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Special Report

Implementing the Drinking Water Directive: water quality and access to it improved in Bulgaria, Hungary and Romania, but investment needs remain substantial

(pursuant to Article 287(4), second subparagraph, TFEU)

1977 - 2017

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The ECA's special reports set out the results of its audits of EU policies and programmes or management topics related to specific budgetary areas. The ECA selects and designs these audit tasks to be of maximum impact by considering the risks to performance or compliance, the level of income or spending involved, forthcoming developments and political and public interest.

This performance audit was produced by Audit Chamber II – headed by ECA Member Iliana Ivanova - which specialises in investment for cohesion, growth and inclusion spending areas. The audit was led by ECA Member George Pufan, supported by Patrick Weldon, Head of Private Office and Mircea Radulescu, Attaché; Alain Vansilliette and Myriam Cazzaniga, Principal Managers; Paolo Pesce, Head of Task; Zuzana Gullova, Zhivka Kalaydzhieva, Attila Horvay-Kovács and Ana Popescu, Auditors.

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ABBREVIATIONS AND GLOSSARY

Audit monitoring	The purpose of audit monitoring is to provide the information necessary to determine whether or not all of the Drinking Water Directive's parametric values are being complied with. All the parameters set in accordance with Annex I of the Drinking Water Directive are subject to audit monitoring.
Check monitoring	The purpose of check monitoring is to determine whether water intended for human consumption complies with the relevant parametric values laid down in the Drinking Water Directive. It provides, on a regular basis, information on the organoleptic (i.e. colour, odour, and feel of a substance) and microbiological quality of the water supplied for human consumption as well as on the effectiveness of drinking-water treatment (particularly of disinfection) where it is used. Only some parameters listed in the Drinking Water Directive are required to be included in the check monitoring.
Citizens' initiative	A European citizens' initiative is an invitation to the European Commission to propose legislation on matters where the EU has competence to legislate. A citizens' initiative has to be backed by at least one million EU citizens, coming from at least seven out of the 28 Member States. A minimum number of signatories is required in each of those seven Member States. The rules and procedures governing the citizens' initiative are set out in Regulation (EU) No 211/2011 of the European Parliament and of the Council of 16 February 2011 on the citizens' initiative (OJ L 65, 11.3.2011, p. 1).
Cohesion Fund (CF)	The Cohesion Fund aims at strengthening economic and social cohesion within the European Union by financing environment and transport projects in Member States with a per capita GNI of less than 90 % of the EU average.
Country-specific Recommendations (CSR)	Country-specific recommendations (CSR) are recommendations relating to structural challenges which it is appropriate to address through multiannual investments that fall directly within the scope of the ESI Funds as set out in the Fund-specific Regulations. They are adopted by the Commission in accordance with Article 121(2) and Article 148(4) of the Treaty on the Functioning of the European Union (TFEU).
Drinking Water Directive (DWD)	Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption (OJ L 330, 5.12.1998, p. 32).

Drinking water safety planning (DWSP)	The concept of DWSP was introduced by the World Health Organisation (WHO) in 2004. It consists of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer. Water operators and public health authorities should preferably develop a DWSP for each individual drinking water supply zone.
EU13	EU13 refers to the Member States who joined the EU in 2004 or later. These are: Bulgaria, the Czech Republic, Estonia, Croatia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovakia and Slovenia.
European Environment Agency (EEA)	The EEA is an agency of the European Union. It provides independent information on the environment for those involved in developing, adopting, implementing and evaluating environmental policy, and also for the general public. The EEA gathers data and produces assessments on a wide range of topics related to the environment.
European environment information and observation network (Eionet)	The Eionet is a partnership network of the European Environment Agency (EEA) and its members and cooperating countries. It consists of the EEA itself, six European Topic Centres (ETCs) and a network of around 1 000 experts from 39 countries in up to 400 national bodies dealing with environmental information. Through Eionet, the EEA coordinates the delivery of environmental data from individual countries.
European Regional Development Fund (ERDF)	The European Regional Development Fund aims at reinforcing economic and social cohesion within the European Union by redressing the main regional imbalances through financial support for the creation of infrastructure and productive job-creating investment, mainly for businesses.
Europe 2020 strategy	Europe 2020 strategy is the EU's 10-year jobs and growth strategy. It was launched in 2010 to create the conditions for smart, sustainable and inclusive growth. It includes five headline targets covering employment, research and development, climate and energy, education, social inclusion and poverty reduction. European Council of 17 June 2010, Conclusions further to COM(2010) 2020 final of 3 March 2010 "EUROPE 2020 A strategy for smart, sustainable and inclusive growth".
Ex ante conditionalities	Ex ante conditionalities are conditions, based on pre-defined criteria established in partnership agreements, which are regarded as necessary prerequisites for the effective and efficient use of Union support covered by those agreements. When preparing ERDF, CF and ESF OPs under the 2014-2020

