

# 3

## Issues paper

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The issues paper builds on the background report compiled by Lithuanian authorities and discussions at the kick-off meeting. It lists key issues to be addressed in the roadmap implementation and the action plan for the consolidation of water utilities active in the pilot regions and nationally.

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### 3.1. Background and objectives of the project

In Lithuania, the Law on Drinking Water Supply and Wastewater Treatment Services (2006, amended in 2014<sup>1</sup>) introduced the reform of the WSS sector and the concept of consolidation of water utilities on a voluntary basis. By 2019, it resulted in the creation of a regional water operator for the Klaipėda region and a reduced number of operating water companies (one company for one municipality). Reluctance of municipalities to consolidate their water companies remains one of the main obstacles for implementation of this reform.

The Government of Republic of Lithuania is working towards the enhanced sustainability of WSS services in the country. The Implementation Plan of the Government Programme<sup>2</sup> includes activities for the consolidation of the drinking water supply and wastewater treatment sector, to ensure higher operational efficiency and to reduce the disparity in prices for WSS services. A roadmap for consolidation of water companies was recently elaborated by the Government (2019). Modalities of the reform implementation, including options for consolidation of the water utility sector, have to be further considered and included into the proposal to the Government.

This Project will support the development of detailed recommendations for implementation of the roadmap for the consolidation of water utilities of Lithuania<sup>3</sup> including recommendations on financial and governance incentives to facilitate a broader water sector reform in the country. The expected impact of the Project will be a sustained capacity of consolidated utilities to finance needed investments to comply with EU acquis and deliver better services to the population, including segments who currently do not have access.

The main outcome will be enhanced self-financing capacity of water utilities and increased social equity in access to and prices for WSS services in Lithuania, through consolidation of service providers, robust tariff policy and adequate accompanying measures.

The issues paper builds on previous project outputs, namely the background report characterising the state of play<sup>4</sup>, and the kick-off meeting<sup>5</sup>, where the Government officially launched and announced the project and main stakeholders voiced their support and priorities. Its purpose is to focus further the discussions between the OECD Secretariat and Lithuanian stakeholders.

The paper lists key issues to be addressed in the recommendations for the roadmap implementation and the action plan for the consolidation of water utilities active in the pilot region. It builds on the following activities:

- A first round of interviews with stakeholders in Lithuania. The OECD Secretariat collects information on the main issues to be covered, and stakeholders' vision/perspectives;
- Selection of a pilot region or regions in consultation with the beneficiary. Interviews with the key players of the WSS sector in the pilot region(s) will be arranged at a later stage;
- Review of international experience with similar reforms. Further analyses are under way, to characterise lessons learned from these countries. Main lessons will be shared at an international workshop before the summer 2021.

### 3.2. Issues to be covered by the project

The list of issues below derives from the background report, which was endorsed by Lithuanian authorities. It resonates with the preliminary list of issues that feature in the Detailed Project Description, with adjustments that reflect information collected in the early stages of the project.

### **3.2.1. Make the case for change**

Business as usual is not an option and national and local governments and water users will be affected by the unsustainable management and operation of WSS services in Lithuania. The background report provides ample evidence on:

- Additional work needed to secure access to safe water supply and safely managed sanitation services in Lithuania
- Additional drivers that affect future costs and revenues for WSS service provision (including climate change and demographics)
- Significant investment needs, to renew the massive assets that were built during the last few decades, often with EU financial support
- Limited financial capacities of service providers, which are too small to generate the revenues needed to operate and maintain existing assets
- Shortcomings in the tariff setting process and guidance, which inappropriately reflect amortisation (in particular of granted assets) and which are too low to generate the revenues needed to cover the operating costs of service providers
- Room for manoeuvre to bolster the operational efficiency of service providers and the economic effectiveness of development plans and expenditure programmes, considering opportunities for economies of scale and scope.

The rest of the project will build on this characterisation of the state of play to reiterate that the situation is not sustainable, and that consolidation is an appropriate option, when it helps to address some of the issues noted above, including opportunities for economies of scale and scope, options to enhance the efficiency and financial sustainability of service providers, now and in the future. The project will also claim that consolidation will only deliver if accompanied by a range of measures to address related issues, such as revising the tariff formula, and strengthening economic regulation of the sector.

### **3.2.2. Consider a range of options for agglomeration, which are flexible and can adjust to local contexts**

At the moment, the vision of consolidation considered by Lithuanian authorities consists in a larger, more capable company joining one or several small companies, taking over responsibilities and rights, serving the existing customers of these companies, investing and expanding the infrastructure and services throughout the territory served by the consolidated companies.

Two pairs of municipalities are currently considering consolidation of their water utilities. In both cases, these are neighbouring, contiguous municipalities; each pair consists of a stronger company (regional leader) and a weaker one. Consolidation would reorganise municipality-owned companies that are financially weak (failing to meet national and EU obligations, failing to achieve efficiency criteria, incurring losses in drinking water supply and wastewater treatment activities) by merging them with financially strong companies.

The main incentives being considered to trigger voluntary consolidation is preferred access to cheap public finance. It is planned to reorganise companies that have voluntarily submitted applications to participate in the reorganization process. Such companies would be eligible for funding from the Water Fund, from which companies could receive loans and grants at a very favourable rate.

Such a vision is robust, but has proven ineffective to drive change. It could be enriched by:

- Considering a menu of options for consolidation: options do not need to be based on geographical scale only. They may vary according to functions (planning; programming expenditure; technical

skills and maintenance; relationship with users; billing and tariff collection) and location (urban / rural).

- Exploring a range of incentives, in line with the priorities and concerns of municipalities and service providers in Lithuania.

This section sketches different options, which can inspire the consolidation process in Lithuania. Subsequent analyses and work in the context of this project will explore which options are best able to support and expedite consolidation of WSS services in Lithuania.

