Roadmaps for Reform

Strengthening the economic and financial dimensions of water management in Eastern Partner countries

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EU4Environment
Water and Data in Eastern Partner Countries

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Introduction

This document presents country-specific roadmaps for strengthening the economic and financial dimensions of water management in Eastern Partner (EaP) countries. The roadmaps are derived from consultations and detailed analytical reports developed in partnership with EaP countries, with financial support from the European Union through the EU4Environment Water Resources & Environmental Data Programme, which ran from 2022 to 2024. Each roadmap situates the relevant economic instruments within their national context, exploring how they are currently functioning and making recommendations for what potential reforms might look like, including the benefits that can be realised for citizens, the environment, and the economy, and how national administrations can achieve these goals.

Each roadmap explains the mechanism of the instrument, whether it is a tax, tariff, subsidy or pollution payment; how the level is set, and how the revenue generated is currently used. Beyond that, the broader context, including history, economic issues past and present, and environmental concerns that can help shape the instrument, is discussed. Finally, policymakers need to consider – or define – the purpose of the instrument, and whether it contributes to national water policy goals as originally intended. In many cases, the instruments were established years ago, and the water sector of EaP countries faces new pressures and opportunities, including, for example, pressures from climate change and the opportunities presented for EU accession. Taken together, the roadmaps demonstrate the great diversity of economic instruments in the water sector across EaP countries and succinctly show how complex issues can have feasible solutions, requiring political will and evidence-based consultation.

About EU4Environment – Water Resources and Environmental Data

This Programme aims at improving people's wellbeing in EU's Eastern Partner Countries (Armenia, Azerbaijan, Georgia, Moldova, and Ukraine) and enabling their green transformation in line with the European Green Deal and the Sustainable Development Goals (SDGs). The programme's activities are clustered around two specific objectives: 1) support a more sustainable use of water resources and 2) improve the use of sound environmental data and their availability for policy-makers and citizens. It ensures continuity of the Shared Environmental Information System Phase II and the EU Water Initiative Plus for Eastern Partnership programmes.

Armenia

Reforming Water User Association service fees and subsidies

The challenge

Irrigation is critical for agriculture in Armenia, but its Water User Associations struggle with financial sustainability.

Setting the scene: Irrigation is critically important in Armenia

Agriculture in Armenia depends on irrigation. Currently, irrigated agriculture accounts for more than 70% of the gross crop production, and 80% of arable land needs irrigation to sustain commercial agricultural production. In Armenia, irrigation is an essential component in driving economic development in agriculture, a critical economic sector accounting for approximately 8.5% of GDP (2023) and 30% of employment.

However, the existing irrigation system in Armenia was designed and built during the Soviet Era, based on parameters which no longer reflect reality:

- Cheap electricity to power pump-based irrigation systems;
- Sufficient water resources and extremely low water costs;
- Capital investment funds readily available;
- No regulations or incentives to promote efficiency; and
- Large agricultural plots that were cultivated centrally through collective and state farms.

In 1992, the government began implementing institutional improvements and projects aimed at modernising the agricultural sector. Since the early 2000s, this includes converting pumped irrigation systems to gravity, decommissioning hundreds of out-of-operation pumping stations, reducing electricity costs and water losses, repairing deteriorated main and secondary canals, repairing and rehabilitating on-farm and farm irrigation systems, providing irrigation water in required locations, and ensuring dam safety. This work has been supported financially and technically by international donors and has been accompanied by reforms in irrigation management, including the creation of Water User Associations (WUAs), made up of the end users of irrigation water.

The role of Water User Associations in managing irrigation in Armenia

Irrigation in Armenia is managed by three entities:

- the Water Committee of the Ministry of Territorial Administration and Infrastructures (MTAI), responsible for the management and operational use of state-owned water systems, including irrigation and drainage;
- "Jrar" closed joint stock company (CJSC) under the MTAI, in charge of bulk irrigation water supply up to the boundaries of WUAs; and
- WUAs, composed of final agricultural water users, operating secondary and tertiary systems and small pumping stations and reservoirs.

Farmers pay WUAs an Irrigation Service Fee (ISF) for water, currently capped by the government at AMD 11/m^3 (EUR 0.024/m^3). It has not changed since 2010. Within the same period, the electricity tariff has nearly doubled from AMD 25/kWh (EUR 0.055/kWh) to AMD 48.53/kWh (EUR 0.107/kWh), the average annual inflation rate was 4% and the O&M costs of WUAs have significantly increased. In 2022, the average cost for the WUA to supply water was AMD 24/m^3 (EUR 0.053/m^3) with some WUAs, such as Syunik, paying more than AMD 90/m^3 (EUR 0.198/m^3).

There are currently 15 WUAs in Armenia, and they face significant differences in water availability, topography, and the cost of electricity, all impacting crop selection and driving water use and technical and economic performance. Though there have been successive reforms to build their capacity and consolidate them, WUAs are not yet economically self-sufficient and depend on subsidies from the state to bridge the gap between the ISF and the real cost of providing water.

Between 2018-2022, the average annual cost for Armenia to subsidise WUAs was AMD 8973.5 mln (EUR 19.7 mln), representing approximately 0.13% of Armenia's GDP. And yet, going back to 2006, no significant improvements in irrigation performance indicators can be seen, suggesting that the current approach to subsidies and the ISF is not effective. Since 2006:

- The area irrigated has declined;
- Electricity consumption has increased;
- The volume of water supplied has declined, and
- Average debts of water users have increased.

At the root of the problem is that the ISF is set too low. It is not aligned with the "user pays principle", as the ISF does not cover O&M costs, let alone investment costs. This contributes to the progressive deterioration of the state and performance of the irrigation infrastructure, further increasing operational costs to support poor quality and poorly performing infrastructure. Because of the gap between the ISF and the actual cost of providing water, significant subsidies are necessary for WUAs. Although this benefits vulnerable farmers, it also supports successful farmers with large landholdings who could afford the actual cost of water. In other sectors, such as gas and electricity, Armenia has replaced broad subsidies with targeted, fixed lump-sum payments specifically for the most vulnerable households. This approach helps these families cover their service costs more effectively.

Ultimately, Armenia must reform how WUAs are financed, as the gap between the ISF and the real cost of water is not sustainable.

Areas of focus for government intervention

Addressing how WUAs are subsidised, as well as the level of the ISF together is critical for improving Armenia's irrigation system. Reforming the system of subsidies will make it possible to ease the burden on the Armenian state budget, develop efficient mechanisms for providing state budget funding, as well as increase the efficiency of WUAs' financial performance as more independent and autonomous organisations.

Three issues are in the focus of the state's attention:

- **First**, the high cost of water delivery due to the deteriorated state of irrigation systems resulting in high water losses and a dependence upon electricity consumption. Costly pumped irrigation results in unavoidable state financial assistance and questions the profitability of irrigated agriculture;
- **Second**, the lack of cost-recovery policy and the absence of effective arrangements for provision of timely and adequate financing for operation and maintenance (O&M) costs has caused sustained deterioration of the infrastructure;
- **Third**, the lack of adequate allocation of responsibilities and arrangements of participatory management policy refrained water users from sufficient participation in irrigation management and resulted in the practice of wastage of limited funds and low collection rates from the agencies operating in the sector.