	programme period, Member States have to assess whether these conditions are fulfilled. If they have not been fulfilled, action plans need to be prepared to ensure fulfilment by 31 December 2016.
Indicator parameter	Indicator parameters are a mixture of microbiological, chemical and radiological parameters providing information on treatment processes and the organoleptic quality of drinking water.
Joint Assistance to Support Projects in European Regions (JASPERS)	JASPERS is a technical assistance partnership between three partners (European Commission, European investment Bank and European Bank for Reconstruction and Development). It provides independent advice to beneficiary countries to help prepare high quality major projects to be co-financed by two EU Structural and Investment Funds (European Regional Development Fund and Cohesion Fund).
Large Water Supply Zones (LWSZ)	Large water supply zones are those supplying more than 1 000 m^3 of water a day as an average or serving more than 5 000 persons.
Major project	A project which comprises an economically indivisible series of works fulfilling a precise technical function, having clearly identified aims and whose total cost assessed when determining the contribution of the funds exceeds 50 million euro and is generally a large-scale infrastructure project in transport, environment or other sectors such as culture, education, energy or ICT. Commission approval is required at overall project level. For the 2014-2020 programme period, the threshold was raised to 75 million euro in the case of operations contributing to the thematic objective under point (7) of the first paragraph of Article 9 - “promoting sustainable transport and removing bottlenecks in key network infrastructures”.
Managing authority	A managing authority is a national, regional or local public authority (or any other public or private body), which has been designated by a Member State to manage an operational programme. Its tasks include selecting projects to be funded, monitoring how projects are implemented and reporting to the Commission on financial aspects and results achieved. The managing authority is also the body to impose financial corrections on beneficiaries following audits carried out by the Commission, European Court of Auditors or a relevant authority in a Member State.
Nonrevenue water	Nonrevenue water consists mainly of water leaking from the system before it reaches the end consumer (technical or physical losses), and of water consumed without being properly billed, for example, through illegal connections or improper metering of consumption (commercial or apparent losses).

	While the former unnecessarily increases production costs (because more water than necessary must be produced), the latter means foregone revenues. Nonrevenue water is normally estimated based on the establishment of a balance of water inflows and outflows in the system. For simplification purposes, in this report the term "water losses" will be used in place of "nonrevenue water".
Operational programme (OP)	An OP sets out a Member State's priorities and specific objectives and describes how funding (EU and national public and private co-financing) will be used during a given period (currently seven years) to finance projects. The projects within an OP must contribute to a certain number of objectives. OP funding may come from the ERDF, CF and/or ESF. The OP is prepared by the Member State and has to be approved by the Commission before any payments can be made from the EU budget. OPs can only be modified during the programme period if both parties agree.
Programme period	The multi-annual framework within which ERDF, ESF and CF expenditure is planned and implemented.
Regulatory Fitness and Performance Programme (REFIT)	Under REFIT, the Commission is screening the entire stock of EU legislation on an ongoing and systematic basis to identify burdens, inconsistencies and ineffective measures and identify corrective actions.
Small Water Supply Zones (SWSZ)	Small water supply zones are those supplying below 1 000 m^3 of water a day as an average or serving less than 5 000 persons.
TFEU	Treaty on the Functioning of the European Union.
Water supply zone (WSZ)	A supply zone is a geographically defined area within which water intended for human consumption comes from one or more sources and within which water quality may be considered as being approximately uniform.