### *Scenarios for agglomeration of water services*

Many OECD countries have aggregated (or are considering aggregating) small utilities to generate economies of scale and scope, and make the best use of central, piped infrastructures. Heavy investment costs and the phasing out of government subsidies have prompted local utilities to concentrate part or all of the tasks related to the provision and delivery of WSS services at upper levels of government (OECD, 2013a; see also Chapter 1 for selected illustrations).

In New Zealand, the amalgamation of several councils gave the Auckland Council the necessary scale to tackle issues that were previously beyond the capacity of individual councils. Since amalgamation, the Council has been able to accelerate the modernisation of the region's antiquated wastewater treatment systems, substantially upgrade its two key wastewater treatment plants and progress the NZL 950 million (New Zealand dollar) "central interceptor" project that will reduce overflows from the combined waste and stormwater system of the Auckland isthmus. In Korea, cities in the Gyeongnam province achieved cost efficiency by amalgamating urban water services (see Appendix).

Amalgamation eventually results in combining different services at different scales. France's Ile-de-France region has a three-tier management system: street sewers are municipal, interceptors and storm sewers are run by the counties (four departments) and sewage treatment is operated by a joint-county (almost regional-level) board.

Several countries have separated water or treated wastewater production and the delivery of the service to customers:

- In Boston, a metropolitan authority consolidates water production and sewage treatment, leaving member municipalities in charge of system management.
- In Portugal, the government created a national water company in 1994. Municipalities in the same area were offered the opportunity to manage treatment plants jointly, while communes kept responsibility for operating water and sewer mains.
- In Australia, the 1994 reform planned by the Council of Australian Governments mandated the unbundling of former urban water monopolies, with bulk water production and sewage treatment organised at the regional level (by one public company) and retail water services at a more local level (by several water distribution companies). This choice paved the way for alternative water supply technologies (e.g. recycling and desalination).

Rural sanitation offers yet a range of options<sup>6</sup>. For instance, localised wastewater management systems serve individual or small groups of properties. They can recover nutrients and energy, and can also be connected to local water supply and reuse technologies. They require less upfront investment than larger-scale, centrally piped infrastructures and are more effective at coping with the need to expand services. Various commentators suggest that they have a role to play in urban water management, even in major developed cities.

Localised WSS can be used to serve populations not connected to public systems. In Europe, the proportion of households not connected to sewers is higher in low-density or low-revenue countries or regions – e.g. Portugal and Spain, southern Italy and Greece, eastern European and Nordic countries,

Ireland and even some German Länder. In these areas, populations are not yet fully connected to public water systems. Ireland has officially kept a large number of grouped water schemes, providing water to 8% of the population at small community scales. Localised sanitation systems are not merely a remedy to the limited number of centrally piped systems. They are increasingly used in countries such as the United States, where on-site sanitation now comprises some 40% of all new developments. Sustainable neighbourhoods in cities are partly – or fully – replacing traditional public systems with decentralised technologies. Paradoxically, these innovations take place in the richer and higher-density European Union (EU) Member States.

The performance of localised systems can compare with that of centrally piped infrastructures. For instance, an evaluation of localised systems in Ireland shows that despite difficulties in meeting the standards now imposed at the European level, such schemes sometimes operate better than public water systems, and the population they serve is largely committed to keeping them. Innovation can contribute to improved performance of localised systems. Research is ongoing to provide communities reliant on individual and community systems with robust and simplified treatment systems, equipped with real-time information and communication technologies (ICTs, such as remote sensors), to help set up community services operated from distant centres.

These developments explain the renewed interest for localised, on-site sanitation. The Australian Academy of Technological Sciences and Engineering (ATSE), for example, recommends that Australian governments encourage investment and uptake of such systems.

An interesting development regards the scale at which localised, decentralised systems are best managed. The concept of a public service operating non-networked systems is a promising avenue. In France, the 5 million septic tanks currently in operation are now considered technologies that should be kept and upgraded. The implementation of the Urban Wastewater Directive led to a zoning of networked and non-networked areas, the latter being served (or at least controlled) by public services for decentralised sewerage (SPANC). Indeed, the collective management of decentralised technologies creates business opportunities for (public and private) utilities.

The scenarios above open a range of options for Lithuania to consider agglomeration. They suggest that mere agglomeration at higher geographical scales is one option; but others could be considered as well:

- Considering different scales for different functions of WSS services (water supply, wastewater collection and treatment; investment planning, operation and maintenance of services)
- Managing localised services (including individual sanitation) at a larger level. Several options could be considered, from merging, to coordinating local service provision through a public service; such a public service can cover a wide and diverse territory, focusing on localised sanitation only.

The different options can be assessed on multiple criteria, including:

- Opportunities to minimise cost (investment needs in infrastructure; operation and maintenance costs) and enhance financial sustainability of WSS
- Opportunities to mutualise skills (technical skills to operate and maintain assets; commercial skills to interact with users, including through billing)
- Opportunities to optimise performance (quality of service to users), now and in the future (sustainable service provision)
- Opportunities to strengthen monitoring and supervision (assessing development plans and expenditure programmes; monitoring performance of service providers).

Some of the options can work in combination, or in sequence, providing for a staged approach. Lessons learned at one stage can inform further developments on the road to agglomeration of WSS to the appropriate scale in Lithuania.

### *Incentives for local authorities to ignite change*

Mobilising local authorities requires a clear case for the costs and benefits of the consolidation process. It also requires that a set of technical issues be tackled in pragmatic ways (see the next section). Intense consultation is a must, with multiple opportunities for local governments to voice their concern – and support – and comment on the roadmap, the incentives being considered and the responses to their queries. This project is designed to offer such opportunities.

As is currently the case in Lithuania, financial incentives matter. They are likely to be even more effective when:

- local authorities have a clear understanding of emerging issues related to WSS in the country, and their responsibility in cases of failure to deliver WSS services in the context of emerging challenges (see the previous section on Making the case),
- service providers understand that their operation is at risk if they cannot perform at the expected level (see the section below on the potential for economic regulation); and
- finance is scarce (in a context where EU funds for WSS will be gradually phased out).