Potential responses

Reducing the cost of irrigation – a necessary precursor

The optimum approach to reduce subsidies, increase impact of government support and to reform the ISF is to reduce the cost of irrigation itself, as the ultimate goal is to work towards the financial stability of WUAs.

The following measures could reduce the cost of irrigation, and thus the gap between cost and the ISF:

- **Reduce irrigation water losses** by implementing an annual program of major repairs of irrigation systems, as defined by the Law on the State Budget of Armenia for each year;
- **Reduce electricity costs** by directing irrigation-related donor programmes to the replacement of mechanically operating systems with gravity irrigation systems where feasible;
- **Attract investment** in irrigation systems by implementing a targeted public-private partnership policy, including small and medium-sized reservoir construction projects;
- **Improve measurement** by equipping water intake points and dividing nodes from main, secondary, and tertiary canals with meters;

Benchmarking WUA performance against these measures can be a tool to help prioritise action.

Options for reform

Following consultation at the national level, a number of approaches emerged to reforming the irrigation service fee based on balancing the two main principles of cost-recovery and affordability:

- **Option 1**: Gradual increase of the irrigation service fee supplied to the farmers by WUAs within 6 years, every other year increasing it by AMD 2 (EUR 0.0044);
- **Option 2**: Subsidise WUAs based only on consumed electricity and purchase of bulk water, through making direct payments of these service supplies through treasury accounts on behalf of WUAs;
- **Option 3**: Introduce a two-tier ISF, including fixed fee per hectare of land and a variable fee based on the volume of water used. Moreover, while defining the fee for variable cost based on the volume of irrigation water received, different approaches can be applied: a) fixed price (independent of the volume of irrigation water use); b) decreasing price (price of irrigation water per 1 m^3 decreases parallel to the decrease of water use volume); and c) increasing price (price increases when certain marginal volume of irrigation water use is exceeded).

Any of these options if implemented would be coupled with efficiency measures to maximise impact.

Reforming the irrigation service fee

All of the options constitute tradeoffs, and must be determined based on a holistic approach involving the WUA subsidy reform as well as enhanced efforts to reduce the overall cost of irrigation.

For instance, in the case of application of the first option of reforming the ISF, affordability issues might arise for high water consumption crops (e.g. pomegranate, fig, wheat) for which the ISF will exceed 10% of the production costs of farmers. The proposed scenario for reforming the ISF has potential to create affordability issues for about 27,000 ha of agricultural lands within the service area of WUAs which are over-normative lands, thus there is a need to develop accompanying measures for these areas to mitigate the impact, taking into account food security considerations as well.

Before changing the ISF, it is recommended that policy makers and stakeholders answer the following questions:

- Is there currently a vision of adequate improvements, political will, need, resources and legal framework?
- How can it be ensured that the introduction of new arrangements result in higher efficiency (of financial efficiency in particular) of WUAs and the irrigation sector in general?
- Would the introduction of new arrangements result in higher efficiency of funding of some of programmes financed from the Armenian state budget?
- Is there a need to change the content, structure or methods of providing funding to WUAs from the Armenian state budget?
- Would the introduction of new arrangements result in institutional development and capacity strengthening and maturation of WUAs and promote targeted subsidies for local investments and supporting farmers in need rather than the sector as a whole?
- Would these new arrangements ensure full cost-recovery of management, operation and maintenance activities of WUAs?
- Is there an argument for increased subsidies in the short term to drive the efficiency measures required to strengthen the sector in the longer term?

General principles to reform how WUAs are financed

Armenia should make a transition from subsidies covering the budget deficit of WUAs to subsidies promoting local investments and efficiency measures. Subsidies may also be used for efficient regulation of the irrigation sector and providing necessary support to WUAs through development of the service provision capacities. In this regard, it is advised to move towards formation of a budget for WUAs, which is based on the realistic needs of operation, maintenance and management. Benchmarking performance of WUAs could be used to inform budget development.

Although the process of WUA funding from the state budget of Armenia has to be continued in order to strengthen administrative and operational capacities of WUAs, the main focus of assistance should be shifted towards the elements of practical operation which will increase members' interests towards the economic and efficient performance of their organisation.

The development of new arrangements for funding of WUAs from state budget of Armenia could be guided by the following principles, ensuring that the introduction of new arrangements will result in:

- Higher efficiency of irrigation sector, improving the financial efficiency and operational sustainability;
- Improved funding efficiency and reporting of programmes being implemented through the Armenian state budget;
- Institutional development and capacity strengthening and maturation of WUAs and promotion of subsidies for local investments and targeted support to efficiency schemes and vulnerable farmers; and
- Enhanced cost-recovery for the management, operation and maintenance activities of WUAs.

Armenia

Reforming surface water abstraction fees

The challenge

Armenia's low surface water abstraction fees do not generate sufficient revenue nor incentivise efficient water use.

Setting the scene

The main management objective for applying water abstraction fees in Armenia is to ensure rational use and efficient allocation of water resources, and to maintain minimum environmental flow. The fee is applied to water consuming sectors of the economy including drinking-household, industrial/technical, irrigation, and fisheries.

Abstraction fees, like water pollution taxes, were established almost 25 years ago with the intent of triggering a cultural change in water management in Armenia, so that users could internalise the (negative) impacts of their activities into their decision making. Originally, the rates for water abstraction fees were defined according to the Government of Armenia Resolution No 864 of December 30, 1998 "On Rates for Natural Resources Use" and its further amendments and the calculation method was based on the Republic of Armenia law "On Payments for Nature Protection and Natural Resources Utilization", adopted by the National Assembly of Armenia in 1998 and further amended in subsequent years.

Since 1 January 2021 the rates for water abstraction fees and procedures for calculation of the fees have been regulated by the Tax Code of the Republic of Armenia, with rates varying according to water sources and sectors.

How do surface water abstraction fees currently work?

Current rates have proven to be too low to provide sufficient revenues for water management or an incentive for more efficient water use.

Although revenue has increased since 2017, the total financial revenues from water abstraction fees are low compared to the full costs of activities that would be required to achieve the water management objectives defined in the Armenian law.

Despite the progress made in collection of water abstraction fees over the past years, national-level consultations have demonstrated that there remain opportunities for improvement of the water abstraction fee system, while mitigating risks of significant social-economic impact to the water use sectors.

Key issues

There are several deficiencies in the current system of the water abstraction fees, and despite the requirements of the Water Code, National Water Policy and National Water Program, the "user pays" principle is applied only partially, and not in a fair manner based on the equity principle. Particularly:

- Water abstraction charges for public water supply companies were significantly reduced about twenty years ago (from AMD 1,000/1,000m^3 (EUR 2.2/1,000m^3) to AMD 0.025/1,000m^3 (EUR 0.055/1,000m^3)), though they represent significant water users. In contrast, self-supplied rural settlements (around 560 in the whole country) continue to pay the full charge (AMD 1,000/1,000m3 (EUR 2.2/1,000m^3));
- The fee for fisheries is applied only to a certain percentage of the total volume abstraction (varying between 5% to 50% according to location and water resource type), creating inequality compared to other water use sectors;
- Irrigation, the largest consumptive water use sector, is not charged if water is abstracted from surface bodies except for Lake Sevan, and in case of abstraction from Lake Sevan the charges for irrigation are significantly lower compared to other sectors;
- There are contradictions between different clauses (Articles 201, 203) of the Tax Code on the basis for calculation of the water abstraction fee (permitted quantity vs actual water use).

