



# **Economic models for water management and pricing in Europe: the case of Romania**

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**On behalf of Europa**

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## **1. GENERAL INTRODUCTION**

This document describes Romania's situation with regard to water management and pricing. It is part of a global project which includes the analysis of the situation in seven European countries (France, Ireland, the Netherlands, Germany, Spain, Latvia and Romania studied here) carried out with the aim of producing a publication for territorial decision-makers and whose subject is the following: "*The management of economic models and the pricing of drinking water services in the face of the need to save water*".

Romania has an area of 238,400 km<sup>2</sup>, with a population of 19,038,098 inhabitants and a moderate population density, 80 people per km<sup>2</sup>. The GDP per capita in 2021 is 12,510 €. Water demand from households, industry and agriculture has decreased significantly from 20.4 billion m<sup>3</sup> in 1990 to 6.49 billion m<sup>3</sup> in 2012 due to a reduction in industrial activity and water losses, and due to water-saving technological processes. The water withdrawn is first used to supply industries (4.35 billion m<sup>3</sup>), then for agricultural needs (1.09 billion m<sup>3</sup>) and domestic demand (1.05 billion m<sup>3</sup>). Drinking water is mainly provided by surface water (62%), which requires treatment unlike groundwater. The waters are polluted with nitrates mainly from agriculture, phosphorus and organic waste load mainly from domestic sewage discharges. In 2013, Romanians consumed an average of 136 liters per day and per inhabitant. (IAWD, 2015)

## **2. THE POLITICAL FRAMEWORK**

### **2.1 Institutional organization in Romania**

A member of the European Union since 2007, Romania has a centralized system at state level, in which the intermediate levels have little regulatory power over water services, whether it be the Development Regions (administrative level and statistics created in 1998 for the European structural policy), the Judete (departmental level relaying the central State and endowed with their own institutions since 1968) or the municipalities, towns and communes (territorial administrative units poor in their own resources, who perform current expenditure management tasks). (Hellier, 2018)

In Romania, water management is governed by transposed European directives. Nevertheless, concerns persist regarding its degree of preparation to achieve the objectives set out in these texts.

Romania's main water management objectives are:

- Directive 98/83/EC: Ensure compliance with drinking water quality parameters. The deadline is set at 2010 for agglomerations of more than 100,000 inhabitants, 2015 for agglomerations of less than 10,000 inhabitants and agglomerations between 10,000 and 100,000 inhabitants.

- Directive 91/271/EEC: Ensure the collection and treatment of urban waste water in agglomerations of more than 2,000 inhabitants (about 2,600 agglomerations fall into this category).

Sanitation and water management services are managed by local authorities. These also ensure citizens' access to water management services, through public service delegation contracts.

The water management sector is in the process of regionalization. The regionalization of water services has been designed and planned to overcome the excessive fragmentation of the sector and achieve economies of scale. From an institutional point of view, regionalization took place through the reorganization of existing public services held by municipalities.

This process consisted of concentrating the operation of the services provided to a group of municipalities within a geographical area defined in relation to a watershed and/or an administrative boundary (municipality, department). The aim was to create around 50 large operators by merging existing local utilities into regional operating companies (ROCs). These major regional operators are the public service operators of the Intermunicipal Development Associations (IDA), whose members are local authorities (municipalities and communities).

The National Regulatory Authority for Community Services and Public Utilities (ANRSC), placed under the authority of the Ministry of Public Administration, Regional Development and European Funds (MDRAPFE) is in charge of issuing licenses for water supply and sanitation services. The authority is also in charge of approving the tariffs collected for these services. (DG Trésor, 2017)

## 2.2 The institutional organization for the small water cycle

### 2.2.1 Policy and sector institutions

The water sector is controlled by national and river basin institutions with a clear line ministry (Figure 2), and includes:

- ❖ The Ministry of Environment and Sustainable Development, which is the line ministry responsible for the development of water management policies and strategies, and coordination with EU integration for water-related topics. water.
- ❖ The Ministry of Environment and Spatial Planning, which is the ministry responsible for developing and implementing water sector policy. It is responsible for regulatory benchmarking, financing investments and managing EU cohesion funds (MOP 2015a). It is also preparing specific water regulations.
- ❖ The National Administration "Romanian Waters", which includes 11 river basin authorities under the authority of the Ministry of Environment and Sustainable Development. They are responsible for implementing national policies and

strategies related to the qualitative and quantitative management of water resources.

- ❖ The National Utilities Regulatory Agency, created by law in 2006, is responsible for regulating utilities such as transport, lighting, waste and water. It draws up binding secondary regulations, in particular for setting tariffs. It also issues licenses and permits and monitors the quality of water service. It operates under the aegis of the Ministry of Regional Development and Public Administration.
- ❖ The Ministry of Health, which is responsible for controlling the quality of drinking water.

