

*Survey ordered by Estonian Water Works Association:*

# „Development of strategies towards a sustainable water sector“



*Co-financer:*

Environmental Investment Centre



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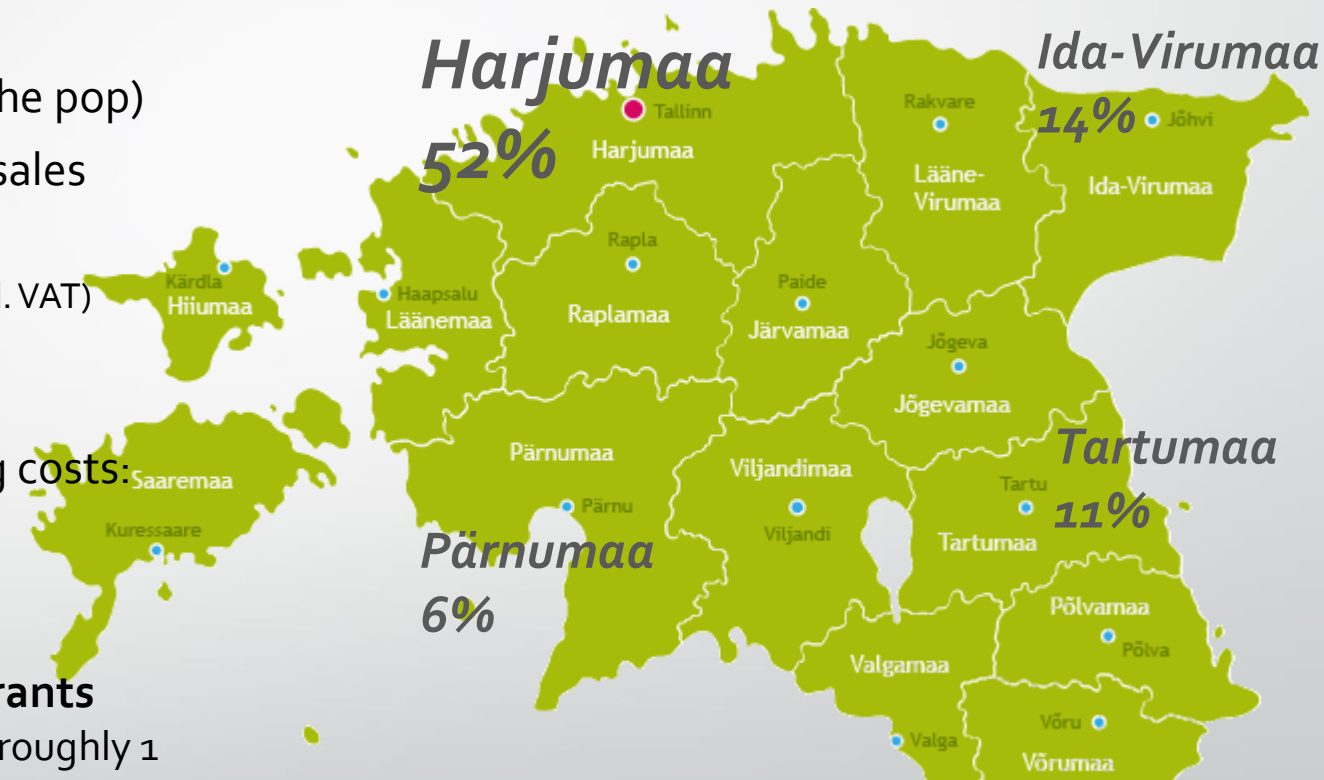


# Current situation-1

## General aspects and major concerns

- Mainly delegated public management (private law entities owned by public sector)
  - Approx. 1,1 mil private consumers (85% of the pop)
  - Almost 200 service providers, while 70% of sales volumes correspond to 5!
  - Tariffs range: **1,5...5,3 EUR/m<sup>3</sup>** (water+WW incl. VAT)
    - Highest operating costs in areas with <2,000 PE
    - Lowest operating costs in areas with >10,000 PE
  - Factors with significant impact on operating costs:
    - *m<sup>3</sup>/pipe-km,*
    - *pers./pipe-km*
    - *pers./water scoop*
  - **≈70% fixed assets acquired by means of grants** (since 2000's Estonian water sector has received roughly 1 billion euros, incl. more than 500 mil. € in financing period of 2007-2013)
- In several companies, fees do not even cover the operating expenses

## Fragmentation and inequality



How to ensure high quality service provision and necessary infrastructure investments with affordable prices in all regions after governmental aids and EU subsidies finish?