The points above suggest that, in addition to financial incentives, national authorities can consider more diverse incentives to ignite change: setting performance targets for service provision, and monitoring compliance with rewards and sanctions based on performance; the licencing process can also drive change, if licence renewal is conditional on achieving set levels of performance or other criteria.

Additional support can take the form of practical guidance to facilitate agglomeration on the ground. This may include the following accompanying measures:

- Strengthening the role of county associations of municipalities, to support the creation of regional utilities
- Support to contractual arrangements between such associations and the regional utilities. Performance-based management contracts, whereby the revenues of the service provider are conditional to achieving set levels of investment or service, could be promoted
- Water Operators Partnerships (WOP) consisting of reputable operators. If regional utilities are large enough, operators could be engaged in performance-based management contracts with the boards of the regional utilities for a transition period (possibly 2 years). Under such arrangements, the management of a regional utility would be temporarily delegated to the operator under the association's supervision. Partnerships with experienced operators is critical to develop and strengthen the newly formed organisations. The key objectives of the WOPs (or management contracts) would be to:
  - Support the organisation of regional utilities' management, through the identification, hiring and training of professionals and specialists for the central and support services
  - Strengthen the regional utilities' operational local branches through the introduction of common procedures
  - Help regional utilities implement the tariff policy.

At the end of the transition period, the regional utilities would be expected to manage the company efficiently, under the associations' supervision and according to the terms of the contracts.

### *Address practical issues to expedite consolidation, using an example of 1-2 pilot regions*

The limited track-record of Lithuania with agglomeration of service providers for WSS suggests that a number of practical reasons can explain why a good idea does not necessarily materialise. These reasons can block initiatives towards consolidation, whatever the intention of stakeholders and the incentives in place.

The Ministry of Environment selected two regions (Kaunas and Marijampolė) to pilot recommended actions towards consolidation.

Several issues relate to the transition period, when regional entities are set up:

- Acknowledging that in Lithuania, WSS tariffs vary across regions, which tariff should apply and should tariffs converge for all water users served by that entity? In Klaipėda - the region where a regional WSS operator was created - the tariff of services for urban residents slightly increased after the reorganisation, while for the district, the tariff decreased by almost 50%<sup>7</sup>.
- In practice, reorganisation raises issues that relate to asset ownership. Acknowledging that, in Lithuania, the water utility owns the asset, what type of arrangement is required between a regional utility and local authorities, to either operate assets owned by local utilities (which will not directly operate these assets anymore) or transfer asset ownership to the regional utility? What kind of governance structure is then required, to ensure that local authorities keep some control over decisions related to the asset on which service delivery depends?

These issues can only be addressed through practical recommendations, which reflect the political sensitivities in Lithuania and comply with the existing legal and regulatory framework. Further work will inventory pending issues and will consider how they can be addressed in the context of the legal and regulatory framework in Lithuania. In-depth analysis of the two pilot regions will provide the empirical evidence and background for that work.

Other options may require amendments to prevailing legal and regulatory frameworks. Policy discussions will clarify the level of ambition for the reform.

### **3.2.3. Further strengthen the role and capacities of the economic regulator**

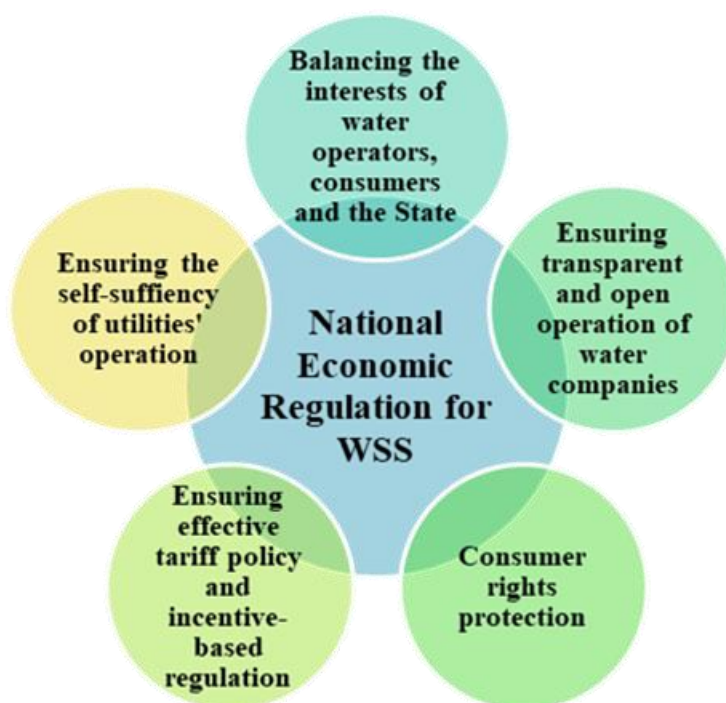
The OECD argues economic regulation can play a significant role to enhance the performance of WSS service providers and driving a dynamics towards consolidation. In particular, economic regulation can contribute to:

- Setting WSS tariff as a policy instrument to drive investment and utilities' performance. The background report indicated that in Lithuania, WSS tariffs are very different from region to region<sup>8</sup>. This is considered an issue if differences reflect more than differences in the capital and operating costs of the service. Moreover, tariffs need to balance the need to raise additional revenues (in particular where population and water demand is decreasing) to ensure the financial sustainability of the service provider, and concerns for the affordability of water bills, in particular for poor households.
- Benchmarking the performance of utilities. In Lithuania, Water utilities' performance is measured and monitored by licenses. The licencing process provides some guidance on minimal requirement and capacities to operate water services; it identifies four principles with which utilities must comply (security, reliability, efficiency, non-discrimination).

OECD work on the governance of economic regulators also indicates that there are different ways to discharge economic regulatory functions. The project will explore options regarding the status, skills and governance of the economic regulator for WSS in Lithuania.



Figure 3.1. The functions of economic regulation for WSS



Source: Authors.