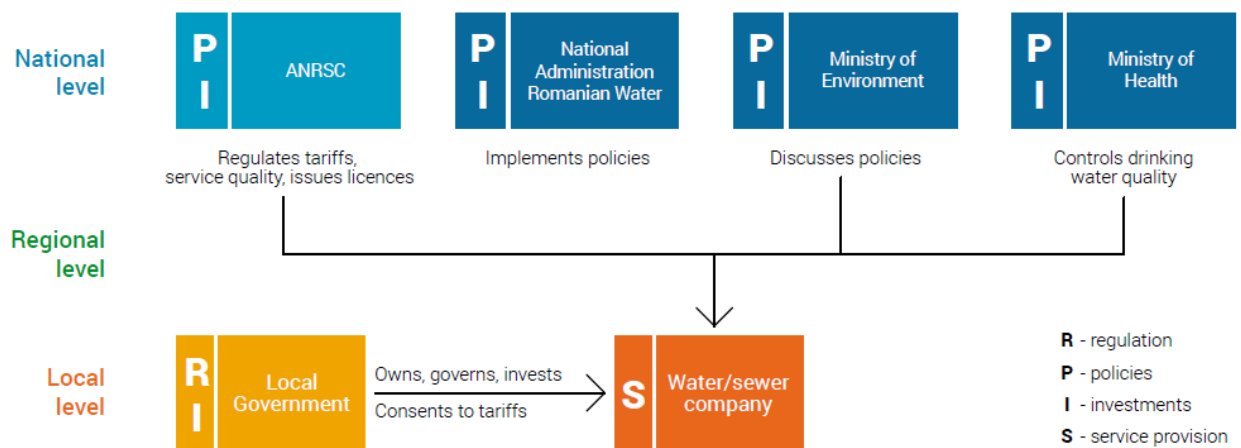


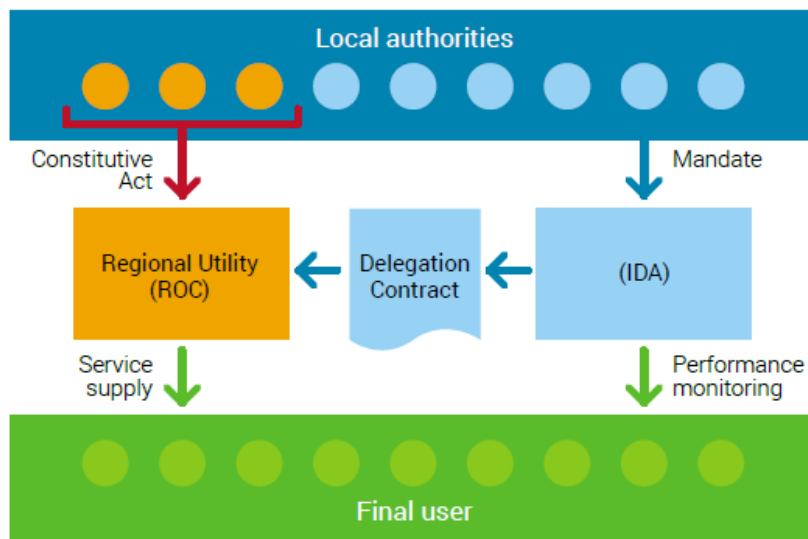
Figure 1: Organization of the water services sector. (WATER, 2015); Authors' elaboration

### 2.2.2 The public drinking water service

Public water supply and sewerage service is part of the sphere of community utilities. The water supply and sanitation service is established, organized and managed under the direction, coordination, control and responsibility of the public administration authorities.

To date, 43 regional operators (ROC) have been created under the regionalization strategy, which was part of the sectoral operational program 2007-2013 (ANRSC, 2022). Regional operators are public commercial companies, owned by local authorities. In order to facilitate regionalization, drinking water supply and waste water management services are delegated to these companies by cities and municipalities, which are organized into inter-municipal development associations.

Regionalization, which reorganized existing public services owned by municipalities, is based on three key institutional elements:



The Intercommunity Development Association (IDA) (notably providing oversight),  
The Regional Operating Company (ROC),  
And the Management Services Delegation Agreement.

Figure 2: Relation entre IDA et ROC - (WATER, 2015)

SOURCE: ANRSC 2015.

IDA is the sole interlocutor of the ROC, representing the common interests of its member municipalities in terms of water and sanitation services, particularly in terms of general strategy, investments and tariff policy.

The ROC is a commercial company, owned by the member municipalities of IDA, to which the management of the water and sanitation service is delegated through the Delegation Contract. The ROC is thus designated to manage, operate, maintain, modernize, renew and expand, if necessary, all the public assets designated in the contract. He collects invoices paid by customers, in accordance with the provisions of the contract.