# Analysis of alternatives

How would W+WW prices develop in next 40 years if all required replacement investments were done using self-financing only?

## Alternative scenarios considered:

- 0 – Local government (LG)-based water utilities after administrative reform (ca 50-70 entities)
- 1 – County-based water utilities (15 entities)
- 2 – Regional water utilities (2-4 entities covering several counties, max 4 if Tallinn is included)
- 3 – Country-wide water utility (1 – with or without Tallinn?)

The replacement investments forecast: **approx. 263 million EUR in every 5-year cycle**

Financial analysis (price prognostics) is based on the official price regulation method

Operating cost



Capital cost



Allowed rate of return: 5,45% of WACC

Alternative is considered unsustainable when the W&WW price overcomes chosen affordability level

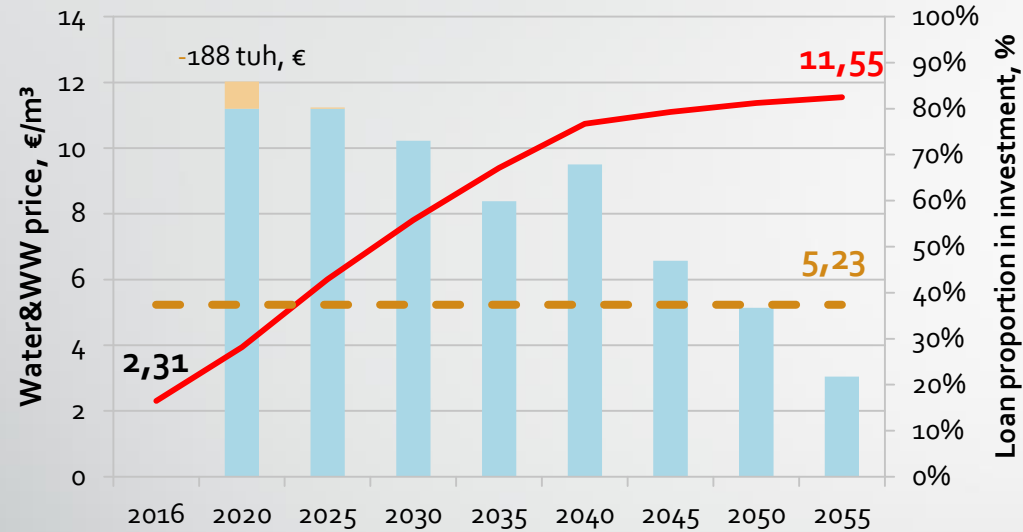
**5,23 EUR/m<sup>3</sup> + VAT\***

→ At this price the cost of water & WW service overcomes **4% of the average household net income for the poorest 50% of the population** (considering the average of the first 5 income deciles)

*\*present prices were used throughout the study without considering the inflation*