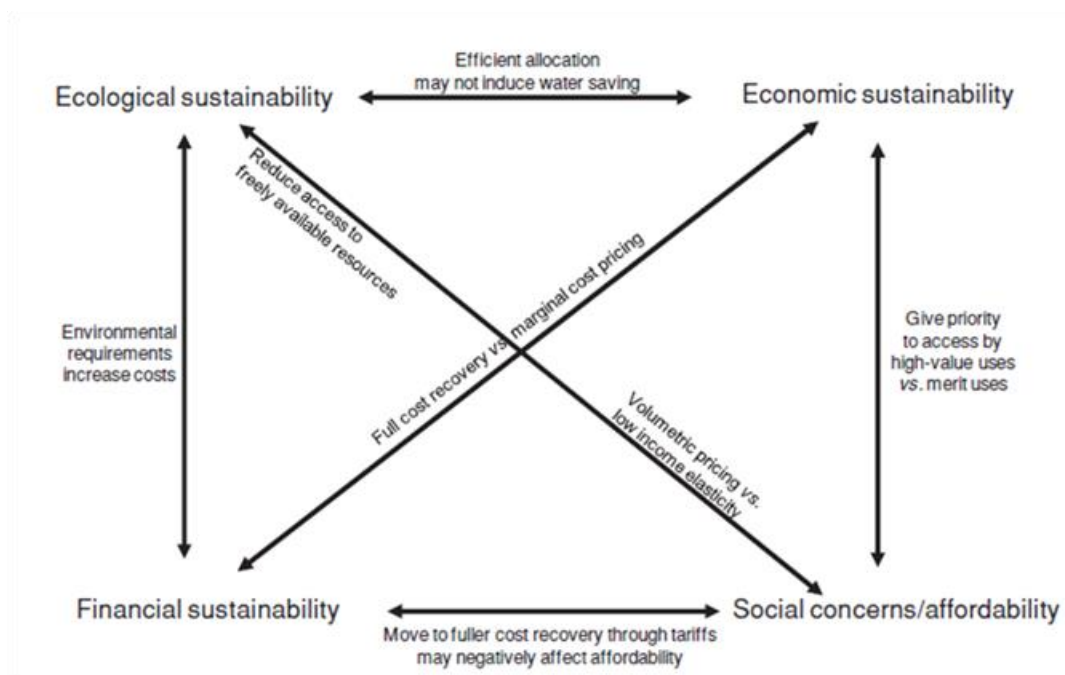
#### *Issue with tariff setting and depreciation of granted assets*

The tariff methodology is a key part of economic regulation. In simple terms, independent economic regulation of WSS aims to ensure that customers receive the appropriate water service for the right price. *Appropriate* here refers to the combination of various objectives: economic (robust allocation of water and discouraging wastage), environmental (conservation of the resource), social (addressing affordability concerns) and financial (ensuring utilities' capacity to finance the operation of the service, now and in the future). The figure below illustrates the potential tensions across these objectives.

Typically, economic sustainability requires that tariff levels reflect the opportunity cost of using water and discourage wastage; such a policy can raise social issues (affordability); it can also generate fluctuation in tariff levels (the opportunity cost is lower when water is abundant), potentially affecting the financial sustainability of service provision. Similarly, financial sustainability may benefit from higher tariffs, potentially triggering affordability issues for poor households. Better reflection of environmental costs in service provision can also drive tariffs up and have harmful social consequences on selected communities. These tensions can only be addressed through a policy process that balances the different objectives, and lead to tariff levels and tariff structured tailored to reflect the preferred balance. OECD work on the issue insists that affordability issues are best addressed outside of the water bill, through targeted social measures.



Figure 3.2. Tensions between policy objectives for water tariffs



Source: OECD (2010), *Pricing Water Resources and Water and Sanitation Services*, OECD Publishing, Paris

The main issue with the tariff policy in Lithuania is exclusion of granted assets from the base over which the return on assets and eligible depreciation expenses is calculated. A consequence is that the method does not properly reflect the cost of maintaining and renewing existing assets. Then, water tariffs cannot generate the revenues water companies need to finance a sustainable provision of water services, now and in the future. In the absence of subsidies, this financing model cannot be sustained, after the rapid extension of water infrastructures in Lithuania.

One solution to this dilemma may be to set tariffs for a multi-year period (possibly with options for in-between revisions), as is the case in France. Another option might be to allow for *infrastructure renewal charges*, such as in England and Wales, Scotland or Kosovo: such charges consider as eligible expenses the actual costs to maintain the asset base rather than the depreciation charge.

### *Driving water companies' performance*

Incentives to enhance the performance of water companies can be a key driver for change. Clear performance targets, supported by robust monitoring, adequate rewards (or sanctions) can set a common ambition, signal deficiencies and urge water companies to take action.

Two sets of issues deserve attention. First, the regulator does not set targets for quality of service or performance of service delivery, beyond the quality and safety of water supplied and treated wastewater. It is not clear how other features of service quality are considered (e.g. energy efficiency, efficiency of networks, responsiveness in cases of breach or failure). Moreover, it is not clear how the review of development plans considers long term performance of service provision and cost-efficiency of expenditure programmes. Setting standards or targets on such features would drive investment and expenditure plans and dictate requirements for technical skills and capacities in the future. This is missed opportunity to set common levels of ambition (beyond compliance with EU standards) and drive performance enhancement.

The second set of issue relates to setting, monitoring, and rewarding performance. Lithuania has limited experience with benchmarking the performance of water companies. Addressing these deficiencies would require:

- Explicit and agreed-upon objectives as regards the quality of service and the performance of service providers;
- A tailored set of criteria, aligned with objectives
- A systematic review of performance on a regular basis, with clear responsibilities from the economic regulator (with adequate resources and skills)
- An incentive regime (including reward to achievements and sanctions for non-performance) that can enhance value for money and potentially drive change towards more effective and cost-efficient water industry in Lithuania.

