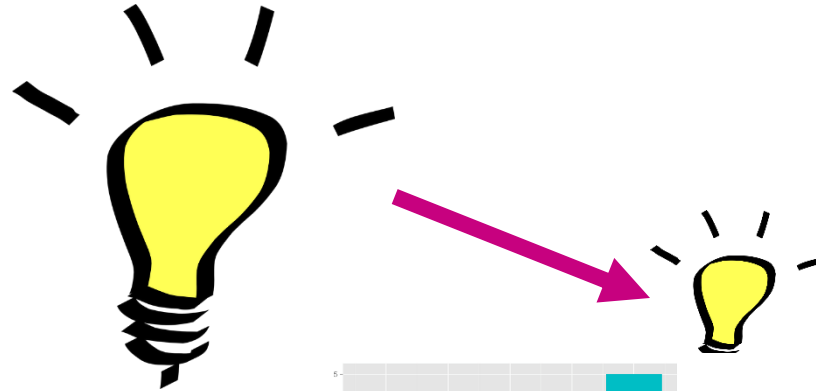
What can we do?

~ Consume less,

~ Gain in efficiency

~ Produce energy from
water services

~ Corporate approach



What can we do? - Consume less

~ Drinking water

- ~ Cleaner and closest water resource possible
- ~ Audit and improvement of existing technologies
- ~ Pressure and leakage management

~ Waste water

- ~ Reduce the waste water collected
- ~ Maximising gravity
- ~ Reducing consumption and heating

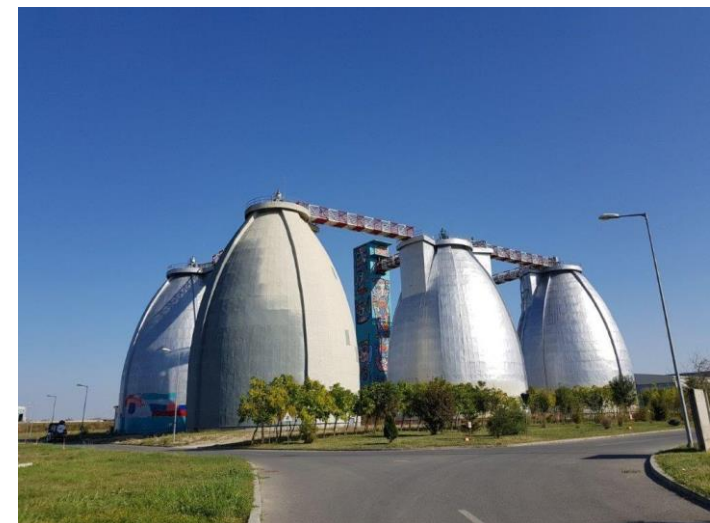


What can we do? – Gain in efficiency

- ~ Energy efficiency: not a plus, a **decision criteria** like any other
- ~ Replacement with more efficient equipment
- ~ Introduce on-line, automated and modelling for process control
- ~ Catchment approach:
 - ~ **Marselisborg catchment area – first energy-neutral catchment area**

What can we do? – Produce on-site

- ~ Use gravity and storage to produce electricity via turbines
 - ~ Examples in Greece, Austria, Finland and Belgium both with DW and WW
- ~ Biogas production from sewage sludge
 - ~ Multiple examples in Europe
- ~ Heat recovery (network and sewers)
 - ~ The Netherlands, Romania, Italy, France, Belgium



What can we do? – Produce on-site

~ Heat recovery from incineration

~ Solar and wind energy

~ Belgium, Sweden



What can we do? – corporate approach

- ~ Energy is everywhere, not only in water infrastructure
- ~ Savings can be promoted **inside** and **outside** the company
- ~ Actions towards **consumers**
- ~ **Influence** other stakeholders



Limits and bottlenecks

~ Local conditions:

~ Topography



~ Investment need



~ Balance between performance and economic feasibility

~ Good planning is needed:

~ audit,

~ replacement according to investment needs

~ Energy neutral or positive: not a goal by itself

Limits and bottlenecks

~ Bottlenecks:

~ Regulatory framework

- ~ MS to include alternative sources in the energy target

~ Financing and cost-effectiveness

- ~ Support heavy investment to allow better efficiency on the long-term

~ Investment cycles

- ~ Consider the long-term investment cycles in water services

~ Maturity of technologies

~ Technical compatibility

~ Human resources

New challenges

- ~ New pollutants to be considered
 - ~ Energy intensive technologies
- ~ Align pollution removal and energy requirements
- ~ Look at the global picture (CO2_{eq} , LCA)
- ~ Innovative financial instruments (green deal, EPR)

Conclusion

- ~ The water sector operates in a **complex environment**
- ~ Initiatives everywhere but need for **support**
- ~ Potential for **energy neutral** or **energy positive** water services
- ~ Not the ultimate objective
- ~ Look at new challenges and keep affordability
- ~ **Proper financing** in infrastructure in respect of the **investment cycles**



EurEau

The way forward

**Supportive
legislative
framework**

**Clear
gover-
nance
structures**

Control at
source for
pollutants

Long-term
strategy

Local /
regional
co-
operation

Market
access for
recovered
products

Innovation

Financing
tools,
including
EPR

Nature-
based
solutions

Thank you for your attention

Bertrand Vallet – bertrand.vallet@eureau.org

Policy Officer

EurEau



EurEau

Rue du Luxembourg 47-51,
B-1050 Brussels, Belgium
Tel: +32 (0)2 706 40 80
secretariat@eureau.org

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www.eureau.org