# o: Municipality-based water utility

Average rural municipality:  $\approx 4,000$  clients

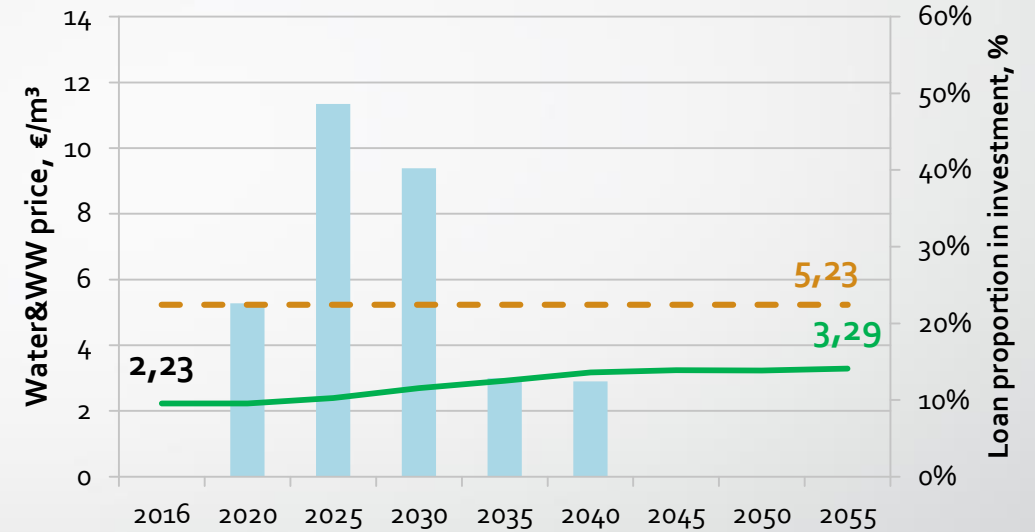


**Water utility service in rural municipalities with low population density is not sustainable!**

Generalizing this result to 52 rural municipalities

→ Cumulative governmental aid by 2055 required to maintain the price below 5,23 EUR/m³+VAT:  
**1,360 million euros in total**

Pärnu city:  $\approx 43,000$  clients



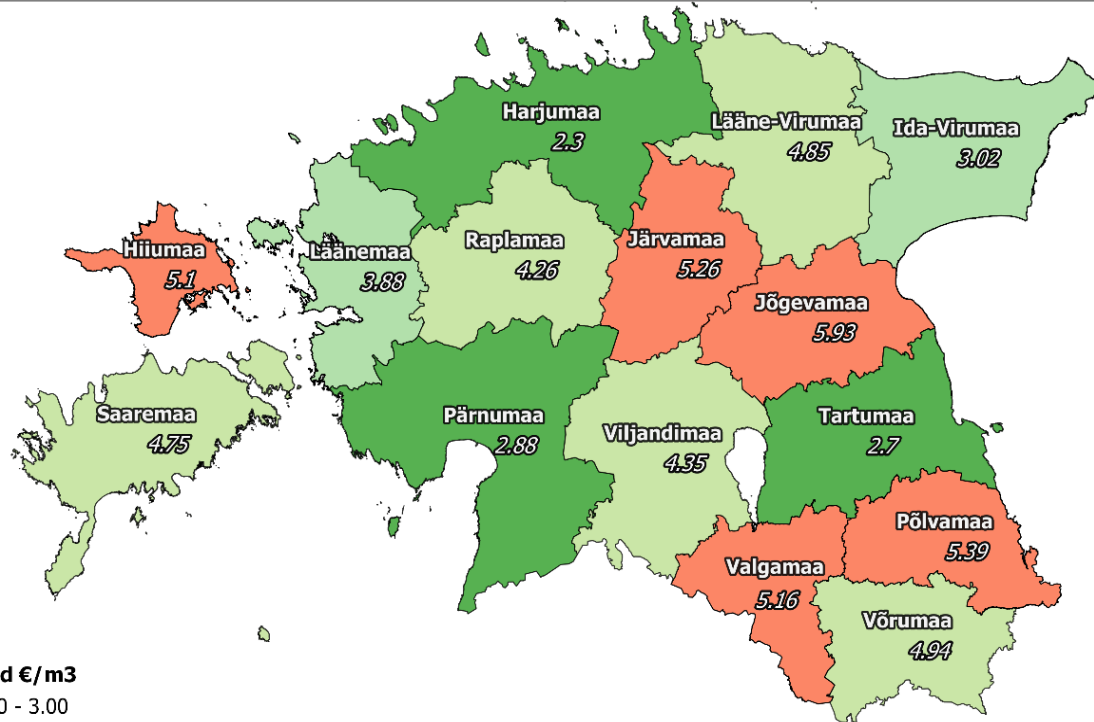
The cost efficiency and sustainability of bigger Estonian cities, e.g. Pärnu, cannot be generalized to smaller cities.

How much could the bigger cities expand while still maintaining the tariffs affordable?