Drivers of reform

With the signature of the Comprehensive and Enhanced Partnership Agreement with the EU, Armenia has undertaken ambitious and time-bound commitments to reform water policies and implement 5 water-related EU Directives (Water Framework Directive, Water Framework Directive, Drinking Water Directive, Nitrates Directive, Floods Directive), where strengthening water finance and institutional capacity will be critical. Some key areas which are underfunded, and which would benefit from revenue from higher surface water abstraction fees, are:

- The Basin Management Organisations (BMOs) of the Water Resources Management Department (WRMD) of the Ministry of Environment of Armenia suffer significant lack of financial and human resources;
- The WRMD itself needs strengthening in terms of additional staff at national level, who will be able to perform tasks such as GIS, spatial analysis and modelling work;
- The Water Policy Department of the Ministry of Environment currently has only 4 employees, which makes it difficult to operate given the responsibility for development of the strategic and legal framework in such a challenging and cross-cutting sector as water.

Potential responses

Options for reform

The following options for reform are proposed:

- **Aquaculture**: reforms of water abstraction fees in aquaculture could be continued, applying the abstraction fee to 100% of the volume of total water abstraction (instead of 50% for the Ararat valley and 5-10% in other regions of the country). This change would generate an additional AMD 484 mln (EUR 1.1 mln) annually from water abstraction fees;

- **Drinking water**: eliminate the special lower rate and set the water abstraction fee at AMD 500/1,000m^3 (EUR 1.1/1,000m^3) for all drinking water abstractions. This would create incentives to reduce water losses, amounting to over 73%, and generate an additional AMD 204 mln (EUR 449 thsd) of revenues from water abstraction fees. at the same time, not causing any significant impact on the cost structure of the water supply companies and eventually on the tariff for the households. Even after the increase of water abstraction fee for drinking-communal needs up to the rate of AMD 500/1,000m3 (EUR 1.1/1,000m^3), it would constitute only about 0.29% of the tariff for the drinking water supply services, which currently composes AMD 170.4/m^3 (EUR 0.375/m^3);

- **Irrigation**: for the irrigation sector there is an absolute need to revise the current zero fee for surface water abstraction. Thus, it is proposed to start charging a very small fee of AMD 100/1,000m3 (EUR 0.22/1,000m^3) for the irrigation sector for surface water (excluding Lake Sevan) and for groundwater (not suitable for drinking purposes) to slowly habituate the irrigation sectors used to the principle of "user pays".

Analysis

The proposed reforms of the water abstraction fees should not cause significant socio-economic impact on the water use sectors, including farmers and households. The reforms would make it possible to cover the optimal needs for water policy, water resources management, monitoring and compliance assurance, and moreover still over 40% of the expected revenues from the water abstraction fees would remain. Studies need to confirm this limited impact on affordability.

One example, for irrigation, analysis shows that introduction of such rates could annually generate additional AMD 156 mln (EUR 343 thsd) of revenues from the water abstraction fees without significant impact on the water sector. At the same time, using cost data from WUAs in 2021, the introduction of the fee of AMD 100/1,000m^3 (EUR 0.22/1,000m^3) would constitute about 0.4% of additional costs, while making an important shift in consumer behaviour and strengthening the application of the principle "beneficiary pays".

Objectives

Short-term objectives:

- Revenues from water abstraction fees must be sufficient to cover all expenses involved in proper management of water resources, water policy implementation, water resources monitoring, and compliance assurance with water use permit conditions;
- Make fees based on the permitted quantity instead of actual water abstraction, as it is the case now. This will help avoiding high administrative capacity and high transaction costs required for managing the system. The way the system currently operates does not give water users the incentive to request permits that are close to their water requirements. This may indirectly block the opportunity to issue additional water use permits that could contribute to Armenia's socio-economic development, while bringing additional financial revenues from water abstraction fee collection;

Medium- and longer-term objectives:

- Fee rates should take into account the resource costs of water abstraction, as well as provide an incentive for a more efficient use of water resources (reduced water abstraction).

Earmarking revenue from abstraction charges to improve water security

Earmarking the surface water abstraction revenue would be a powerful tool in Armenia. For example, the proposed reforms could cover water management and monitoring costs. In addition, about 40% of the revenues from the abstraction fees that remain could be used for implementation of selected measures from the Programme of Measures of the RBMPs, aimed at strengthening of water resources monitoring, compliance assurance, legal and institutional improvement, providing as subsidies for implementation of specific technical measures to improve water use efficiency, or other needs, contributing to improvement of overall water resources management.

Armenia

Reforming pollution charges

The challenge

To reform Armenia's pollution charges, consensus on objectives will be critical.

Setting the scene

Armenia has a long history of using payments to regulate environmental pollution. In 1986, the "Methodology for Assessing the Damage Caused to the National Economy by Environment Pollution" was adopted. In 1993, following independence, a system of environmental pollution fees was adopted, in line with the logic of the "polluter pays" principle. This system was further updated in 2006, when the law "On Rates for Environmental Fees" was adopted.

In 2021, water pollution fees shifted to water pollution taxes, to be regulated by the Tax Code of the Republic of Armenia. Accordingly, Article 169 of the Tax Code includes charges applied for discharging pollutants and their compounds into water bodies. Apart from the pollutants listed, there are also payments associated to discharges of dangerous substances and compounds for which the actual discharge exceeds the allowed marginal discharge volumes as indicated by water use permits conditions, or for which the water use permit condition does not indicate any allowed marginal discharges. For example, for fisheries, these calculations are based on a maximum allowable concentration (MAC) approach.

In recent years, revenue from pollution taxes has grown significantly. According to the Statistical Committee of Armenia, in 2017 the revenues from the water pollution taxes composed around AMD 181 mln (EUR 398 thsd), while in 2022 this figure increased to AMD 942 mln (EUR 2.0 mln), accounting for 36.2% of the total environmental taxes in the country.

How do pollution charges currently work?

Although revenue has increased, the distribution of the collected water pollution taxes is not even, with over 90% of the taxes collected attributed to Yerevan city. This is likely due to many businesses being registered in Yerevan, even though the actual polluting activity is occurring elsewhere.

At a more general level, very low charge levels, as well as the unfair distribution of charges among users' groups, reveal a poor application of the "user pays" and "polluter pays" principles, despite the fact that these principles are one of the pillars of the current water-related Armenian legislation (in line with the EU's Water Framework Directive).