ABOUT THIS REPORT

This report examines whether EU actions improved the quality of drinking water in Bulgaria, Hungary and Romania as required by the 1998 Drinking Water Directive.

Overall, we conclude that the situation has improved significantly. Nevertheless, there are still areas where citizens are supplied with water from the public supply network that is not fully in compliance with EU standards. Moreover, significant further national public and private funding will be needed to ensure access to good quality water to all citizens in these Member States and to ensure that EU-funded investments in water facilities can be adequately maintained.

Among other things, we recommend that several remaining issues are addressed in the context of the current revision of the Drinking Water Directive and that the sustainability of water infrastructure is ensured while safeguarding the affordability of the service.

EXECUTIVE SUMMARY

The Drinking Water Directive

I. Water is essential for life on our planet. Our ecosystems, society and economy all need clean fresh water in sufficient amounts to thrive. The protection of EU citizens' health through safe access to quality drinking water has been an element of EU policy for many years. Since 1975, the EU has adopted legislation on water that aims to protect consumers and water users, against harmful effects. A directive concerning standards for water intended for human consumption, the "Drinking Water Directive" (DWD), was adopted in 1980 and subsequently revised in 1998. This directive is currently under revision.

How we conducted our audit

II. Our audit assessed whether EU actions improved the safe access of citizens to quality drinking water in Bulgaria, Hungary and Romania. In particular, we examined whether the requirements of the Drinking Water Directive have been met; the examined ERDF/CF-funded projects improved the quality of drinking water and the access to its supply; and the revenues generated and the additional national public funding are adequate to ensure the maintenance and sustainability of the EU-funded investments in drinking water supply infrastructure.

III. The ERDF/CF funds for the management and supply of drinking water between 2007 and 2020 in these three Member States is 3.7 billion euro. The audit covered the period from the accession of the visited Member States to the EU until the end of 2016.

What we found

IV. Overall, we conclude that the citizens access to and supply of quality drinking water in Bulgaria, Hungary and Romania has improved. This is to a large extent due to the significant ERDF and CF-funded investments made in recent years. Nevertheless, there are still areas where citizens are supplied with water from the public supply network that is not fully in compliance with the EU standards set out in the 1998 Drinking Water Directive. Moreover, significant further national public and private investments are needed to ensure access to good quality water to all citizens in these Member States and to ensure that EU-funded investments in water facilities can be adequately maintained.

What we recommend

V. The Commission should:

(a) follow-up gaps in Member States' monitoring based on existing reporting and enforce the requirements of the Drinking Water Directive in this respect;

(b) in the context of the current revision of the Drinking Water Directive, address the following issues in a proportionate manner:

(b)1 improving the provision of information from Member States to the Commission about derogations concerning Small Water Supply Zones;

(b)2 the extension of the reporting requirements to Small Water Supply Zones;

(b)3 regular reporting ensuring that up-to-date information on the compliance with the Drinking Water Directive is collected from Member States. The Commission should consider options such as alternative IT tools (e.g. data harvesting from national administrations) to facilitate the reporting exercise, make it swifter and to ensure availability of up-to-date information;

(b)4 improving the requirements for the provision of adequate and up-to-date information on the quality of water intended for human consumption available to consumers;

(c) support Member States in promoting actions aiming at the reduction of water losses. This could be achieved, for example, by including water loss reduction in the scope of EU funding in the field of drinking water infrastructure, or by enhancing transparency on water losses.