The quantity of drinking water distributed throughout the country, at the end of 2021, was 797,885 thousand m<sup>3</sup>, which is 7,905 thousand m<sup>3</sup> more than in 2020. Of this quantity, the drinking water distributed domestic use was 606,096 thousand m<sup>3</sup>, or 76.0% of the total. In addition, in 2021, the simple length of the drinking water distribution network was 90352.4 km, which is 2.6% more than in 2020.(INSSE, 2022)

### 2.2.3 Private drinking water service

Two large municipal utilities ( Bucharest and Ploiesti), covering 9% of the population, have delegated the management of their water and sanitation services to private operators (water services are provided by subsidiaries of the Véolia group ) , for a period of 25 years. 182 other local municipal services serve 9% of the population. The rest of the inhabitants are self-managed: private wells, springs, etc. (38%).

### 2.2.4 The distribution of drinking water – example of SOMES Water Company

SOMES Water Company , established in 1892, is today one of the largest regional water supply and wastewater collection and treatment operators in Romania, serving around



three million people from eight municipalities and 199 rural localities spread over two neighboring counties in the northwest of Romania (9,500 km<sup>2</sup>). This through a drinking water network of more than 3,000 km, more than 1,500 km of sewer networks, 32 water sources and drinking water stations and 35 wastewater treatment stations. New localities are supported for operation every day.

The water company SOMES SA has attracted from 1997 to the present day four programs co-financed by the European Union for the modernization and expansion of water supply and sanitation/purification infrastructures with a total value of more than 330 million euros, of which approx. 75% represents non-refundable financing, but approx. 25% represents bank loans from international financial institutions (EBRD, EIB) which must be repaid.

### *2.2.5 Subsidies and programs put in place*

Following the example of SOMES WATER COMPANY, Romania has benefited and still benefits today from various programs from various sources in order to ensure the development of these drinking and waste water networks. Among these we can name:

#### *2.2.5.1 Egis*

##### **❖ Project Management for Satu Mare County Regional Water Supply and Sewerage Infrastructure Development**

On March 10, 2022, CCAT Solution Grup , leader of the consortium formed with Egis , signed a contract worth 2.6 million euros to support the implementation of a water supply infrastructure development project and sanitation in the county of Satu Mare, continuing the efforts of the regional water operator Apaserv Satu Mare SA to guarantee access to drinking water for human consumption in localities in the region, as well as to improve the collection and treatment of wastewater. The expertise of the CCAT - Egis partnership will be transposed into strategies for the regional water operator in order to control industrial water discharges, reduce water losses, better protect water resources and efficiently manage sludge generated by treatment plants.

The project for the development of regional infrastructure for water supply and wastewater treatment in the county of Satu Mare is a further step to align Romania with European standards for sustainable water resources, collection and efficient disposal of wastewater and reduction of water losses.(Egis, 2022)

##### **❖ Provide clean water and sanitation services to isolated communities.**

This project, extending from April 2015 to December 2023, aims to improve access to drinking water and wastewater management in northwestern Romania to reach European standards. The client is the regional water operator " Compania de Apa Somes SA". This regional water company is responsible for water supply and wastewater treatment infrastructure in expanding urban and rural communities in the counties of Cluj and Salaj , in

northwestern Romania. In Cluj and Salaj , the drinking water connection rate in 2016 was 79% (65% if we consider compliance with quality parameters). For wastewater, the connection rate was 91% for communities with populations over 10,000, but only 37% for small communities with populations between 2,000 and 10,000.

With this project, the future connection rate to the water supply in the designated area will be 95%, or 764,830 inhabitants. Also, 71,461 inhabitants will benefit for the first time from wastewater collection and treatment facilities. Finally, it will increase access to quality drinking water in the region by 40%, and more than 174 additional communities will benefit from improved sanitation services.

The project increases access to water supply and treatment services, with a positive impact on public health and well-being, improves resource use and reduces environmental impact. In addition, the project will improve the performance of the regional water company by strengthening the control and monitoring of infrastructure, which will contribute to regional development strategies.(Egis, s.d.)

#### *2.2.5.2 PO Environment: more than 100 projects have been financed in the water management sector*

On July 12, 2007, the European Commission approved the operational program of the European Regional Development Fund (ERDF) and the Cohesion Fund for Romania for the period 2007-2013, entitled "Operational Program Environment". The total budget of the program is around 5.6 billion euros and the Community intervention amounts to 4.5 billion euros (around 23% of the total amount invested by the EU in Romania within the framework of the cohesion for the period 2007-2013). In order to achieve the objectives of the operational program for the environment, it is planned to allocate Community and national funds to the implementation of the following priority axis: the extension and modernization of water supply systems and wastewater management

This priority addresses one of the main weaknesses of the water supply and wastewater management systems, characterized by the low rate of connection of communities to basic infrastructure (52%), the poor quality of drinking water and inadequate sewerage and treatment facilities in some areas. Likewise, it addresses the problem of the lack of efficiency of public water distribution services, mainly due to the large number of small operators, mostly carrying out other activities (public transport, district heating, local electricity, etc. ), as well as chronic lack of investment, poor management, lack of development strategies and long-term business plans, etc. (européenne, s.d.)