On a practical basis, the calculation of the total amount paid by each polluter is extremely complex, as it is based on a long list of pollutants, raising challenges around the calculation as well as reporting. In spite of this complexity, the current fee does not fully take into account risk considerations and the different vulnerability and environmental quality/interest of individual water bodies. Opportunities exist to simplify both the calculation and application of the instrument while also streamlining its focus in line with current environmental policies and priorities.

Key issues

Armenia's water pollution taxes lack clear objectives, and do not define whether they aim to prevent the pollution of water, compensate for the impacts from pollution, reduce damage from occurring, a mix, or something else. Beyond this overarching policy focus issue, other critical challenges include:

- Though Armenia eliminated the Soviet-era system of MACs in its water quality assessment system, MACs continue to be used to calculate water pollution taxes in the fisheries sector;
- Rates are not clearly tied to risk – for example, rates for discharging pollutants into Lake Sevan Basin, as well as Hrazdan and Getar Rivers in the territory of Hrazdan canyon were doubled, but not in 40 other rivers with water quality assessed as "being at risk";
- The list of pollutants was developed over two decades ago and there is a need to revise the list, to incorporate the significant pressure sources on water quality, taking into consideration the River Basin Management Plans (RBMPs);
- The current system of water pollution taxes violates the "polluter pays" and the equity principle, given that one of the most important pressure factors on water quality – the water supply and sanitation companies - are given special privileges;
- Neither the ecological status of the water body receiving discharges nor the impact of the pollution on water resources is taken into account in the pollution taxes, contradicting the intent of the Water Code of Armenia.

Drivers of reform – use of revenues generated to promote water quality improvements

Depending on the objectives of the pollution tax, reforms could generate critical revenue which would help monitor and combat water pollution in Armenia:

- The state budget allocation to monitoring is insufficient, despite significant progress achieved in surface and groundwater quantity and quality monitoring in Armenia in recent years. For example, in the Northern RBD, covering an area of 7185 km^2, there are only two groundwater observation sites;
- Armenia's 2022 Water Sector Adaptation Plan proposes the establishment of 14 new hydrological posts. However, the state budget allocation to the laboratory maintenance is insufficient and the Hydrometeorological and Monitoring Centre (HMC) relies significantly on external assistance, including from international organisations;
- Given Armenia's requirements under the Comprehensive and Enhanced Partnership Agreement (CEPA) with the EU to establish WFD compliant monitoring programmes (Article 8) by March 2026, the state budget funding to surface and groundwater monitoring in Armenia has to be significantly increased;
- The budget of the Environmental Protection and Mining Inspection Body is insufficient, resulting in ineffective compliance assurance for water use permit conditions. Many water users have no reliable information on whether they comply with the provisions mentioned in the water use permits or not, presenting an opportunity to improve water management.

Potential responses

Key recommendations

The current system of water pollution taxes does not serve a clear environmental policy objective. The system should be revised to better align with the Water Code of Armenia, which states that water pollution taxes should be defined based on the ecological status of the recipient water body and requires that if the surface water body has "high" or "good" status then it is necessary to take measures to maintain such status.

To better align with the Water Code of Armenia, the following broad reforms should be incorporated into the new system:

- The carrying capacity of the recipient body is critical, and the basis for defining the water pollution taxes should be the ecological status of the water body, which receives the pollutant;
- The list of pollutants subject to the water pollution tax should be revised, to incorporate the pressure from all significant sources causing pressure (e.g. mining, and other critical sectors and pollutants of interest);
- The system of MACs should be excluded from the structure of the water pollution tax, given its evident drawbacks, and a shift towards ecological status and surface water quality norms should be made.

Moving from MAC to ecological water quality in the fisheries

MACs are an outdated mechanism of controlling pollution. They are based on the impact of pollutants at the organism level, after which the assessment moves into a general level. However, this approach is simplistic, provided that:

- It does not consider the synergism and antagonism of various pollutants;
- It does not consider the impact of the level nor duration of exceeding MACs on the ecological status of water bodies;
- MACs do not vary despite the differences between water bodies - for example, properties of pollutants, such as ecotoxicity, depend upon the specific water ecosystem and specific water chemical condition; and
- The system of MACs did not take into account the compound and multi-stage transformations of polluting substances after penetrating into the water.

For these reasons, Armenia eliminated the system of MACs in surface water quality in 2011, instead basing assessments on over 100 indicators (the values of which vary for different river basins of Armenia). The same logic should apply in reforming the pollution taxes.

Exploring the use of earmarking for water pollution charges

Earmarking water pollution charges for covering the emerging costs (treatment, licensing, monitoring, enforcement) and for environmental investments is common in many European countries. In general, the budget remains at the local level. In some central and eastern European countries, national environmental funds are used (e.g. Czech Republic, Slovak Republic, Estonia), which ensure the utilisation of funds for environmental measures. In some countries (e.g. Belgium, France and the Netherlands), the levies shall also provide funding sources for water-related investments.

To address diffuse pollution of water bodies, there are not many examples of instruments to control impact and raise revenues, with typically subsidies and information instruments used. However, some countries have experience of application of pesticide or fertilizer taxes.

The goal is usually to produce positive environmental effects by reducing consumption and to raise revenues, mostly earmarked, to support the agricultural sector or for environmental projects, often focusing on soil and groundwater protection.

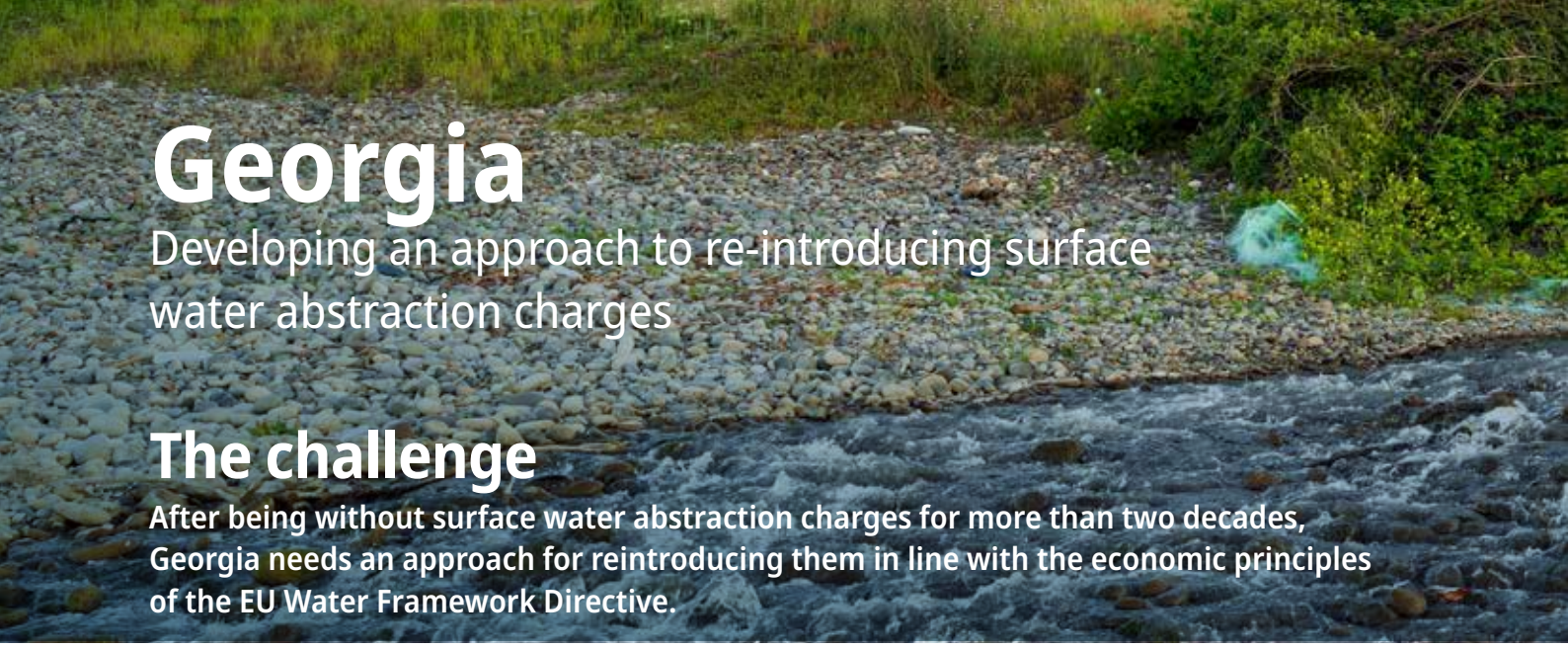
Although the revenues from water pollution taxes should take into account the costs associated to implement programmes of measures from the RBMPs, revenue from pollution taxes will not be sufficient alone. Pollution taxes generated AMD 942 mln (EUR 2.0 mln) in 2022, according to the officially adopted 5 RBMPs and 1 draft RBMP, about AMD 36.6 bln (EUR 80.5 mln) annually would be required to finance programmes of measures as currently drafted. Reducing pollution within a basin has potential to change the scope of the programme of measures and could be a positive impact of this proposed reform.

