The energy potential of the wastewater sector: the REEF 2W approach
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André Müller (mueller@adelphi.de)

adelphi

Objective of this presentation

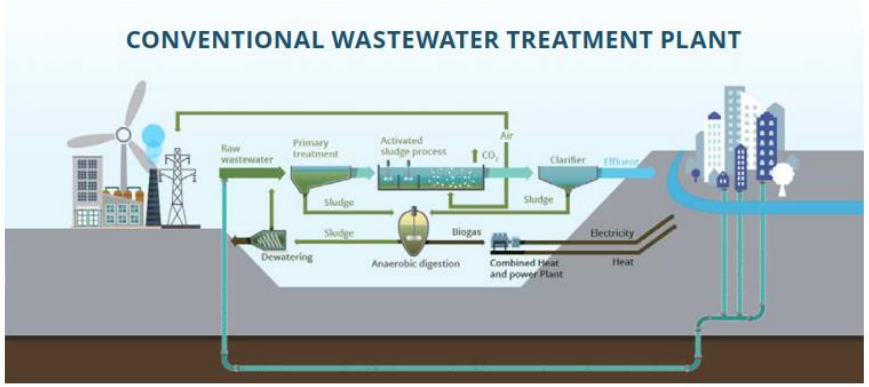
Present **policy recommendations** for creating an enabling environment that supports the uptake of waste-to-energy solutions.

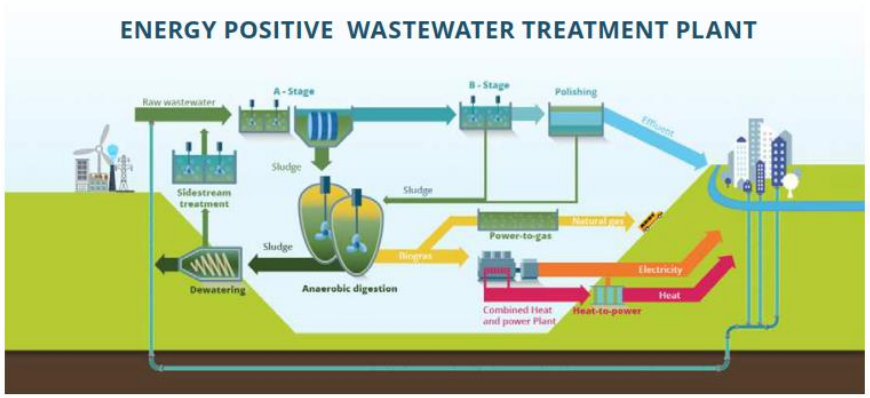
Content of today‘s presentation

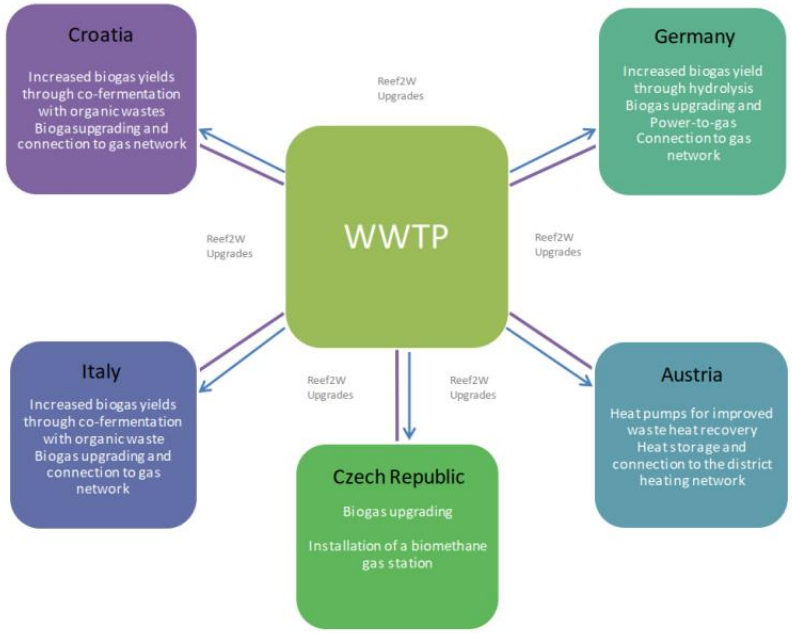
1. Background and approach (5 min)
2. Policy barriers and recommendations (10 min)
3. Conclusion + Q&A (5 min)