### *2.2.5.3 European funds allocated for the period 2014-2020 as the main source of investment in the water sector*

European funds are allocated to waste and water management projects under the Large Infrastructure Operational Program (LIOP), the total allocation of which is EUR 11.8 billion over the 2014-2020 period. water are allocated EUR 2.82 billion, and an additional EUR 20 million are allocated for the creation of a national laboratory for the assessment and improvement of water quality. Although significant funding is available for water treatment (European funds, national budget, local budgets), the World Bank estimates that there is a funding gap of EUR 7 billion between the available budgets and the investments needed in the prospect of achieving the objectives set out in the European directives. In this context, private investments, including in the form of PPPs, could accelerate the modernization of water treatment infrastructure. (DG Trésor, 2017)

### *2.2.5.4 European Investment Bank*

The European Investment Bank (EIB) will lend 12 million euros to the regional water company of the department of Alba in order to finance, together with funds from the cohesion policy, the modernization of water supply services drinking water and sanitation for the benefit of some 332,000 inhabitants of the department of Alba, in Romania.

This project, the cost of which should amount to 114 million euros in total, includes in particular the extension of the water supply network by 55 km as well as the renovation of main pipes (115 km) and two purification. In addition, the sewerage network in the region will be extended by 100 km. Finally, the investment will help renovate 49 pumping stations and build two new wastewater treatment plants. Rehabilitation of water mains and trunk sewers will reduce leakage and infiltration and increase the energy efficiency of the networks, thereby contributing to climate change mitigation. (Willis, 2019)

### *2.2.5.5 EU cohesion policy*

On 18/03/2022, the Commission approved an investment of over €70 million from the Cohesion Fund to improve water supply and wastewater treatment infrastructure in the Romanian counties of Sibiu and Braşov, in accordance with the Drinking Water Directive and the Urban Waste Water Directive. In total, 164 km of drinking water distribution network will be built and 100 km rehabilitated.(Commission, 2022)

## **2.3 Sanitation service**

Compared to 2020, the simple length of sewer lines in 2021 was 43964.1 km, 4.3% more. The total length of the sewer network at the end of 2021 was 43,964.1 km.

The length of the sanitation network has increased by 1795.8 km (respectively with 331.6 km in urban areas and 1464.2 km in rural areas). (INSSE, 2022)

In 2012, despite recent investments in water networks, only 49% of the population lived in dwellings connected to the wastewater disposal network and 48% lived in dwellings connected to treatment plants. The limited access to these services in rural areas, which represents 46% of the Romanian population, explains this situation. In addition, significant discrepancies persist at the territorial level, with the south and east of the country being insufficiently served by water supply and sanitation services.

In 2020, the water and sanitation service in Romania is equipped with 563 treatment plants, 40 plants with primary treatment, 298 plants with primary and secondary treatment, 225 plants with treatment more severe than secondary. (OiEau, 2020)

### *2.3.1 Wastewater treatments*

The degree of coverage of sanitation services remains below 50%, particularly in rural areas. For 2016, 15% of the wastewater load is collected. The compliance rate for secondary treatment is 9%, corresponding to 13 compliant agglomerations, and the compliance rate for more restrictive treatment is 9%, corresponding to 9 compliant agglomerations. However, in these measures, more than 1,000 agglomerations were not taken into account due to the transition period provided for in the accession treaty.

Romania's compliance rate is the second lowest in the EU. Nevertheless, the ongoing transition due to Romania's accession treaty, in most agglomerations does not allow the definition of a 100% representative rate.

## **2.4 The implementation of public water and sanitation services**

### *2.4.1 Management mode*

The legislative bodies of the administrative-territorial units have exclusive competence, which can also be exercised through the inter-municipal development associations whose object of activity is the water supply and sanitation service, in all matters relating to:

- Approval of local strategies for the creation, organization, management and operation of the water supply and sanitation service;
- Approve investment programs concerning the establishment, development, modernization and rehabilitation of the technical-municipal infrastructure related to the service;
- Approve the rules and specifications of the service;
- Determine the management method and approve the documentation relating to the organization and conduct of management delegation procedures;
- Approval of service performance indicators.