Objectives and priorities to guide reform

- Policy objectives should be consulted and agreed to focus the water pollution tax;
- Short-term objective: revenues from water pollution taxes should take into account the costs associated to support implementation of the measures from the RBMPs aimed at improving the qualitative status of water bodies at risk due to water quality;
- Medium- and long-term objective: fee rates should take into account of the environmental costs of pollution, as well as provide an incentive for reduced polluting discharges in coherence with the need to protect aquatic ecosystems and their related uses.

In more practical terms, the main priorities for the reform include:

- Fairness: all user groups must be charged in a fair and balanced way, applying charge rates closer to the environmental impacts of discharging pollutants;
- The full application of the polluter-pays principle;
- Simplifying the calculation and application of the instrument based upon current good practice and learning from EU Member State practice;
- Linking the application to priority sectors causing risk to water quality, for example mining.



Georgia

Developing an approach to re-introducing surface water abstraction charges

The challenge

After being without surface water abstraction charges for more than two decades, Georgia needs an approach for reintroducing them in line with the economic principles of the EU Water Framework Directive.

Setting the scene

Fees for the abstractive and non-abstractive use of water resources were first introduced in Georgia in 1994. Ten years later, Georgia changed its approach, removing abstraction charges from the tax code and replacing them with fees for the use of natural resources, regulated by the Law on Fees for the Use of Natural Resources (2004). After being without surface water abstraction charges since then, in 2023, the government adopted the Law on Water Resource Management, which necessitates the re-introduction of the surface water abstraction charges by no later than September 2027.

The Government of Georgia's approach to water resources management is characterised by the absence of a single policy document. Instead, several strategic documents outline the vision for water resources management, including the Development Strategy of Georgia, the Fourth National Environmental Action Programme (NEAP) and the Agricultural Development Strategy of Georgia. These strategic documents emphasise, among other things, the importance of infrastructure development in ensuring access to clean water and effective sanitation, which are essential for the well-being of the Georgian population.

However, despite these efforts to develop a strategic approach in different sectors, issues such as inadequate infrastructure in high-mountainous settlements, inefficient water usage in agriculture, and the absence of cross-border river management agreements persist.

The introduction of surface water abstraction charges may help address some of these challenges by providing incentives for responsible water use, contributing to environmental protection and providing financial resources for water management activities.

Key issues

Outdated and crumbling water infrastructure

- Water supply infrastructure is outdated and in need of significant rehabilitation, especially outside of major cities, resulting in unreliable or intermittent water supply in many towns and rural areas. This increases operational costs and impacts public health;
- Water infrastructure has not kept up with shifts in population and industry growth – for example, increased demand for water and sanitation services from tourism.

Financial and institutional constraints

- Addressing infrastructure decay and expanding service coverage requires substantial investment, which can be a burden for the population if passed on through higher tariffs;
- While utilities in Tbilisi are financially viable, public water companies elsewhere are often financially weak, limiting their capacity for improvements.

Uneven water distribution

- Nationally, Georgia has abundant freshwater. However, 75% of the country's renewable freshwater resources are concentrated in the Western part of the country, the Black Sea Basin, while Eastern Georgia has a deficit in irrigation water;

Water Quality Concerns

- Water quality is compromised by the discharge of untreated or inadequately treated wastewater into rivers and lakes; over one-third of wastewater is not properly treated before being released into the environment;
- Surface waters are polluted by municipal wastewater, uncontrolled solid waste landfills, and industrial discharges, as well as pollution from agriculture;
- The main sources of groundwater pollution are urban wastewater, household wastes, the use of fertilisers and pesticides in agriculture, and animal husbandry.

Government actions

In line with the EU-Georgia Association Agreement (AA) commitments and strategic visions, Georgia recently adopted the new Law of Georgia on Water Resources Management (May 2023).

The new law, which meets the requirements of the WFD, establishes an integrated water resources management system, emphasising the principles of river basin management. It sets targets and standards for water quality, introduces monitoring and enforcement mechanisms, requires public participation and introduces a permit system for water abstraction.

The new water law establishes a comprehensive framework for ensuring the optimal quantity and quality of both groundwater and surface waters. It introduces a classification system, sets targets and standards for water quality, and outlines measures to prevent water pollution. In addition, the law establishes a robust monitoring and enforcement system and mandates public participation in water resource management decisions.

It also establishes a permitting system for water withdrawals and introduces fees for water use, requiring the development of a new methodology specifically for setting fees related to surface water withdrawals. This legislation marks the first phase of a broader water management reform initiative, with subsequent steps, including the adoption and implementation of secondary legislation.

Effectiveness of surface water abstraction charges

Currently, there are no surface water abstraction and discharge permits/licences in the country (subject to reform and full enforcement from 2026). The Law of Georgia on Fees for the Use of Natural Resources (adopted in 2004) establishes the user-pays principle, including for the extraction of surface and groundwater. The law states that the fees for the use of natural resources shall be paid by the persons whose activity related to the use of natural resources is subject to licensing under Georgian legislation.

However, the way the law is structured implies that the set of fees can only be applied to groundwater abstraction and that they are not valid for surface water abstraction due to the current legislative setup. This can be seen as a major conflict of laws and a flaw in the existing legislation.