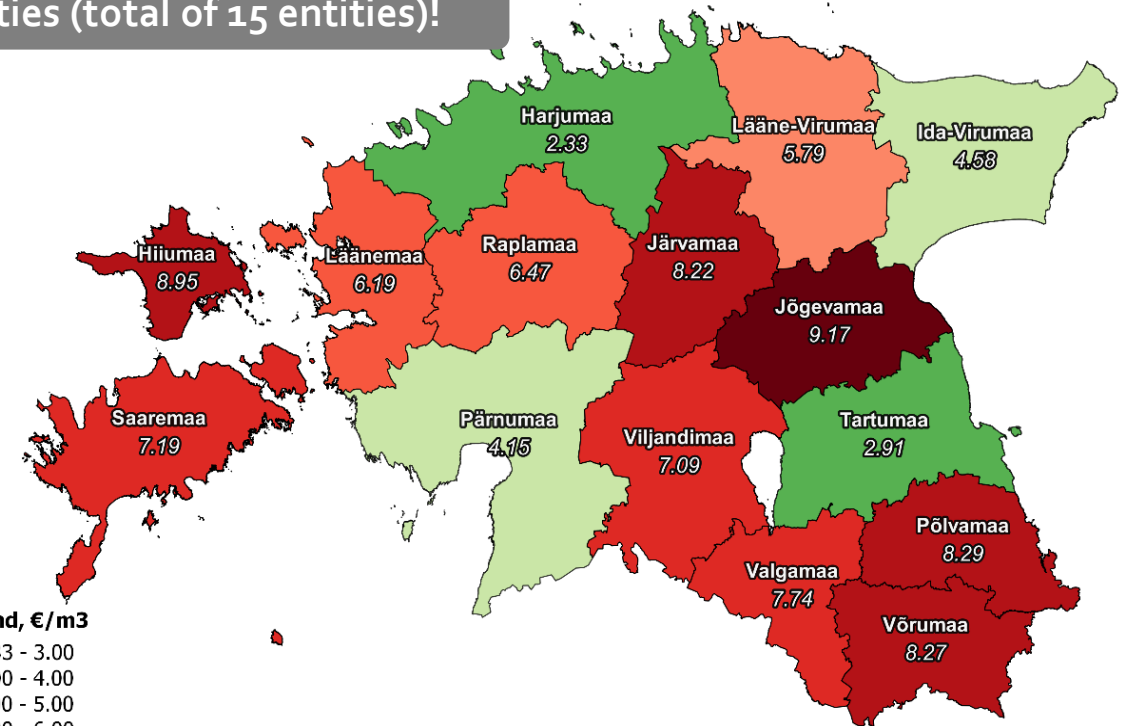
# 1: County-based water utility

## COMPARISON OF COUNTIES

83% of Estonian water & sewage service (in m<sup>3</sup>) is consumed in 4 counties (total of 15 entities)!



*Prediction for 2025*



*Prediction for 2055*

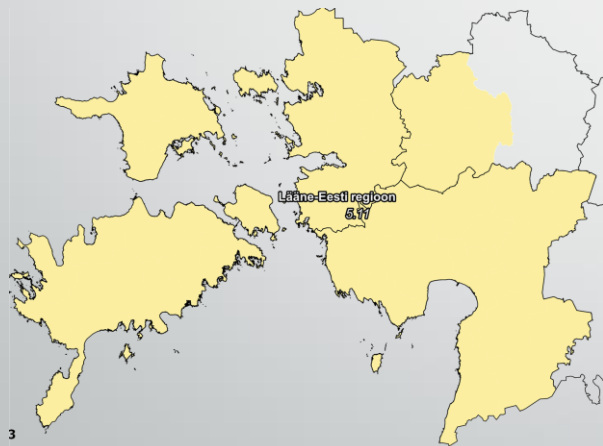
**By the end of the cash flow analysis period only 4 bigger counties out of 15 are sustainable!**

Cumulative governmental aid by 2055 required to maintain the price below 5,23 EUR/m<sup>3</sup>+VAT in the rest of the counties:

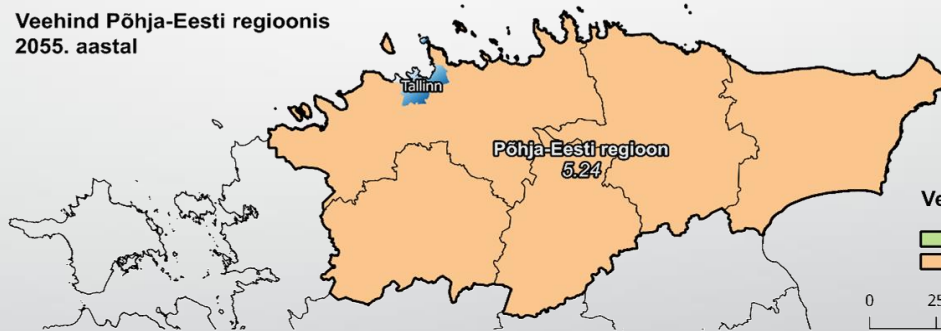
**Approx. 300 million euros in total**

## 2: Regional water utility

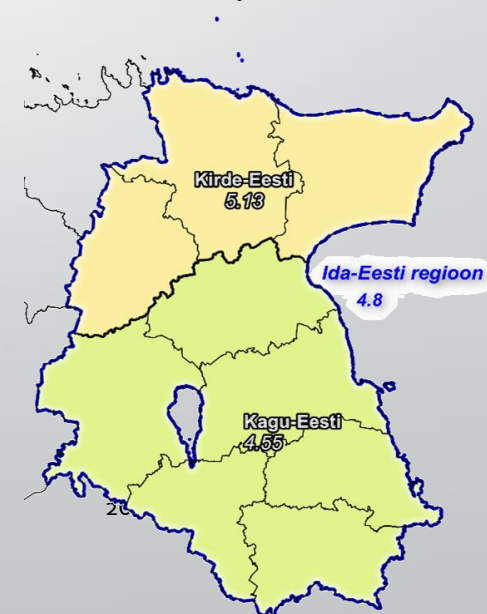
- Datamodel developed for this survey permits analysing all scenarios of regional water utilities by integrating different counties.
- When „constructing“ the regional water utility, it is rational to choose at least one of the 4 strong counties as nucleus:  
*Tartu, Pärnu, Ida-Viru and Harju county WITH Tallinn (Harju county without AS Tallinna Vesi is NOT sustainable!)*
- **If Tallinn is left out**, then 2-3 regional water companies could still maintain the service price below the sustainability limit until 2055 (final tariffs **≈4,5-5 EUR/m<sup>3</sup>**)



Veehind Põhja-Eesti regioonis  
2055. aastal



Veehind Ida-Eesti piirkonnas 2055. aastal

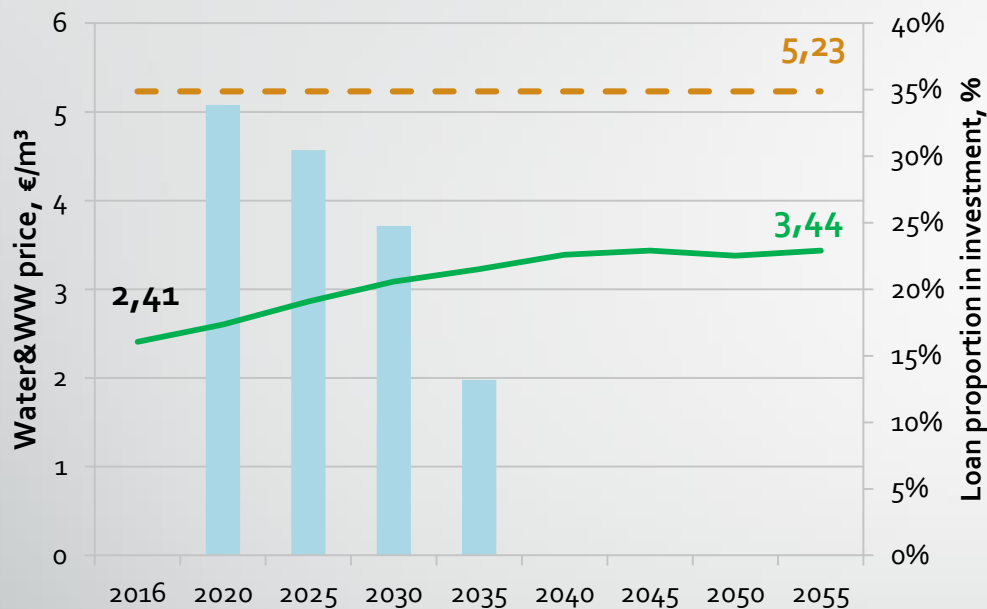


- **Harju county with Tallinn** is that much more cost efficient county, that it could incorporate all the weaker counties alone and would still keep the price below **3,5 EUR/m<sup>3</sup>** throughout the analysis period.