### *Investment and expenditure planning*

In Lithuania, economic regulation is based on the principle of full cost recovery. The State Energy Regulatory Council of Lithuania is responsible for monitoring eligible costs reflected in tariffs. But this institution needs strengthening to assess the opportunity of expenditure programmes and appropriate eligible costs to be reflected in tariffs. This is an issue, in particular as water and sanitation services are capital intensive: risks of duplication are costly, in particular in the long term, when the need to maintain and renew existing assets is factored in. The demographic trends can only increase such unnecessary costs.

Several options can be considered, to address this issue. A National Water Strategy, backed by a thorough and realistic financing strategy, could be envisaged, to set the overall level of ambition and provide a reference to draft investment and expenditure plans and assess the opportunity of projected investment, and possibly encourage local governments to join forces. The objective of the proposed strategy would be, for each municipality, to:

- Identify long-term needs (based on population and economic development forecast) and source of water supply; impacts of climate change (and risks of flooding or scarcity) should be factored in, as appropriate
- Identify investment needs for rehabilitation, replacement or extension of the water and sewerage facilities (including granted assets, which will need to be renewed even though they were financed without domestic finance) and their costs
- Explore options for mutual investment and joint action with neighbouring communities. The proposed options could be prioritised when they align with the national water strategy and financial strategy.

This work would help to update and review the needs defined in local investment and expenditure plans, and conduct a proper consolidation of investment needs at the national level in cooperation with the economic regulator and the Ministry of Finance.

Table 3.1. Wrapping up

ISSUES	OPTIONS TO BE CONSIDERED
<b>Consider a range of options for agglomeration</b>	
Scenarios for agglomeration of water services	geographical; functional; urban/rural
Incentives for local authorities to ignite change	Options for financial incentives (privileged access to public funds, possibly through the Environmental Fund), preferred treatment (e.g. authorisation programmes, licencing)
<b>Address practical issues to expedite consolidation, using an example of 1-2 pilot regions</b>	
Tariff-setting for the transition period	Separate tariffs for distinct territories, or convergence towards a unified tariff for regional operator
Consolidation and management of assets	Modalities for delegation of assets management
<b>Further strengthen the role and capacities of the economic regulator</b>	
Issue with tariff setting and depreciation of granted assets	Options for tariff structure, targeted social measures (to address affordability issues), provision for renewal of granted assets
Driving water companies' performance	Options to set performance targets, indicators to monitor utilities' performance, a benchmarking process, rewards/sanctions for performance achievements
Investment and expenditure planning	Incentives to consider opportunities to draft investment and expenditure plans at an aggregate level; role of a national strategy

## Annex 3.A. Interviews

Annex Table 3.A.1. List of people interviewed in Lithuania

Member of the working group	Institution	Thematic focus
Agnė Kniežaitė-Gofmanė	Ministry of Environment of the Republic of Lithuania	Strategizing of WSS consolidation reform in Lithuania; Economic and financial incentives; Compliance with EU Directives; investment planning
Irmantas Valūnas	Ministry of Environment of the Republic of Lithuania	Strategizing of WSS consolidation reform in Lithuania; Economic and financial incentives; Compliance with EU Directives; investment planning
Monika Sakalauskaitė	Ministry of Environment of the Republic of Lithuania	Strategizing of WSS consolidation reform in Lithuania; Economic and financial incentives; Compliance with EU Directives; investment planning
Inesis Kiškis	Ministry of Environment of the Republic of Lithuania	Strategizing of WSS consolidation reform in Lithuania; Economic and financial incentives; Compliance with EU Directives; investment planning
Vilma Slavinskienė	Ministry of Environment of the Republic of Lithuania	Strategizing of WSS consolidation reform in Lithuania; Economic and financial incentives; Compliance with EU Directives; investment planning
Raimonda Juknaitė	Ministry of Environment of the Republic of Lithuania	Strategizing of WSS consolidation reform in Lithuania; Economic and financial incentives; Compliance with EU Directives; investment planning
Kastytis Tuminas	Environmental Project Management Agency of the Ministry of Environment of the Republic of Lithuania	Strategizing of WSS consolidation reform in Lithuania; Economic and financial incentives; Compliance with EU Directives; investment planning
Donatas Jasas	State Energy Regulatory Council	Scenarios for WSS consolidation reform in Lithuania; issues related to investment planning and tariff regulation. Needs for better monitoring of utility performance. Legal and regulatory reforms.
Dalius Krinickas	State Energy Regulatory Council	Scenarios for WSS consolidation reform in Lithuania; issues related to investment planning and tariff regulation. Needs for better monitoring of utility performance. Legal and regulatory reforms.
Indrė Musvicienė	State Energy Regulatory Council	Scenarios for WSS consolidation reform in Lithuania; issues related to investment planning and tariff regulation. Needs for better monitoring of utility performance. Legal and regulatory reforms.
Rasa Valatkevičienė	State Energy Regulatory Council	Scenarios for WSS consolidation reform in Lithuania; issues related to investment planning and tariff regulation. Needs for better monitoring of utility performance. Legal and regulatory reforms.
Irma Vasarytė	State Energy Regulatory Council	Scenarios for WSS consolidation reform in Lithuania; issues related to investment planning and tariff regulation. Needs for better monitoring of utility performance. Legal and regulatory reforms.
Aleksandra Čepukėnienė	State Energy Regulatory Council	Scenarios for WSS consolidation reform in Lithuania; issues related to investment planning and tariff regulation. Needs for better monitoring of utility performance. Legal and regulatory reforms.

## Annex 3.B. Preliminary characterisation of lessons learned from international experience with consolidation of WSS

The case studies are sketched here. Additional information and analyses on the objectives, process and accompanying measures will be available at the time of the international workshop. They can inspire reforms and action plans in Lithuania.

### Austria - Successful voluntary aggregations in rural context

In Austria, there are several examples of association of small rural service providers with similar characteristics that successfully grouped together. Austria provides concrete examples to explain why (purpose) and how (scale, scope, governance) these small utilities grouped together.