Introducing surface water abstraction charges in Georgia is required by the Law on Water Resource Management.

Potential responses

Methodology for developing charges

Selection of the user base on which to set water charges.
Water charges can be defined at the sectoral level, to mitigate the problem of cross-subsidisation of water abstraction between different types of users. It also allows for the creation of more effective incentive mechanisms to promote efficient water use and prioritise abstraction. Additionally, a sectoral approach enables better insights at the impact assessment stage. Importantly, the decision can always be adjusted to accommodate consumptive and non-consumptive uses if the quantitative impact assessment indicates a need.

Defining the jurisdiction of water charges.
Water charges should be set at the river basin level, which will better support efficient water use, be better integrated into the overall river basin management process and be easier to define methodologically. In addition, setting charges at the river basin level will better serve to incentivise efficient water use and take into account the local challenges of river basins.

Decision on **methodology for setting water charges**.
The cost-based approach is methodologically clear, supports the development of river basin management activities and is easier to communicate to all key stakeholders. The development of a cost-based approach calculation tool for each river basin will create a clear metric to monitor the level of remuneration of imposed costs leading to a more robust and transparent approach to setting abstraction charges.

Calculation of charges

Once a methodological approach for setting surface water charges has been chosen, the next crucial step is to **apply and calculate specific levels of abstraction charges**. However, due to data availability constraints, several actions need to be taken in order to effectively implement any of the proposed methodologies:

- Establish a register of water users and collect their existing information;
- Complete the water balance at river basin level to make assumptions about water use characteristics;
- Ensure that river basin priorities are taken into account when setting charges by analysing existing river basin management plans and drafts to determine the costs of managing the basin;
- Develop a model for updating water charges in the future. An Excel-based model can ensure transparency and a standardised approach across different river basins in the first instance;
- Incorporate inflationary processes into the calculations to prevent a decrease in available resources over time. This may involve increasing charges by the target inflation rate, or using the estimated GDP deflator to better reflect inflation in government funds for future years.

Implementation of charges

Impact assessment of water charges and modification. A Regulatory Impact Assessment (RIA) provides a comprehensive analysis that allows the comparison of different options. Two key considerations for a successful analysis are defining several policy options before conducting the impact assessment and ensuring the availability of high-quality data and existing public sector information to facilitate the modelling process.

Awareness raising among water users. Awareness raising among water users is crucial alongside decision making and policy analysis. Involving users throughout ensures that decisions are clear. Awareness campaigns should highlight benefits such as improved water management and resource monitoring. Demonstrating how water charges support these objectives is essential, especially in the context of budget constraints. Stakeholders beyond water users should also be involved, highlighting the benefits of better water management. Analysis can be used to reinforce the need for charges in this process.

Legal drafting, legislation of water charges in the parliament and setting up e-governance systems. The final step in the process of setting water tariffs is the legal drafting and adoption of water tariffs by the Parliament through amendments to the Law of Georgia on Natural Resource Charges. Several aspects should be considered in this process. It is suggested that the legal drafting should be done after all the assessments have been completed. This will create a better process and ensure that decision-makers are not biased towards an already drafted version of the legislation. In addition, the results of previous impact assessments can be presented as an annex to the explanatory memorandum to Parliament to support evidence-based decision-making.

As the reform does not involve a complete overhaul of the water resource charging system, the necessary changes can be made by redrafting the existing law.

Finally, before the legislative process begins, it will be important for MEPA, the Revenue Service (RS) and the Department of Environmental Supervision (DES) to coordinate the exchange of information between the parties to ensure proper enforcement and monitoring. Implementing water charges at the basin and sectoral level will facilitate the establishment of an e-governance system for real-time information exchange will greatly improve the implementation of surface water charges. Experience in implementing such reforms shows that information sharing is often a major constraint.

Moldova

Reforming the water tax

The challenge

Moldova's water tax is ineffective and not linked to broader water policy objectives.

Setting the scene

The Republic of Moldova's (hereafter Moldova) water tax is based on the "user/beneficiary pays" principle. One of its main objectives is to ensure that water, as a public good, generates sufficient financial means/resources to support public priorities. Other key objectives are to create incentives for the efficient use of water and send accurate signals to water users about the value of water, including in periods of water scarcity.

Moldova has used a water tax for decades. Currently, it is regulated by the Tax Code and is levied on entities that carry out entrepreneurial activity and that:

- Abstract/extract fresh water from surface and groundwater sources;
- Use drinking water from any source for bottling purposes;
- Extract natural mineral water;
- Use water in hydropower plants.

The tax charged is based on:

- The volume of water abstracted/extracted from surface and groundwater sources;
- The volume of drinking water from any source used for bottling;
- The volume of mineral water extracted;
- The volume of water used by hydropower plants (for electricity generation).

The methodology for calculating the water tax is presented in Article 305 of the Tax Code, and is based on the volume of water extracted and/or used, according to the water-meter readings or, in the absence of water-meters, according to a calculation established by the state body empowered by the Government, the Agency "*Apele Moldovei*".

Although the provision of WSS is the responsibility of municipal governments in Moldova, the revenue from water taxes is allocated to the state budget.

How does the water tax currently work?

Environmental effectiveness: the instrument is not effective in achieving key objectives such as improving water use efficiency, water conservation and prevention of water resources from damage or over-abstraction, nor does it help generating significant revenues to fund projects and activities towards implementation of the water policy objectives.

Consistency with the existing institutional framework: poor enforcement of water use permits/authorisation is inconsistent with applying the water tax; while the latter is not entirely consistent with taxation of the irrigated land.

Ease of administration: it is not easy to administer the water tax due to several factors, including the difficulty to accurately measure the tax base.

Revenue generation and cost-efficiency: the water tax does not generate significant revenues, and is set so low that it can be uneconomical to collect the amounts due. The tax rates are also not regularly adjusted, neither to inflation nor to the evolving economic value of water for specific water uses.

Impact on competition – the possibility for some not to pay the water tax (totally or partially, e.g. due to inaccurate metering or poor reporting) distorts the rules of fair competition.

Other (instrument or country specific) considerations: the water tax is not fully consistent with taxes levied on other natural resources (e.g. irrigated land) nor with tariffs for electricity generated by hydropower stations (HES).

Key issues

Increasing demand and impacts of climate change: In recent years, Moldova has experienced increasing demand and rising costs of food and energy, which affects the availability of access to, and safe use of water resources. Climate change, temperature variability, and dependence on surface water in rural areas increase also economic and environmental uncertainties.

Lack of finance for water: Domestic funding for water and wastewater activities remains fragmented, with the National Ecological Fund (NEF) and the National Local and Regional Development Fund being the primary sources. The NEF is the most significant source of funds for rural communes. Non-revenue water is a major challenge for operators with no clear prospects for reduction which limits potential opportunities for raising private investment.

Poor condition of water-related assets: One of the significant barriers for investment is the poor condition of assets. The lack of financial resources, the limited number of investments, and the absence of restructuring processes or reorganisation of municipal companies led to continuous depreciation of the water and wastewater infrastructure. The maintenance of current assets is underfinanced, resulting in frequent service interruptions that compromise the quality and reliability of public services.