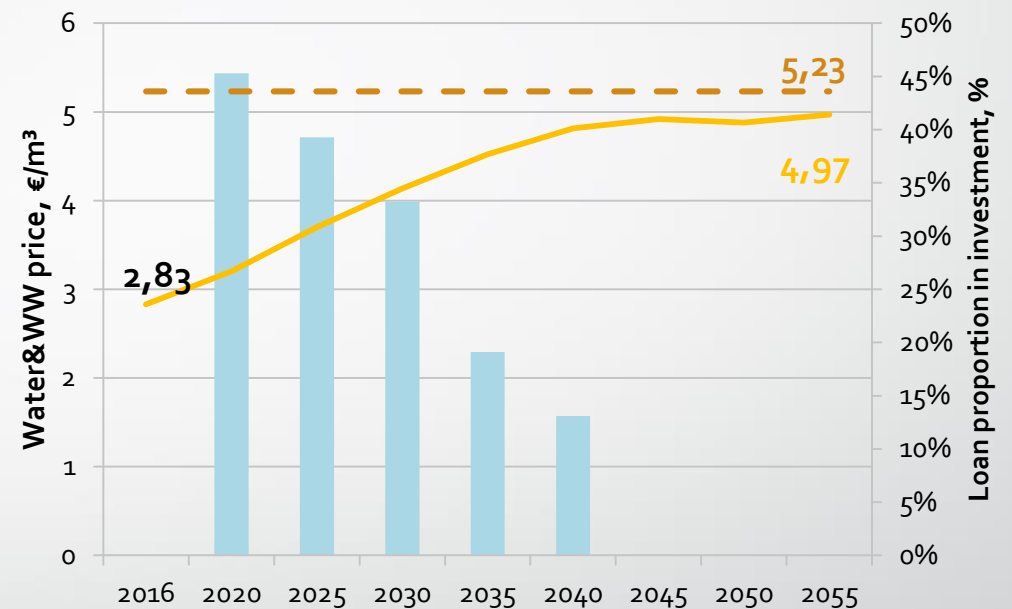


# 3: Country-wide water utility

**WITH Tallinn:** ≈1,13 million clients



**WITHOUT Tallinn:** ≈690 000 clients

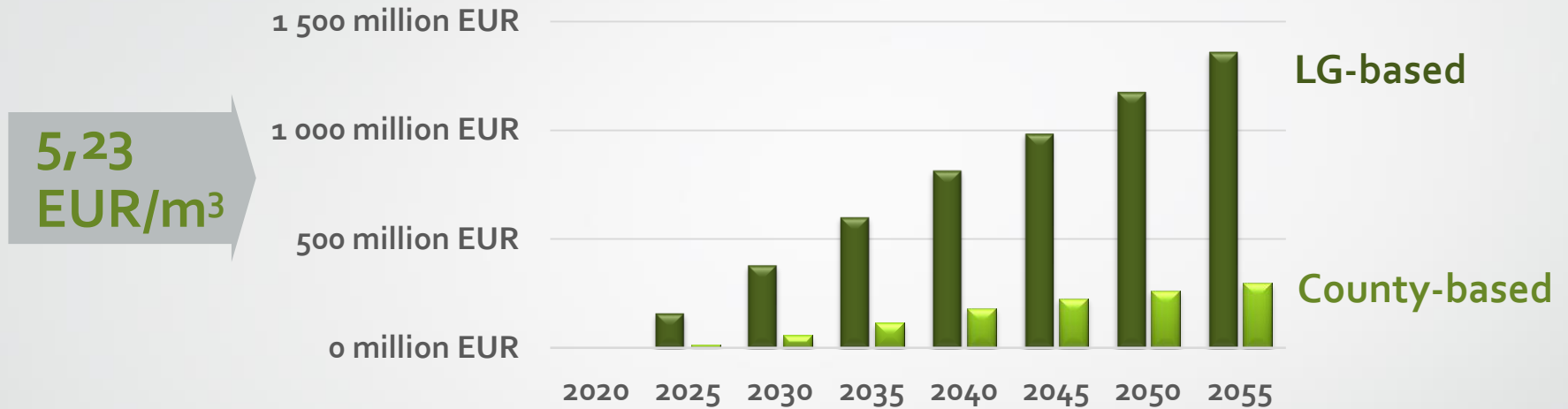


One country-wide water utility would be sustainable with or without Tallinn, however, the inclusion of Tallinn would lower the service tariffs importantly:

- 3,44 EUR/m³ by 2055 WITH Tallinn
- 4,97 EUR/m³ by 2055 WITHOUT Tallinn

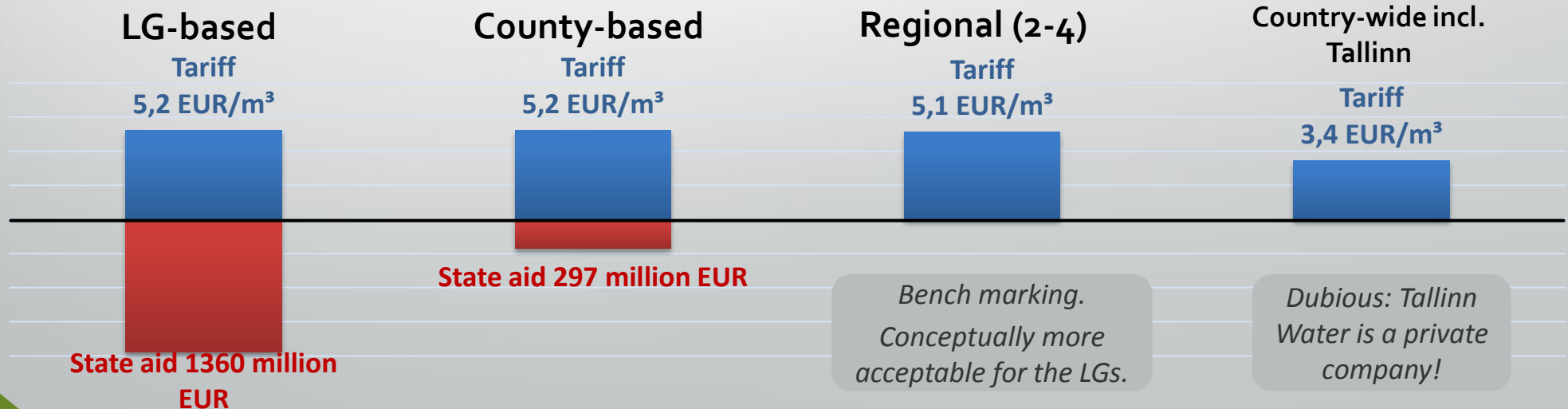
# Comparison of alternatives

State aid requirement to stay below the affordability limit



Comparison of alternatives in case LG and county-based models would receive state aid:

Prediction by 2055





# Involvement of private sector

- ✓ **Outsourcing services** – service agreement (1-2 a)
- ✓ **Contractual PPP** (*public-private partnership*) – concession, etc (20-30 ys)
- ✓ **Private operator** running the PWSS owned by LG(s) – management or lease contract (5-15 ys)
- ✓ **Privatization** – water undertaking (operator and assets) owned by private company

Risk matrix

	Service agreement	Contractual PPP	Management or lease contract	Privatization
LG-based (Ao)				
County-based (A1)	<i>Outsourcing different services is a common practice</i>	<i>Different types of PPP contracts that give private investors and LGs more or less rights and obligations</i>	<i>Functional examples: Türi Vesi, Vändra MP</i>	<i>Contradictory international examples do not permit stating that privatization is the answer</i>
Regional (A2)				
Country-wide (A3)				

- ❖ The involvement of private capital through carefully thought out PPP solutions has great potential for all studied alternatives.
- ❖ In case of municipality and county-based water undertaking model, in order to create competition it would be reasonable to consider applying the principle of procurement where the private water companies and water companies owned by local governments, would stand in equal positions.

# Conclusions

Estonia is very small and sparsely populated, with big regional inequality, and way too many water companies


- ❖ The continuation of the LG-based alternative is unsustainable.
- ❖ With county-based alternative the state aid requirement is considerably smaller.
- ❖ Regional and country-wide water businesses can both maintain the affordability limit without receiving state aid.

## PRE-REQUISITES FOR MERGING WATER UTILITIES

- **BROAD-BASED POLITICAL WILL!**  
The so-called principle of solidarity serves the purposes of Estonian regional politics !
- **CHANGING FINANCING PRINCIPLES**
- **WORKING OUT THOROUGH CONTRACTS** – mitigating fears
- Competent experts/coordinators

## FINANCIAL MEASURES TO INCITE THE PROCESS

- ❖ **Supporting regional water companies** – at least 1 agglomeration of >10,000 PE
- ❖ **Supporting problematic regions** before joining regional water companies
- ❖ **Establishment of a price limit** to ask for support. *Oblige LGs maintain the affordability level?*



Thank you for your attention!