### *2.4.2 Monitoring and regulation*

The National Authority for the Regulation of Community Services of Public Utility - ANRSC is a public institution of national interest, endowed with legal personality, which reports to

the Ministry of Administration and the Interior and aims to regulate and control at level of centrality of activities in the field of community services of the public services falling within its remit. In accordance with the provisions of Law no. 51 din 2006, with subsequent amendments and additions, the ANRSC is the competent economic regulatory authority in particular for the following public services:

- Water supply ;
- Sewage and sewage treatment;
- Collection, sanitation and evacuation of rainwater;
- Sanitation of localities;

It is thus responsible for setting and reviewing tariffs for the water sector and handling customer complaints. Also, in 2013, the ANRSC was responsible for monitoring and controlling 2,558 operators providing 2,918 public services. (WATER, 2015)

## 2.5 Related legislation

The unitary legal framework concerning the establishment, organization, management, financing, operation, monitoring and control of the supply/regulated supply of the public water supply and sanitation service to localities is established in the Water Supply and Sanitation Services Act no. 241/2006, republished, with subsequent modifications and additions.

The provisions of this law apply to the public water and sanitation service organized at the level of municipalities, towns, municipalities, departments or, as the case may be, inter-municipal development companies whose purpose is water and sanitation.

Order of the President of the National Authority for the Regulation of Community Services of Public Utilities no. 230/2022 on the approval of the tariff adjustment methodology for the prices / tariffs of public water supply and sewerage services, based on the pricing strategy linked to the business plan.

Order of the President of the National Authority for the Regulation of Community Services of Public Utilities no. 231/2022 approving the Methodology for evaluating the implementation of pricing strategies developed in accordance with the Methodology for cost-benefit analysis of investments in hydraulic infrastructures, approved by Government Decision no. 677/2017

Government Emergency Ordinance no. 144 of 2021 for the modification and completion of the Water Supply and Sanitation Service Law no. 241 of 2006.

Water Supply and Sanitation Service Act no. 241 of 2006, republished, with subsequent modifications and additions.(GOV.RO, Législation, s.d.)

### 2.5.1 *Consequence of non-compliance with the law*

Non-compliance with the legislation in force leads to sanctions in the form of fines. Law no. 51/2006 of community services of public utility, republished, with subsequent modifications

and additions, establishes the offenses in the field of community services of public utility. We find in particular:

According to art. 47, constitutes the following acts in the field of public utility services and is sanctioned with a fine of 500 lei (101.39 €) to 1,000 lei (202.79 €):

- The refusal of users to allow the operator access to the measuring-recording devices, in order to carry out the control, to register the consumption or for the execution of maintenance and repair work;
- Non-compliance by users with the deadlines for the conclusion of the individual metering action at the apartment level;
- Connection to public utility networks without a supply/recovery agreement, respectively connection/connection notice issued by the operator;
- Use without a contract for the provision of public utility services; ...

The application of penalties for these offenses mainly falls under the Prevention Law no. 270/2017.

According to art. 47 , constitutes the following acts in the field of public utility services and is punishable by a fine of 10,000 lei (2,027.89€) to 20,000 lei (4,055.77€):

- The operator's refusal to allow users access to consumption recording devices, when they are installed in the installation under its management;
- The unjustified delay of operators in connecting new users, as well as the imposition of technically and economically inadequate connection solutions that do not comply with the normative acts in force and the regulations established by the competent national regulatory authorities... (GOV.RO, s.d.)

### **3. THE ECONOMIC MODEL OF WATER SERVICES:**

#### **3.1 Funding**

As an EU member state, Romania must achieve specific objectives regarding water management (drinking water quality, waste water collection). To do this, Romania has benefited from significant envelopes under the cohesion policy for the 2007-2013 programming.

Many water management infrastructure projects have been funded, but only part of these projects have been finalized. The degree of coverage of sanitation services remained below 50%, particularly in rural areas in 2013. For the period 2014-2020, more than EUR 3 billion in European funds have been mobilized to improve waste and water management and co-financing loans are granted by the EBRD ( European Bank for Reconstruction and Development ) and the EIB (European Investment Bank). However, in order to fulfill the objectives formulated in the European directives, private investments will also be necessary.

The financing of the operating costs necessary for the operation and operation of the service is ensured by collecting from users, on the basis of invoices issued by the operators, the counter-value of the services provided.

The prices and tariffs for the payment of the water and sanitation service are established, adjusted and modified on the basis of the descriptive sheets of the items of expenditure established according to the methodological standards drawn up by the ANRSC and approved by order of its president, respectively decree of the president of the ANRSC n°. . 65/2007.