VI. Member States should:

(a) require that plans to reach a certain level of reduction of water losses are included as selection criteria for all water facility projects that allow the meeting of national targets;

(b) ensure that water tariffs provide for the sustainability of water infrastructure, including its maintenance and renewal;

(c) consider, if necessary, granting financial or other forms of support to households for which the cost of water services are above the affordability rate while ensuring the full cost-recovery in the water tariffs structure.

INTRODUCTION

The EU Drinking Water directive

1. Water is essential for life on our planet. Our ecosystems, society and economy all need clean fresh water in sufficient amounts to thrive. The protection of EU citizens' health through safe access to quality drinking water has been an element of EU policy for many years. Since 1975, the EU has adopted legislation on water that aims to protect consumers and water users, against harmful effects. Ensuring high quality and safe supply to all Europeans is also an integral part of the EU's environmental policy[1].

2. A first directive, on the quality of drinking water in the Member States was adopted in 1975[2]. A further directive concerning standards for water intended for human consumption, is the "Drinking Water Directive" (DWD), which aims at protecting human health from the adverse effects of any contamination of water intended for human consumption (see ***Box 1***). It was adopted in 1980[3] and subsequently revised in 1998[4]. This directive is currently under revision.

Box 1 - The Drinking Water Directive

The DWD lays down quality standards for drinking water in the EU for 48 parameters which must be monitored and tested regularly by the Member States. The parameters are broken down into three categories:

- microbiological parameters (relevant for human health) which comprise mainly the parameters E. coli and enterococci;

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[1] European Environment Agency, http://www.eea.europa.eu.

[2] Council Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States (OJ L 194, 25.7.1975, p. 26).

[3] Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water intended for human consumption (OJ L 229, 30.8.1980, p. 11).

[4] Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption (OJ L 330, 5.12.1998, p. 32).

- chemical parameters (relevant for human health) which range from specific substances such as individual metals, individual organic compounds to generic substances such as pesticides and disinfection by-products;

- indicator parameters, providing information on treatment processes and the organoleptic (i.e. colour, odour, and feel of a substance) and aesthetic quality of drinking water, which are a mixture of microbiological, chemical and radiological parameters. A failure to meet an indicator parameter is a signal that there may be a problem with the supply that needs investigation and consideration as to whether or not human health is at risk.

3. The Directive provides for the possibility for Member States to temporarily depart from the required water quality standards by means of derogation. These derogations may last up to three years and may be extended twice (an additional three years for every extension).

Monitoring and reporting arrangements

4. Member States have an obligation to establish water supply zones and appropriate monitoring programmes in accordance with the minimum requirements set in the DWD[5]. The DWD distinguishes between:

- water supply zones supplying more than 1 000 m^3 of water a day as an average or serving more than 5 000 persons, commonly referred to as "large water supply zones" (LWSZ),

- water supply zones supplying less than 1 000 m3 of water a day as an average or serving less than 5 000 persons, commonly referred to as "small water supply zones" (SWSZ), and

- water supply zones providing less than 10 m^3 of water a day as an average or serving fewer than 50 persons, commonly referred to as "very small water supply zones".

5. In addition, the DWD requires that up-to-date information is available to consumers[6] and that Member States publish a report on the quality of water intended for human

[5] Article 7 and Annexes II and III of the DWD.

consumption every three years, covering the three years that have passed. These reports should be published within one calendar year of the end of the reporting period and should be sent to the Commission within two months of their publication.

6. The European Environment Agency (EEA) collects the data on the quality of water from Member States on behalf of the Commission via an online reporting tool[7]. The EEA is also responsible for the quality check of the information in the database and prepares national databases, which are verified by the Member States. Based on this data, the Commission publishes a synthesis report on the quality of water intended for human consumption in the Union as a whole within nine months of receiving the Member States' reports.

7. In this report, which is the main tool to detect non-compliance with the parametric values laid down in the DWD, each Member State should report on the quality of water in all LWSZ. Reporting on SWSZ is voluntary. Member States may exempt from the provisions of the DWD very small water supply zones, i.e. individual supplies providing less than 10 m^3 of water a day as an average or serving fewer than 50 persons.