BACKGROUND

A complex integrated system







Focus: Co-digestion with biowaste, biogas upgrading, heat capture, power-to-gas

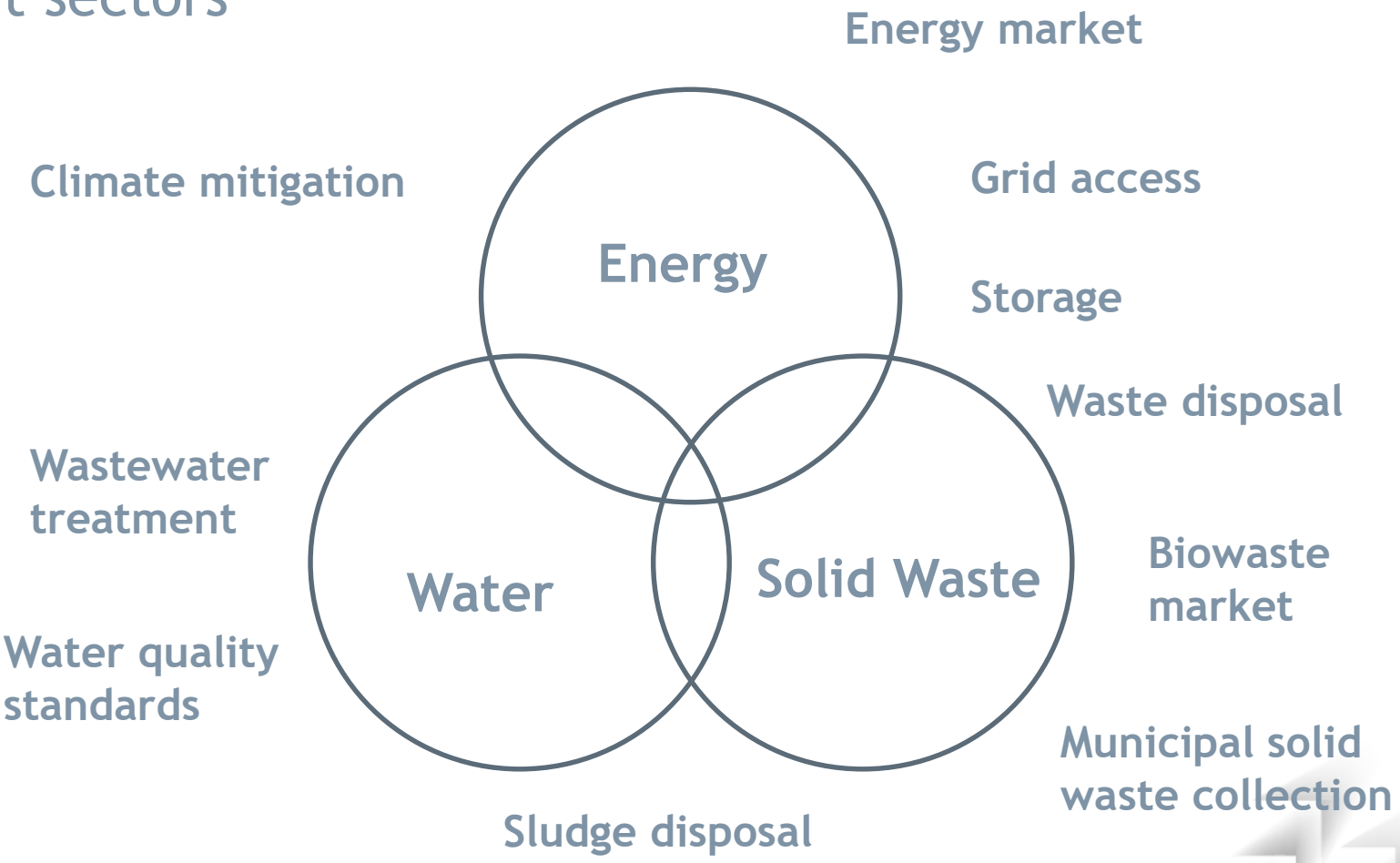
→ No nutrient recycling

→ No water reuse

→ No water efficiency

BACKGROUND

Different sectors

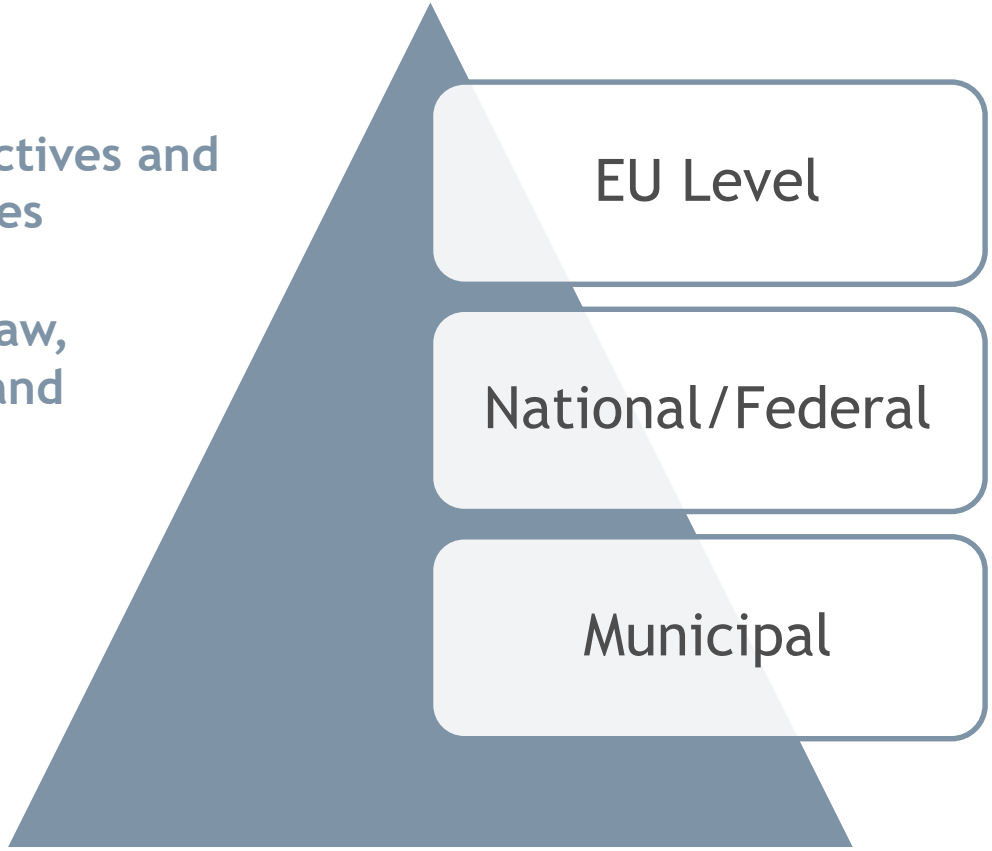


BACKGROUND

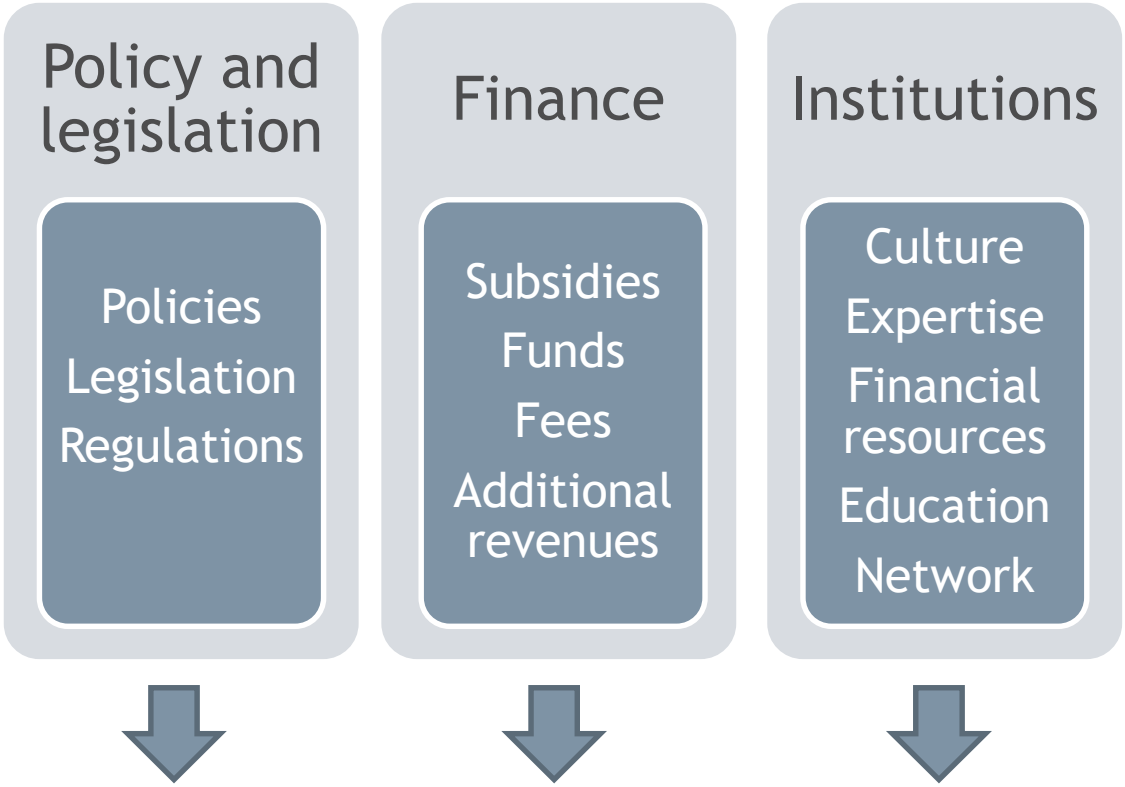
EU directives and strategies

National law, policies, and strategies

Regional/city policies and strategies



BACKGROUND



Enabling environment for supporting the uptake of waste-to-water solutions

Methodological Approach

Current findings are still preliminary!!

POLICY BARRIERS & POLICY RECOMMENDATIONS

Overview

- There are **multiple relevant barriers**; here, we just present a few key ones
- The barriers are **not unique to REEF 2W solutions.** They can be observed for other water innovations as well
- Barriers/policies recommendations are **generic** to suit different country + EU context
- There are **multiple actions** that can be undertaken to implement them, again depending on the national and local context

POLICY BARRIERS & POLICY RECOMMENDATIONS

I: Establish and adopt policies and legislation that integrate critical interlinkages between the energy, water and solid waste systems innate to wastewater-to-energy solutions so as to maximise their synergies and avoid overlaps and conflicts;

Barriers:

- Little regulatory pressure, policy gaps (esp. cross-sectoral) and conflicts
- Legal mandate impedes venturing outside treating wastewater

Required changes:

- Integrate multi-technology and multi-purpose approach across sectoral legislation and policy at various different political-administrative levels