When justifying prices and tariffs, operators can request a share corresponding to the losses justified by the technical condition of the water supply and sanitation networks. The level of this quota is set by the authorities of the local public administration, with the approval of the ANRSC

- The costs of water loss from the system will be calculated only in the case of the water transport and distribution activity.
- The water losses in the system represent the ratio or the difference between the water delivered and the water purchased.
- The value of water losses in the system is determined taking into account the price of purchased water and the amount of water lost.

#### *3.1.1 Financial Obligations of Water Supply and Sanitation Service Providers:*

- Presentation of declarations and payment of the contribution, in accordance with the Ordinance of the President of the ANRSC, no. 79/2017, with subsequent amendments and additions.

- Payment of the license maintenance fee, in accordance with the Order of the President of the ANRSC modifying the tariffs for granting and maintaining licenses/authorizations issued in the field of public utility services

### 3.2 Cost recovery

Revenues from water and sanitation services only cover their operating and maintenance costs. The average cost/income ratio for water utilities in Romania is 1.08, which has remained stable since 2009. Tariffs do not generate enough revenue to cover capital expenditures. More than 70% of capital expenditure is financed by EU funds and loans from international financial institutions (IFIs). Investment financing is supplemented by national budget funds on a first-come, first-served basis. (WATER, 2015)

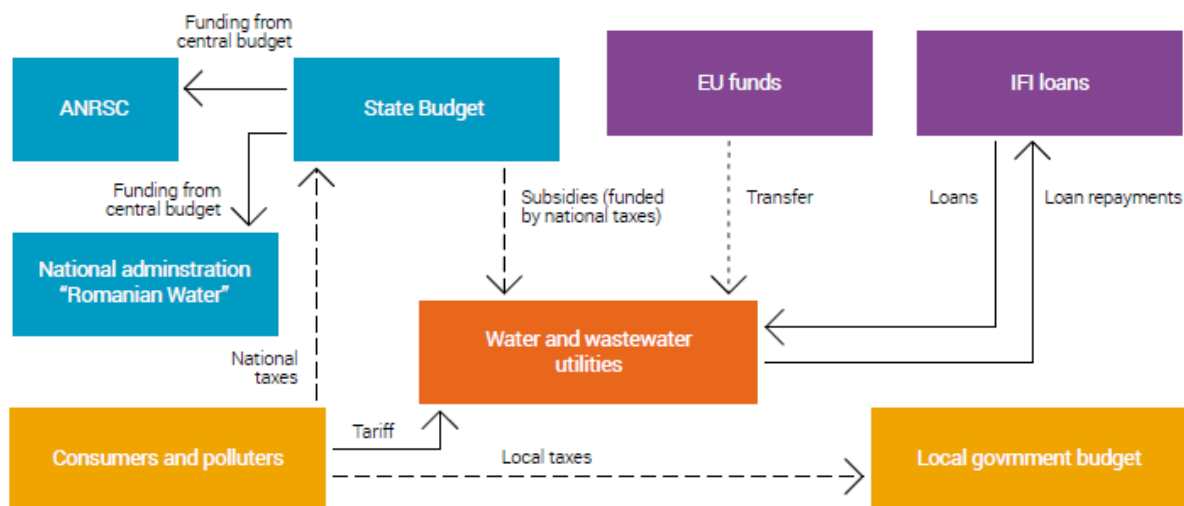


Figure 3: Main source of financing for water and sanitation services (WATER, 2015); authors' elaboration



## 4. PRINCIPLES OF WATER PRICING IN ROMANIA FOR HOUSEHOLDS

### 4.1 The rates

The general principle of adjusting prices and tariffs is defined in Law 51/2016. The calculation methodology is established by the competent regulatory authorities and the prices and tariffs are based on the principle of full cost recovery. Based on this principle, the regulatory authority establishes by decision the procedure for establishing, adjusting and modifying prices and tariffs. In the case of delegated private management, contracts set specific formulas or requirements. (OiEau, 2020)

The tariff strategy is drawn up by the administrative-territorial unit/intermunicipal development association for a minimum period of 5 years, is updated whenever necessary and is approved by decision of the deliberative authority of the administrative-territorial unit or, as the case may be, by decision of each administrative-territorial unit that is a member of the inter-municipal development association whose object of activity is the water supply and sanitation service.

The tariffs are based, in compliance with the calculation methodology established by the ANRSC, on production and operating costs, the amortization of investments made in tangible and intangible assets, environmental costs, reimbursement costs with bank loans, costs with delegation contract, and also includes a ratio for the development of resources and the modernization of networks and a rate of profit.

Once established, subsequent adjustments to the single price/tariff are approved by the ANRSC in accordance with the pricing strategy and the formulas provided for in the management delegation contract and/or in the co-financing agreements, appended to the delegation contract.

The pricing method is based on a purely volumetric approach with an annual adjustment in consideration of inflation.