The quality of drinking water in the EU

8. As part of the requirement of the DWD to assess drinking water quality, several million analyses are carried out annually across the Member States. For example, during the 2011-2013 reporting period, 4.1 million analyses were carried out on microbiological parameters, 7.1 million on chemical parameters and 17.5 million on indicator parameters (see ***Box 1***). If at least 99 % of all analyses done in a given year meet the given standard, the Member State is considered to be compliant with the parametric value laid down in the DWD.

9. In the case of indicator parameters, the fact that a standard is exceeded does not necessarily mean a non-compliance with the DWD because in most cases there is no direct threat to human health. Even though most indicator parameters do not pose a direct threat to human health, they might impact indirectly on water quality through the appearance,

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[6] Article 13 of the DWD.

[7] http://rod.eionet.europa.eu/obligations/171.

taste or odour of the water and hence influence the acceptability to the consumer. For example, the threshold set in the DWD for iron is 200 µg/l. With Iron concentration of 300 µg/l, water has a noticeable taste and becomes turbid and coloured. Consequently, this result is distasteful to consumers. The health-based value is 2 000 µg/l, therefore much higher than what is actually acceptable to consumers. Indicator parameters might also interfere with proper treatment. For example, the presence of organic matter might result in inadequate disinfection.

10. In general, drinking water quality in the EU is good[8]. In particular, the vast majority of large water supply zones (LWSZ) show high compliance with the microbiological and chemical parameters set in the DWD (see details in ***Table 1***). In addition, the overall compliance in the EU improved significantly compared to the 2008-2010 reporting period[9].

[8] COM(2016) 666 final of 20.10.2016 'Synthesis Report on the Quality of Drinking Water in the Union examining Member States' reports for the 2011-2013 period, foreseen under Article 13(5) of Directive 98/83/EC'.

[9] COM(2014) 363 final of 16.6.2014 'Synthesis Report on the Quality of Drinking Water in the Union examining Member States' reports for the 2008-2010 period, foreseen under Directive 98/83/EC'.

Table 1 - Member States[1] and compliance rate

	2008-2010	2011-2013
Overall compliance rate of Microbiological parameters		
> 99 %	23	27
95 % < X < 99 %	4	-
< 95 %	-	-
Overall compliance rate of Chemical parameters		
> 99 %	11	26
95 % < X < 99 %	11	1[2]
< 95 %	5	-
Overall compliance rate of Indicator parameters		
> 99 %	7	21
95 % < X < 99 %	10	5[3]
< 95 %	10	1[4]

1 Croatia, having joined the EU on 1 July 2013, was exempted from the 2011-2013 reporting process.

2 Hungary.

3 Denmark, Cyprus, Latvia, Hungary and Slovenia.

4 For indicator parameters, Malta reported a compliance rate of around 90 % because of very low compliance rates on chloride.

Source: ECA elaboration based on data published in Synthesis Reports on the Quality of Drinking Water in the Union.

11. Concerning SWSZ (which serve about 65 million people in the EU as a whole), the average compliance rate for the 2011-2013 reporting period was above 98 %[10]. This overall figure indicates progress compared to the 2008-2010 reporting period when, on average, only around 59 % of all SWSZ were in full compliance with DWD requirements[11]. For the 2008-2010 period, all Member States, except the Czech Republic, reported on SWSZ. For the 2011-2013 reporting period, however, only about half of the Member States (representing about 34.6 million consumers served by SWSZ) provided information. This is due to the fact that the reporting for SWSZ is not compulsory.

10 COM(2016) 666 final, p. 2.

11 Data extrapolated from the 2008-2010 fact sheets per Member State on Small Water Supply Zones, http://ec.europa.eu/environment/water/water-drink/reporting_en.html.

12. Shortcomings in the monitoring of SWSZs were also recognised in the 7th Environmental Action Programme (EAP), which called for increased efforts in the implementation of the DWD, in particular for SWSZ[12].