### Chile – Benchmarking the performance of water utilities

Chile is well regarded both for its water sector performance and its well-designed social services. Water sector reform started in the 1970s, leading to regionalisation and gradual tariff increases.

A highlight of this process was establishment of an independent economic regulator Superintendencia de Servicios Sanitarios (SSIS). In addition, four principles of tariff setting were set: non-discrimination, cost recovery, economic efficiency and encouraging conservation. The small SSIS developed a model company against which the 14 utilities operating in Chile could be compared. When setting the tariffs, the future efficiency improvement measures of the utilities were factored in. Under SSIS, leakage levels and cost recovery improved. Still, investment remained too small. SSIS initially failed to have leverage on some of the larger inefficient utilities.

These issues were resolved by:

- granting SSIS more power and independence, including funding through a levy on water utilities
- attracting finance for infrastructure through equity sales, concession contracts and involving the private sector, raising USD 1 bln that was subsequently wholly invested in infrastructure.

Among its main activities, SSIS monitors performance of both the sector and concession contracts.

Chile has a lot to share as regards options to cope with lack of affordability of water tariffs. From a social perspective, having no access to water is more costly than access at cost recovery tariff levels. Social measures have concentrated on funding extension or financing the costs of increased access, half of which went to the poor.

All consumers are billed the same full rate for the metered amount of water consumed. Means- tested poor customers, however, can bring bills to the municipality. The municipality pays part of the bill, provided the beneficiary pays the other part. In this way, municipalities cover on average 6% of turnover of water utilities.

There can be little debate about the success of Chile in water sector reform. It is not clear, however, to what extent others can achieve the same results. Chile has a long tradition of effective administration and an acceptance of a contractual approach in public sector management. As a result, it has been able to

provide targeted support to the poor and raise capital, mostly for wastewater treatment investment. The case of Chile illustrates that economic regulation needs periodic recalibration with policy targets, which is a task for the government at large.

## **Croatia - Overlooking context and purpose is associated with higher risk of failure**

The context in which aggregation takes place is characterized by the enabling environment in the country and in the sector, as well as by the physical environment in which utilities operate. The purpose of the aggregation can be manifold as the reform can target economic efficiency, performance improvement, professionalisation, environmental benefits and/or solidarity. The context should be taken into account and the purpose has to be clarified when designing aggregation. Disconnecting the former from the latter can lead to failure.

Moreover engaging with all stakeholders throughout the entire aggregation process is key to foster success. Whether mandated or not, systematic consultations between national and local stakeholders should be organized early in the process to ensure they can inform the process and to confirm alignment of interests between the national and local levels. Such an early engagement helps build stakeholder ownership of the reform. It allows implementers to tackle potential problems or resistance, and diffuse their potential impacts, thus improving conditions for success.

In 2012, the Croatian government initiated a series of utility sector reforms that, in addition to establishing a proper water sector regulatory framework and benchmarking system, have included a proposed merger of utility service providers into about 20 regional utilities. The main drivers of this aggregation effort were the need to efficiently absorb EU funds and to cross-subsidise the operation of water and wastewater systems in smaller settlements, which would find compliance with the new EU standards prohibitively expensive and unaffordable.

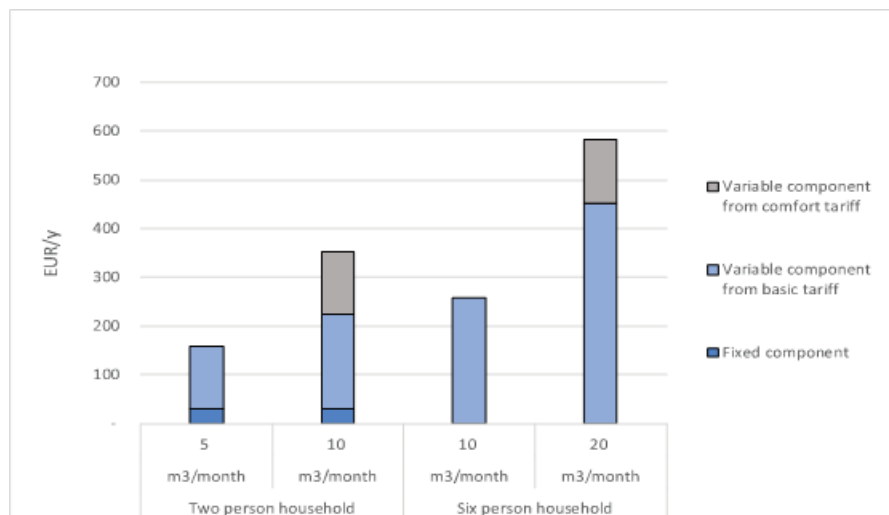
In early 2015, aggregation design was completed along with the required legislative framework. However, owing to the sensitivity of the political situation at that moment (2015 was an election year) and potential backlash from local authorities, it first was delayed and then lost political support following the change in the central government. The reform had been driven largely by technocrats within the line ministry, who failed to acknowledge that they lacked the political champion and national government power to impose the reform process over the concerns of local stakeholders.

## **Flanders – on social water tariffs**

The Flanders region of Belgium has a most advanced system of setting (social) water tariffs. First, there is only a small fixed fee for costs related to customers such as metering and billing. Overall, it is less than 10% of the bill. The volumetric part of the bill is charged either as “normal” or as “social”. The normal tariff structure is a straightforward Increasing Block Tariff (IBT), but based on the household size rather than on fixed brackets (blocks). In this way, larger households pay a similar price per cubic metre as small households, provided they are in the same tariff group and have a similar per capita consumption.