- Increase support: regulatory pressure (or increase financial incentives)

POLICY BARRIERS & POLICY RECOMMENDATIONS

II: Foster a waste regime that drives up the production of biowaste and consequently stimulates co-digestion in wastewater treatment plants

Barriers:

- Biowaste is highly competed for, hence being scarce and in some cases costly
- Regulatory waste regime not be strict enough or has not been implemented as of yet

Required changes:

- Establish municipal separate collection of solid waste
- Accelerate the phase-out of landfilling
-

POLICY BARRIERS & POLICY RECOMMENDATIONS

III: Provide sufficient, predictable and long-term financial support for renewables and specifically promote electricity, gas and heat produced from wastewater

Barriers:

- Waste-to-energy solutions cause high upfront and operational costs
- In some countries, subsidies are non-existent or low and often unpredictable

Required changes:

- As the single most important driver, subsidies for renewables need to be sufficient
- Subsidies need to be extended to all waste-to-energy solutions

POLICY BARRIERS & POLICY RECOMMENDATIONS

VI: Enable utilities to exploit multiple revenue streams beyond treating wastewater to improve the business case of WWTPs

Barriers:

- Investments in energy-improving measures cannot be incorporated into the wastewater price in some cases
- Co-fermentation produces high amounts of sludge, raising disposal costs
- Grid access is challenging, especially for small providers such as single treatment plants

Required changes:

- Improve regulatory basis for utilities to invest in waste-to-energy solutions
- Offer holistic approach to dispose co-digestated sludge
- Eliminate various existing hurdles to enable feed-in

POLICY BARRIERS & POLICY RECOMMENDATIONS

V: Increase multi-sectoral information transfer, education, knowledge and capacity building and establish a national platform in charge of promoting energetic use of wastewater beyond the premises of wastewater utilities.

Barriers:

- Time is a key constraint, especially for smaller utilities
- Limited know-how on making use of WWTP energy potential
- Planning approaches for market supply of energy are more complex and require strong collaboration between stakeholders

Required changes:

- Raise awareness, provide knowledge and improve capacity, and connect stakeholders across sectors (perhaps through a central agency)
- Establish a buddy system matching unexperienced utilities with experienced utilities

Conclusion

- Waste-to-energy systems are complex integrates systems;
- Their large-scale uptake is challenging; to create the enabling environment for them is a complex endeavour, taking many years
- Policies and laws are, if at all, only in the making, with many barriers to be tackled
- Projects are currently rather driven by “good will” than systematic support
- Advances in establishing an enabling environment vary largely across countries

POLICY BARRIERS & POLICY RECOMMENDATIONS

Questions? Any points to make?

Contact details

Name : André Müller
adelphi research gGmbH

www.adelphi.de

mueller@adelphi.de

Tel. +49 (30) 8900068-63
Fax +49 (30) 8900068-10

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