Losses in drinking water supply systems

13. An important issue affecting drinking water supply is the high rate of physical water loss. This is mainly due to leakages from distribution networks that have been poorly maintained or that need to be renewed. The percentage of water losses is calculated as the ratio between non-invoiced water and the total amount of water entering the supply network.

14. According to data published in 2014 referring to the 2008-2010 period, in about half of the Member States, more than 20 % of clean drinking water was lost in the distribution network before it could reach consumers' taps, while for some Member States the proportion was as high as 60 %[13]. For the 2011-2013 period, unlike for the previous period, neither the Synthesis Report nor the Member States' reports provided any information concerning water losses.

15. Reducing losses is important from an environmental perspective (resource savings) and fundamentally affects the performance of water utilities. The Europe 2020 strategy places a high focus on resource efficiency, and this implies increasing water resource efficiency with additional benefits of less energy use for treating and transporting water and reduced water bills and water losses[14]. Also the 7th Environmental Action Programme puts forward the need to increase efficiency by the renewal of infrastructures[15].

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[12] Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet', Priority Objective 3, point 54 (iii) (OJ L 354, 28.12.2013, p. 171).

[13] COM(2014) 363 final.

[14] European Council of 17 June 2010, Conclusions further to COM(2010) 2020 final of 3 March 2010 "EUROPE 2020, A strategy for smart, sustainable and inclusive growth".

[15] Decision No 1386/2013/EU, Priority Objective 2, point 41.

EU funding mainly through ERDF and CF

16. The main source of EU funding for water infrastructures are the European Structural and Investment Funds (ESIF). In particular, projects have been financed through the European Regional Development Fund (ERDF) and the Cohesion Fund (CF).

17. Many projects involving drinking water are carried out jointly with waste water projects[16]. During the 2007-2013 programme period, more than 7.3 billion euro was allocated to projects involving drinking water. Out of this, about 4 billion euro was dedicated to the EU13 Member States. For the 2014-2020 programme period, the total allocation to drinking water is about 4.7 billion euro, out of which about 3.4 billion euro is earmarked for the EU13 Member States (see ***Annex I***).

Access to drinking water

18. The availability of safe drinking water throughout the EU is high. However, there are still regions that do not provide citizens with access to water supply services. According to Eurostat data[17], the rate of population connected to public water supply differs significantly among Member States. Romania has the lowest rate with just 62 % of the population connected to the public water supply (see ***Figure 1***). ***Annex II*** provides background information on the sources of drinking water in the EU.