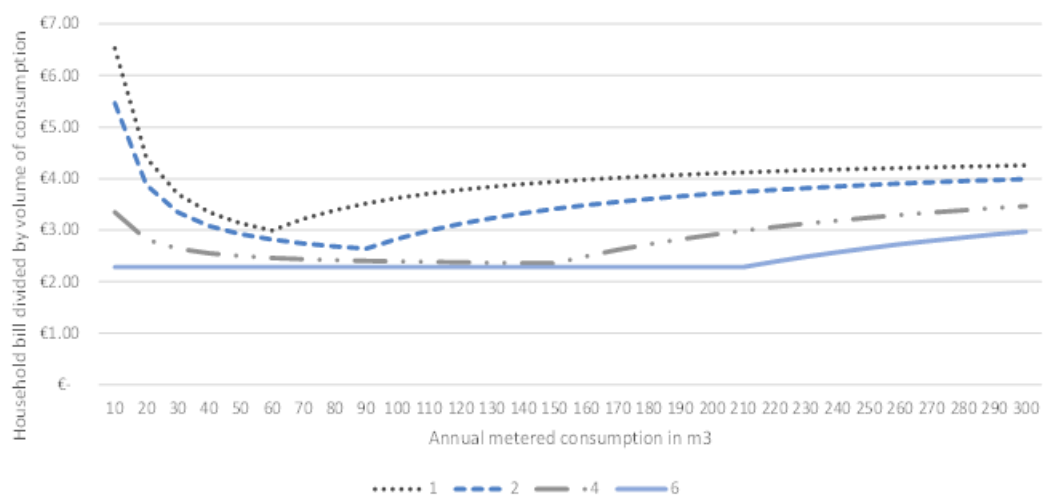
The social tariff is zero for the first 15 m<sup>3</sup> per person per year or 41 liter per consumer per day (lcd). Above that threshold, the social tariff is lower than the normal tariff. Figures below illustrate the concept. The built-in cross subsidy between smaller and larger units of consumption ensures the marginal price of water is the most expensive for rich and poor alike. In this way, there is an incentive to reduce consumption.

**Annex Figure 3.B.1. Composition of annual water costs for various household sizes and consumption levels, 2017**



Source: <https://www.farys.be/nl/watertarieven>.

**Annex Figure 3.B.2. City of Ghent: total household bill equivalent costs per m³ for different household sizes (2018)**



Source: <https://www.farys.be/nl/watertarieven>

The concept is appealing. It combines social, environmental and financial benefits.

Flanders illustrates an advanced social system carried out through the tariff. The regulator exercises a strong influence on social policy, stipulating the thresholds for the IBT and the relative tariff differential. There are two blocs (below and above 30 m³ per household member per year). The tariff in the first bloc shall be half that of the second one. The regulator also stipulates the size and conditions of the social tariffs, presently at one-fifth of the normal fixed and variable tariff elements.

The dual block tariff, however, puts an administrative burden on the utilities. To charge appropriately, utilities have to maintain records on inhabitants per household. Expenditure for WSS is in the order of 1-



2% of household income i.e. quite affordable by international standards. It is difficult to assess how well the system maintains affordability for the poor. The per capita delineation of the tariff blocs addresses the most pressing argument against IBTs. But little is known on how well the blocs and tariffs perform in maintaining affordability in relation to, for instance, single volumetric tariffs. Brackets are not adjusted in light of updated, more recent poverty statistics.

This type of redistribution can only take place within the service area. Small consumers and social cases are subsidised by other customers within the service area. Three factors are necessary for this type of social measure to function optimally:

- The average tariffs should be similar among the service areas in the region
- The distribution of income within the service areas should be similar.
- Per capita income across the service areas should be similar.

Deviations on these conditions bring regional distortions to distribution of benefits that are difficult to quantify. Assuming the conditions have been sufficiently met in Flanders, one can still ask whether the social benefit of increased affordability of services outweighs the costs of the increased administrative burden for utilities.

## France - A reform targeting economic efficiency and solidarity, facing long-lasting resistance

The NOTRe Act has mandated the progressive transfer of water and sanitation services competence from municipalities to integrated intercommunalities. Some key features, which will be explored in more details:

- Context of aggregation: top-down, mandated with a progressive implementation schedule
- Purpose of aggregation: economic efficiency (through economies of scale and scope), solidarity (through economies of scope)
- Scale and scope of aggregation: vertical and horizontal consolidation of utilities embedded in the reform
- Example of governance arrangement for aggregated utilities: institutional elements (legal form and organization; shareholder rights and power distribution; oversight and coordination of tariff and performance; exit and entry clauses); financing, assets, and liabilities (cost- and revenue-sharing agreements; asset ownership, transfer, development, and management)
- Risk of failure: political resistance which has postponed initial reform deadlines from 2019 to 2026.

## Korea - Amalgamated water services – Gyeongnam Province

Many Korean municipalities are having a hard time managing their own waterworks: the lack of revenue from low water tariffs leads to financial constraints on renewing existing water infrastructures. Ageing water infrastructures, particularly ageing water mains, are the predominant cause of water leakage, driving production costs and water tariffs up.

To solve these issues, the central government supports and encourages municipalities to amalgamate water supply services and assign amalgamated services to specialised water agencies. Four local governments in southwest Gyeongnam Province amalgamated their water supply systems and assigned their operation to K-water. Each local government retains ownership of its water supply system and remains responsible for providing the service and setting its tariffs, as well as for planning and extending water mains in order to increase access to tap water. The tasks devolved to K-water include water abstraction and treatment, distributing treated water to customers, and notifying and collecting water tariffs.

K-water has installed an integrated remote-control centre to monitor and control each municipality's water sources, treatment plants and reservoirs. Most facilities, except those located far from city centres, have no staff. Operators of the integrated remote-control centre monitor water pressure and manage facilities 24 hours a day, 7 days a week. They are available at all times to respond immediately to calls from a facility. If the systems are out of order, engineers working for a local service centre are expected to be able to reach the facility within 30 minutes through a network of emergency contacts.

In order to enhance operational efficiency, K-water covers the upfront capital costs of renewing and upgrading ageing infrastructures. It charges each local government on a monthly basis for the operating expenses, including investment recovery. The contract specifies the amount to be paid by the municipalities, providing them with the ability to plan expenditures in advance.