Low performance of water utilities: High levels of indebtedness of operators from the main regions of the country and reduced capacity for operation of irrigation service providers limit the investment potential in the water sector. The high debt levels for regional operators are another barrier to attracting additional capital in the regions. The decline in the number of qualified personnel also adversely affects the capacity to address operational issues effectively.

Water policy goals for reformed water tax

Reforming the water tax should aim to accomplish the following:

- Ensuring access to quality and affordable water for all users;
- Avoid depletion of the resource by uncontrolled exploitation;
- Applying the “polluter pays” and “beneficiary pays” principles;
- Recognition of the economic value of water resources;
- Rational/economic and efficient use of water resources;
- Application of pollution prevention measures, adequate monetary compensation of damage to water resources and bodies;
- Contributing to a fuller cost recovery of water services (including resource and environmental costs, and water management costs).

Potential responses

Options for reform and recommended approach

Three scenarios for reform have been developed through national level consultation:

Scenario 1: urgent minimal improvements
In this scenario, changes would be limited just to:

- The planned reallocation of water tax revenues to share revenue between local and national authorities. This measure is planned already, and corresponds well to international experience;
- Improved collection efficiency largely as a result of limited improvements to water metering and reporting, and stronger enforcement.
- The banning of some groundwater (GW) uses will be considered (e.g. for commercial fish farming, or irrigation of water-intensive crops produced at a large scale), to avoid rapid depletion of GW reserves in areas or at times of water stress.

As tax rates will remain low under this scenario, it will be further devalued due to the lack of adjustment for inflation accumulated over recent years), this scenario is unlikely to significantly improve incentives for water use efficiency.

Scenario 2: a more substantial reform
In addition to the measures envisaged under Scenario 1 above, the government will clearly formulate and prioritise the water policy objectives (aligned with the *EU acquis)* that the water tax should support. This scenario also envisages: (i) revisiting the tax base, exemptions, and rates for some key water uses (e.g. hydropower; food & drinks industry; (ii) identification and introduction of mechanisms for better measuring the tax base and improving reporting; and (iii) mechanisms for improving the enforcement of special water use permits/authorisations, and further improving collection mechanisms to at least 95% of the amounts due.

Scenario 3: a fully-fledged reform of the water tax and related administrative instruments
The recommended approach is to reform the water tax in conjunction with other water and tax-related reforms, to accomplish the following:

- Clearly formulated policy objectives for the water tax, aligned with the *EU acquis*;
- Coherence between the water tax and the design and performance of other relevant administrative (i.e. requirements for special water use permits and accurate water metering & reporting) and economic instruments (i.e. taxation of irrigated land);
- Better differentiating tax rates and for establishing higher tax rates for some water uses where water adds much value, based upon current environmental and economic trends and priorities;
- Improved collection mechanism of the water tax - ideally jointly with collecting revenues generated by complementary EIs and revenues from taxes levied on other natural resources;
- Improving reporting on water tax amounts due and paid, by water users;
- Considering options for ear-marking water tax revenues (e.g. via an ear-marked budgetary find) for water policy objectives and priorities (including supporting regulation, water use permitting system, monitoring, implementation of metering programmes)

Challenges for implementation

The list of challenges include:

- Controlling (at affordable level) the costs of meter installation and then of meter reading, reporting and analysis, and financing the costs;
- Public awareness and acceptance of introducing a ban on some groundwater uses (such as for large scale irrigation, or commercial fish farming). To address the challenge, a public awareness campaign might be conducted to inform water users and the general public about the risk of depletion of GW resources, how diminishing the water table could result in much higher electricity costs to lift pump; and development of compelling case studies where this risk has already materialised (both in Moldova and abroad);
- Resistance to revising tax bases and introducing better differentiated tax rates – a broad communication of the results of the study on true economic value of water would help to address the challenge;

- Timely and effectively implement recommended dedicated studies, e.g. due to the lack of resources – development partners may help with this regard.

Expected benefits

Expected Fiscal, Economic, Environmental and Social impacts of the measures envisaged under Scenarios 1-3 include the following:

- **Fiscal impact:** increased (presumably, at least, doubled) water tax revenues **(**accounted for on cash basis) due to a fuller appropriation of the water rent, and fairer taxation;
- **Economic:** more efficient water use; more public funds used more effectively for water sector priorities, fairer environment for competition; and reduced chances of conflicting incentives and interests;
- **Environmental:** more water available for maintaining environmental flows, supporting biodiversity, resilience against drought and for allocation to other productive uses – both in Moldova and downstream;
- **Societal**: faster progress in developing water systems and improving the quality of water services to the benefit of the population; importantly: the proposed measures do not envisage breaking the affordability thresholds.

Ukraine

Reforming the water tariff

The challenge

Ukraine's approach to setting water and wastewater tariffs means that they do not cover operational costs, nor support investment needs.

Setting the scene

Although Ukraine's challenges with financing its water security began before Russia's large-scale invasion in 2022, the war has exacerbated them. Challenges include:

- Approximately 20 million people (pre-war) lack centralised wastewater collection and treatment services. Rural areas are particularly under-supplied;
- Infrastructure for water supply and wastewater collection is in poor condition – wastewater treatment facilities constructed in the 1970s and 1980s lack modern technologies, and capacity is insufficient for current demand;
- Water Supply and Sanitation (WSS) governance is fragmented, reducing co-ordination between national and local government;
- Many small utilities are owned and operated by local governments, who have trouble attracting funding, finding efficiencies, and conducting long-term planning;
- Water resources vary widely geographically as well as seasonally in Ukraine, and climate change will further exacerbate the situation. Climate-related risks, such as droughts and floods, are already causing substantial economic losses, and look likely to increase;
- Surface water quality is low, due to both point source and diffuse pollution (factories, mines, landfill, agricultural, untreated or inadequately treated sewage). Pollution of groundwater from industry and mining is also commonplace;
- Since the onset of Russia's war of aggression in February 2022, over 125 centralised sewage treatment facilities and 110 kilometres of sewerage networks have been destroyed.

How do tariffs currently work?

- Tariffs in Ukraine are one part of an overall system for financing water, which also includes taxes (fees for specific water uses, such as hydropower), payments (fees and penalties for damages, regulatory charges), and transfers (from both central budgets and from international donors);
- The National Energy and Utilities Regulatory Commission (NEURC) sets tariffs for large municipalities, covering approximately 74% of all users, while smaller municipalities set their tariffs directly;
- To ensure the transparency of the NEURC's decision on setting tariffs, licensees hold open discussions on the intention to adjust current tariffs, with drafts published online for public consultation;
- Tariffs are calculated through a "cost +" methodology. This involves summing the operational costs required to provide WSS and adding a margin ("plus") to provide a regulated return for the utility;
- The main components of the tariff structure are the costs of electricity; purchasing water from other water utilities; consumables including fuels, lubricants and reagents; repairs and materials; depreciation; remuneration; and expenses for servicing loans under agreements with international financial institutions.