In Romania, the average price is quite low; it is 6.22 lei/m<sup>3</sup>, or 1.26 €/m<sup>3</sup>, according to 2017 data from the National Agency for the Regulation of Water and Energy Services.

In addition, these prices can vary considerably:

- Drinking water service: from 4.89 lei/m<sup>3</sup> (0.99 €) to 7.17 lei/m<sup>3</sup> (1.45 €) excluding VAT
- Sanitation service: from 1.11 lei/m<sup>3</sup> (0.22 €) to 6.27 lei/m<sup>3</sup> (1.27 €) excluding VAT

It should be remembered that the price of water in Romania starts from very low levels for drinking water (0.28 €/m<sup>3</sup> in 2003 in Romania according to Cunha Marques, 2010), in a system marked by dependence on subsidies; tariffs and prices are then instruments of social policy and a lever against inflation.

In Romania, drinking water prices are established in accordance with Law 241 and Order 65 of the President of the ANRSC.

The price calculation method is indicated in the delegation contract between the delegator and the operator. If an operator wants an increase in the price charged, he must submit a document to the delegating party, who has fifteen days to approve the proposal or contest the calculation method. Ultimately, the delegating party's general meeting sets the price by order. (Hellier, 2018)

According to the ANRSC, with the example of the delegator (AJAC Asociatia Judeteana steep Apa si Canalizare ) and the operator ACET, the prices/tariffs approved by the general assembly of AJAC for regional operators in 2022 range from:

- 4.89 lei/m<sup>3</sup> (0.99€) excluding VAT for the supply of drinking water; 1.11 lei/m<sup>3</sup> (0.22 €) excluding VAT for waste water: for the operator SC EURO APAVOL SA Voluntari
- At 7.17 lei/m<sup>3</sup> (1.45 €) excluding VAT for the supply of drinking water; 6.27 lei/m<sup>3</sup> (1.27 €) excluding VAT for waste water: for the operator COMPANIA DE APĂ ARIEȘ SA Turda (ANRSC A. N., 2022)

#### *4.1.1 Rainwater tariffs*

Water from precipitation falling on users' property is collected in the public sewage system. The pricing of this service takes into account not only the take-up in the sewer system, but also the fact that, along with the waste water, it must be treated before being discharged into the environment.

A large part of the fee for the collection and treatment of wastewater and rainwater paid on user bills is represented precisely by the costs necessary for the complex process of their treatment.

According to article 215 of the framework regulation of the water supply and sanitation service, the quantity of rainwater taken in charge by the sanitation network is determined by multiplying the specific quantity of rainwater, communicated by the ANM (Regional Meteorological Center for Compania de apa SOMES SA) for the month preceding the issue of the invoice, with the total surfaces of the built and unbuilt premises, declared by each user and with the leakage coefficients recommended by SR 1846-1:2006. (S.A, s.d.)

## **4.2 Specific provisions concerning the prices/tariffs of the water supply and sanitation service**

Local authorities have the right to verify, approve or reject, in accordance with the law, without compromising the profitability, quality and efficiency of the service, the prices and tariffs offered by the operators, as well as to control their compliance with the methodological rules of the rules for establishing, adjusting and modifying prices and tariffs drawn up by the ANRSC and approved by order of its president.

Differences in prices and tariffs between local authorities and operators are settled by the competent courts.

Local public administration authorities have access to any information of public interest held by the ANRSC concerning the water and sanitation service, regardless of the form of management adopted for its implementation.

In the case of delegated management, in order to maintain the contractual balance, any subsidy granted to the water and sanitation service can only be approved if it determines a reduction in the tariff and/or an increase in the quality of the service. , corresponding to the grant awarded.

### 4.3 Costs borne by water utilities

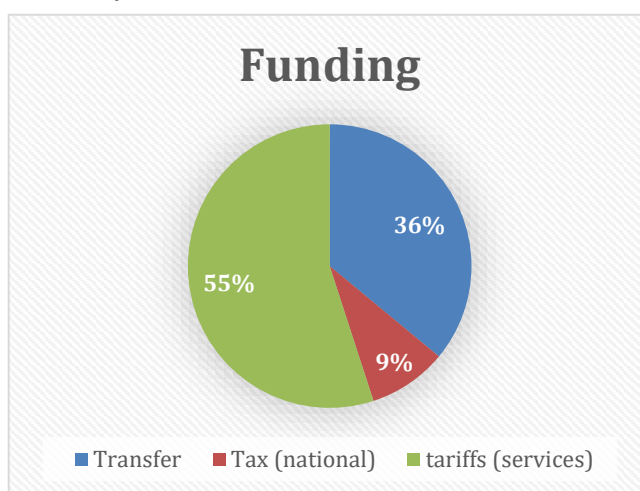
#### 4.3.1 Operating and investment costs

If investment projects in water supply and sanitation systems are developed with public funds provided, in whole or in part, from the state budget and / or non-reimbursable funds, the financing of the service is done by applying by the operator of the single price/tariff and the tariff strategy, which is based in accordance with the Methodology of cost-benefit analysis for investments in water infrastructures, approved by government decision ( GD no. 717/2017)

The tariffs cover operating and maintenance costs. In addition, tariffs represent more than half of the sources of funding for the sector. Water and sanitation services largely depend on transfers to finance their investments, which represent 49% of the sector's overall costs.