The project has received positive reviews from the central government and municipalities involved. It is expected to cut costs by KRW 24 billion (Korean won) (EUR 19 million) over the contract duration (between 20 and 30 years), compared with business as usual. The volume of water accounted for has increased between 17.1% and 41.3% in the new system.

## The Netherlands – achieving economies of scale and scope

In the mid-1970s, the Netherlands considered that its municipal water works lacked economies of scale and scope to deliver efficient services in the future. The 1975 Water Law kicked-started a regionalisation process that resulted in the ten current suppliers of drinking water. They are incorporated public entities that are 100% owned by municipalities and provinces.

Wastewater collection has remained a municipal responsibility. It is financed through a special municipal tax. Responsibility for wastewater treatment and water management rests with the democratically elected water boards. Water boards are legal entities, the first one of which was established in 1255. The 23 water boards operate on a regional scale.

Historically, the rationale behind regionalisation has been the need for efficient operations. Regionalisation, however, has supported affordability for the less densely populated areas

If all agglomerations up to 1 000 population equivalent (PE) charged based on cost recovery, then tariff rates in rural areas would need to be three times higher than those in large urban conglomerations. Income of rural households is typically smaller. Regionalisation of operations and harmonisation of tariffs across each expanded service helped share this burden. High-income/low WSS unit cost consumers cross-subsidise the lower-income/high WSS costs rural population through the harmonised tariff.

Municipalities collect the following:

- The wastewater collection charge to cover municipal sewerage costs. The charge can be based on drinking water consumed, property value or the number of inhabitants.
- The wastewater treatment charges and pollution charges on behalf of the water boards. The charge is not based on metered water consumption, but on three categories: single person households, two person households and households with three or more persons.
- The water system charges on buildings and land, also on behalf of the water boards, for water resource management. It is charged on the main occupant of the house or apartment (or land), as a fraction of property value (or as fee per habitant).

These charges mostly provide a fixed component to the WSS- related expenditure and may be seen as regressive.

Municipalities in the Netherlands provide for a WSS-related social measure through a partial or full exemption of (exclusively) their poorer citizens. Exemption of only fixed elements of the WSS-related bills leaves intact the incentives to save drinking water.

The Dutch system of WSS provision is complex and appears fragmented. Because of the long tradition and a strong culture of coordination among authorities, it does provide for a high level of service and reliability. The regionalisation of services has enabled an automatic cross-subsidy mechanism that would otherwise have been impossible to set up. In addition, a decentralised targeted WSS-related social assistance is in place through the exemption of fixed charges on poor citizens.

## Romania - A top-down mandatory and financially incentivised aggregation process

A comprehensive water sector aggregation reform was designed in 2005–2007 and implemented during the five following years. This regionalization consisted of a top-down mandatory process incentivized by EU investment grants—Sectoral Operational Program Environmental (SOP E) funds - which were allocated only to projects led by a regional operator.

Regionalization was based on three key institutional elements: the Intercommunity Development Association (IDA), the Regional Operating Company (ROC), and the Contract of Delegation of Services' Management.

Achievement/finding:

- From low cost-low performance to high cost-high performance (aggregation path).
- Introduction of performance indicators (as such, aggregation introduced better knowledge about utilities' operation with a view to improving it over time).
- Gradual implementation strategy allowed by the subsidiary principle of the aggregation reform (allowing flexibility in implementation ensures local stakeholders can own the aggregation process and adapt it to their local context).

Lessons learned:

- Risk of cherry-picking practices, as service providers naturally preferred to extend services to wealthy populations for cost recovery reasons, and to easy-to-reach areas where infrastructure already existed. By doing so, they selected solvent customers for good revenue collection and seek to avoid sunk investment costs and associated OPEX increases. Hence binding rules must be put in place to safeguard the principle of solidarity and overcome cherry-picking practices.
- Transaction costs can hamper aggregation success as staff transfer generally translates into labour cost increases that can jeopardize the financial sustainability of aggregated entities.
- Risk of withdrawal (importance of entry and exit clauses).

## Notes

<sup>1</sup> available here <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.280587/asr> .

<sup>2</sup> available here <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/4824cba0315d11e79f4996496b137f39/asr>.

<sup>3</sup> available here :  
[https://am.lrv.lt/uploads/am/documents/files/2020%2001%2020%20galutin%C4%97%20ataskaita%20\(su formatuota\) final\(1\).pdf](https://am.lrv.lt/uploads/am/documents/files/2020%2001%2020%20galutin%C4%97%20ataskaita%20(su%20formatuota)%20final(1).pdf).

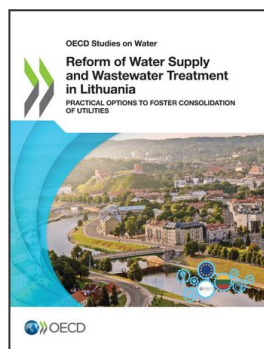
<sup>4</sup> See Chapter 1, based on responses to a questionnaire drafted by the OECD Secretariat.

<sup>5</sup> Convened remotely on 18 February 2021; see Chapter 2.

<sup>6</sup> This development builds on OECD (2015), *Water and Cities: Ensuring Sustainable Futures*, OECD Studies on Water, OECD Publishing, Paris, <https://doi.org/10.1787/9789264230149-en>. See the publication for references.

<sup>7</sup> Of note: in Lithuania, a water company is not allowed to differentiate the price based on the location of the consumer. However, it is possible to set different prices by customer segments. It remains to be seen how this principle is compatible with agglomeration in practice.

<sup>8</sup> At the kick-off meeting, a delegate from the Water Utilities Association mentioned that water prices across the country range from 2.2 EUR/m<sup>3</sup> to 4 EUR/m<sup>3</sup>. He suggested that such a difference called for further strengthening of tariff regulation to enhance cost-efficiency of service providers.



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