Key issues

- Tariff levels are significantly below cost-recovery, contributing to a downward spiral of service and infrastructure. The long-term lack of capital investment and insufficient funds for operating costs have led to the current poor state of the networks;
- Investment needs are substantial and significantly exceed available resources, and the gap between needed and available finance continues to widen;
- Regulators recalculate tariffs on an annual basis based on pricing data from the previous year, lagging behind actual price increases, such as electricity costs. This additional unpredictability makes long-term planning challenging for utilities;
- Utilities lack economic incentives to improve efficiency of water distribution because water is insufficiently valued. This leads to a lack of interest in long-term planning for the development and modernisation of infrastructure, a lack of effort to reduce production costs, and lack of incentive to deploy innovations;
- Efficiencies are further discouraged by the use of the "cost plus" method for tariff calculation, according to which enterprises' profits represent a certain fixed percentage of their operating costs. Thus, the amount of the calculated profit does not actually depend on the efficiency of the enterprise;
- Migration of the population since the onset of Russia's war of aggression has left some infrastructure under utilised and some infrastructure over capacity. In both circumstances this increases costs of complexity of operating infrastructure and providing water and wastewater services.

What's holding back reform?

Enterprises delivering water and wastewater services face critical issues that hinder improvements and will reduce the effectiveness of tariff and subsidy reform. These include:

- The lack of performance indicators and evaluation of the results of production and financial activities of WSS enterprises;
- Insufficient asset management – over the last 20 years, most enterprises have not conducted an inventory of their assets, (except for the main assets in accounting for depreciation). Enterprises lack reliable information on the condition of fixed assets (pipes, valves, meters, wells, etc.) and lack a plan for their replacement and depreciation. This affects the level of water losses during transportation to the consumer;
- The share of non-revenue water is high, believed to be at an average volume of 50-60% across Ukraine;
- With operation becoming increasingly expensive, and the quality of service deteriorating, it is difficult to justify raising tariffs with no mechanism to improve service for water users.

Potential responses

Options for reform

Modernising and rebuilding Ukraine's water networks is vital to addressing the quality of services, non-revenue water, and driving the efficient use of resources.

Appropriately calibrated tariffs can both raise revenue for utilities for operational costs, ideally considering capital expenditures as well supporting policy objectives such as encouraging water efficiency. However, these goals also need to be balanced with affordability considerations.

Including a more ambitious investment component in a future tariff structure and identifying market instruments for financing development would help create the financial space for sustainable investment plans.

Three potential models for achieving this are:

- **Model one**: "business as usual" for calculating the investment component of the tariff (the "costs +" model). However, even if tariffs were increased significantly, this would never raise sufficient finance to bridge the investment gap;
- **Model two**: including an investment component in the tariff by accessing finance from domestic financial institutions. However, domestic finance typically offers limited access to finance and high interest rates;
- **Model three**: including an investment component in the tariff by involving international financial institutions (IFIs), which typically provide lower interest rates and more favourable repayment terms.

Analysis

OECD analysis showed that further research should be based on "model three" involving IFI loans. This model presents the most pragmatic approach to maintaining the affordability of the tariff while increasing the ability of utilities to undertake long-term planning for infrastructure maintenance, expansion and improvement.

This model shows the possibility of achieving Ukraine's strategic goal of updating water supply and sanitation assets over 30 years while maintaining the service affordability ratio (starting from 2% of household income and increasing it to 4%), provided that the upper limit of the investment component of the tariff is observed, which will be directed exclusively to the achievement of Ukraine's strategic water and environmental goals.

IFIs have demonstrated a readiness to finance investment projects in Ukraine, including water supply and sanitation, at a general interest rate of 5–7% per annum, with a preferential period and the possibility of receiving supporting grants.

IFIs have demonstrated a strong interest in rehabilitating and modernising Ukraine's water infrastructure. IFIs have already issued loans to specific utilities to finance service improvements, though challenges have arisen with repaying the loans based on the existing tariff-setting process. By modifying the tariff process with an investment component geared towards IFI loans, utilities can undertake long-term planning and system improvements, while maintaining affordability.

Recommendations – Short-term

In any national context, reforming tariffs for the WSS is a challenging and political process. WSS tariffs impact households and businesses in all sectors, and reforms can have unexpected consequences. The following recommendations can help ease the process:

- Consider reforming the tariff calculation approach to include the implementation of investment projects with IFI funds;
- Accompany tariff increases with targeted affordability support measures, as well as communication efforts to ensure that users understand why tariffs are increasing;
- Plan for direct state support through financing state and regional programmes, subventions, and expenditures for the development of the sector. This should prioritise programmes that are aligned with strategic priorities;
- Support investments in the water sector by providing water supply and sanitation enterprises with preferential loans and state (local) guarantees for these loans, as well as reviewing tax liabilities, providing tax benefits, etc. This should be linked to performance improvements.

Recommendations – Long-term

Enhancing the use of economic instruments is an opportunity for Ukraine as it looks towards EU membership and its alignment with the EU Green Deal and adherence to water related EU directives. A balanced tariff policy should be considered part of a broader approach to creating a coherent and consistent regulatory environment, providing transparency and stability to finance long-term water security. This is a complex task, requiring not just regulatory reforms but also strengthening the capacity of institutions. In the longer term, Ukraine should:

- Create a balanced combination of tariffs, taxes and transfers based on a strategy for WSS development that includes updates to direct and indirect subsidies to ensure alignment with overall goals for the water sector;
- Embed water supply and sanitation technical and economic regulation in an adequate and coherent institutional framework to have a positive impact on service provision. The development and use of performance incentives will reward high-performing utilities and promote innovation;
- Support investment in Ukraine's water sector more broadly by ensuring that the regulatory environment is transparent and predictable, and consistent with broader policy goals related to water security and economic development. Long-term planning linked to sustainable financing should become normal practice;
- Promote a whole-of-government approach to addressing the water sector's challenges including tackling pollution, expanding high-quality utility services and prioritisation of investments.

Conclusion

The instruments covered in these roadmaps represent national challenges and priorities, and are at different stages of implementation, performance and complexity. The recommendations proposed are based upon national-level consultations and reflect this diversity in status. For some instruments, there's a clear path to changing how a tariff is calculated or, for example, how much is charged for the resource, such as in abstraction charges. For others, the focus is on developing principles and an approach that can guide the critical work of policy development, stakeholder consultations, and implementation planning necessary for successful reforms. A key part of this will be determining the affordability challenges of water users and ensuring public awareness. What unites these roadmaps is a focus on understanding the challenges and ambitions of policymakers and providing practical and actionable guidance. Opportunities exist for regional peer-to-peer exchange and to benefit from a "Team Europe" approach, understanding good practice in EU Member States that accommodates the economic principles of the EU's Water Framework Directive.

Thanks to the European Union's vision and support, the OECD and its consortium partners have initiated a new programme, EU4Green Recovery East, running from 2025-2028. As part of this programme, the roadmaps included here will be consulted and developed into full action plans in close collaboration with relevant national actors, including representatives from civil society. While reforming these economic instruments is just one part of a broader approach towards water security in the EaP region, they are critical tools for strengthening the economic and financial dimensions of water management.

For more information:

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