The main sources of funding for water and sanitation services use the OECD's three Ts methodology (tariffs, transfers and taxes).

*Figure 4: Financement global du secteur des services publics en 2011 (WATER, 2015) ; élaboration des auteurs*



#### 4.3.1.1 Needs

The annual investment effort per capita is expected to increase by 38% over the next 13 years. To comply with all EU standards relating to the water and wastewater sector (the Urban Wastewater Treatment Directive, the Drinking Water Directive and the Water

Framework Directive) , Romania should invest around 15 billion euros by 2027, or 62 euros per inhabitant and per year.

The annual investment per inhabitant is high, at €43. Romania has set ambitious investment targets for the water and wastewater sector in its sectoral operational program for the environment for 2007-2013. To meet the EU

#### *4.3.1.2 Evolution of prices*

Water and sanitation tariffs have increased significantly over the past decade. Between 2008 and 2013, the average tariffs for water and sanitation rose from €0.71 to €1.60 per m<sup>3</sup>. Annual inflation was 5.4%. Tariffs are expected to continue to rise due to the increased investment and operating costs needed to meet the requirements of the EU environmental acquis as well as for the reimbursement of bank loans from international financial institutions (EBRD, EIB).

#### **4.4 The elasticity of a household's water demand to the price of water**

A study on the price elasticity of water demand conducted at the level of the municipality of Cluj-Napoca came to a result of -0.70, which means a rather inelastic demand.

The effect of the tariff on water demand is small, mainly because water demand is also influenced by factors other than price, such as:

- The affordability of the tariff (see 5.1);
- The quality of services: considering that the tariff represents the counter-value not only of the water consumed but also of the associated market services offered by the company. Consumers can accept the price increase for better quality of services.
- Water is a commodity serving basic needs, so residential demand cannot decrease below a certain amount.

## **5. ACTIONS TO BE TAKEN**

### **5.1 Disputes and criticisms of the pricing system**

The affordability of water tariffs is already a problem for the majority of the Romanian population. The potential cost of water and sanitation consumes up to 5.3% of the average household income of those connected to a public water and sanitation service. This percentage varies from 8.3% for rural households to 6.4% for urban households. The potential cost for the few poorest households connected to the public water and sanitation service consumes nearly 14% of the average household income.

Upcoming investment efforts, which will be partly financed by EU funds and partly by tariff increases, could exacerbate the problem of affordability in the future.

The OECD estimates that EU member states will need to invest 253 billion euros between 2020 and 2030 in the wastewater sector to ensure and maintain compliance. Romania is the country that has been identified as the country with the highest investment needs. It must increase its investments by about 180%.

The investment needs to ensure adequate collection and treatment of urban waste water, i.e. compliance with the Directive, as estimated by national authorities and included in their national plan, amount to more than 7 billion euros.

Given the low levels of water pricing in the country, the high share of total expenditure accounted for by households (70%) is a symptom of public underspending.

General government tax revenues provide a small share (9%) of expenditure, allocated to regions on a first-come-first-served basis.

Public spending has relied almost entirely on transfers from the EU. There is ongoing and planned technical assistance from the EIB (JASPERS).

Moreover, the EBRD and the WB are strongly present in supporting the Romanian water sector.

European Commission support for sector reform includes: DG ENV and the OECD carried out an investment needs review (2018) and DG REFORM provided support for strengthening economic and environmental regulation in the water and wastewater sector (2019). (OiEau, 2020)

### **5.2 Avenues for a possible change in water pricing**

Completion of the regionalization of water services, as indicated in the sectoral operational programme, could contribute to improving the quality of and access to water and sanitation infrastructure for unserved populations, particularly in areas rural. Indeed, this

regionalization of water services was designed and planned to overcome the excessive fragmentation of the sector and achieve economies of scale: improved technical capacity, optimization of available resources, better planning of investments, etc.

It is probably necessary to give Romania time to continue the construction of the cooperation between the municipalities in progress within the framework of the overhaul of the managers, in order to be able to evaluate the evolution of its pricing system. Nevertheless, local political capacity is hampered by internal fragmentations (with difficulty of development in rural areas coupled with incomplete decentralization, making the situation more complex).