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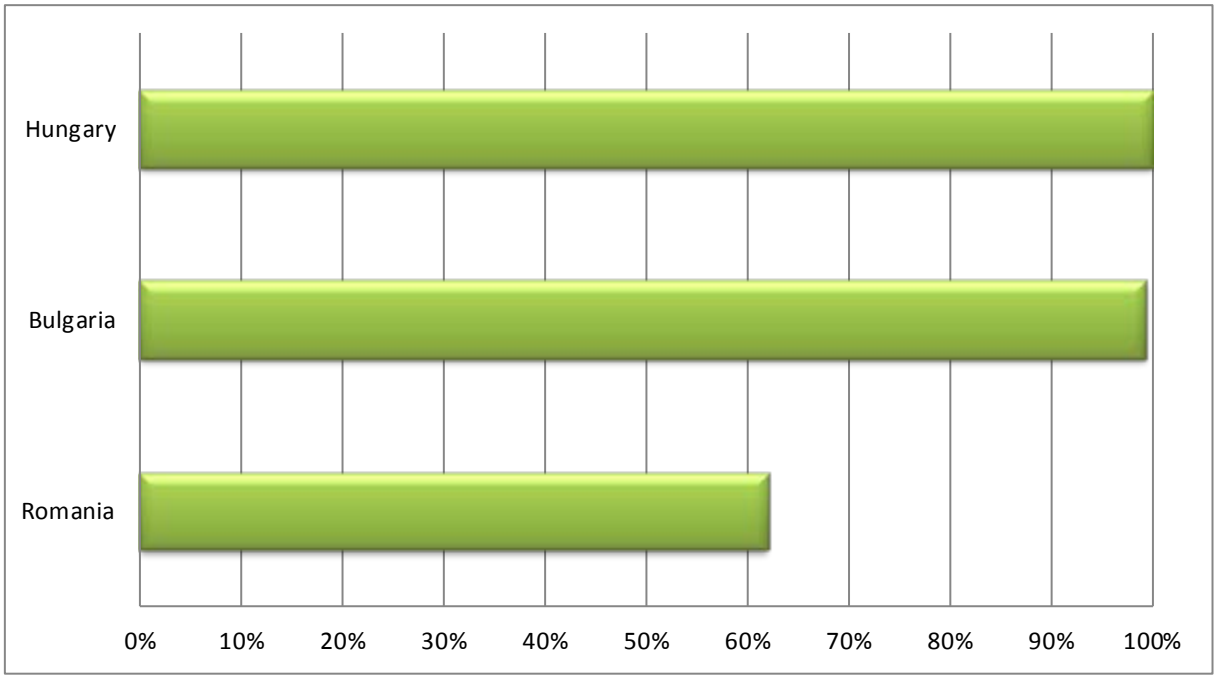
[16] The overall EU allocation for waste water projects during the 2007-2013 programme period was about 14.6 billion euro, out of which about 10 billion euro for the EU13 Member States. For 2014-2020 the allocation is about 10 billion euro, out of which 7 billion euro for the EU13 Member States.

[17] Eurostat - Population connected to public water supply, code ten00012.

Figure 1 - Rate of population connected to public water supply in 2013 in the visited Member States



Source: Eurostat.

19. In December 2013, the EU citizens' initiative "Right2Water" collected nearly 1.9 million signatures across all Member States. This initiative invited the Commission "[…] to propose legislation implementing the human right to water and sanitation, as recognized by the United Nations, and promoting the provision of water and sanitation as essential public services for all"[18]. In 2014, the Commission published its assessment of the support already provided by the EU for good quality drinking water and encouraged Member States to ensure access to a minimum water supply to all EU citizens[19].

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[18] http://www.right2water.eu/

[19] COM(2014) 177 final of 19.3.2014 Communication from the Commission on the European Citizens' Initiative "Water and sanitation are a human right! Water is a public good, not a commodity!".

Water tariffs

20. The principles to be applied in the setting of water tariffs, namely cost-recovery and affordability of water services, were set in the 2000 Water Framework Directive[20]. In practice, tariffs should at least cover operating and maintenance costs, as well as a significant part of the assets' depreciation to be able to contribute to the sustainability of the water infrastructures.

21. At the same time, water services must be socially affordable to customers. When determining the water tariff, Member States may take into consideration the social, environmental and economic effects in an effort to ensure that water services remain affordable. Commission guidance refers to 4 % of household income as a commonly accepted affordability ratio, i.e. the total water bill (drinking water and waste water) can represent 4 % of household income[21].

Previous ECA audits and other recent studies on water policy

22. In recent years, we have published several reports on water policy and EU investments in drinking and waste water infrastructure[22]. ***Annex II*** summarises their main conclusions.

23. In May 2015, the European Parliamentary Research Service published a report concerning the DWD[23].

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[20] Article 9 of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1).

[21] European Commission, "The new programming period 2007-2013 - Guidance on the methodology for carrying out cost-benefit analyses - working document No 4", 8/2006.

[22] Special Report No 9/2010 "Is EU Structural measures spending on the supply of water for domestic consumption used to best effect?"; Special Report No 4/2014 "Integration of EU water policy objectives with the CAP: a partial success"; Special Report No 2/2015 "EU-funding of urban waste water treatment plants in the Danube river basin: further efforts needed in helping Member States to achieve EU waste water policy objectives"; Special Report No 23/2015 "Water quality in the Danube river basin: progress in implementing the water framework directive but still some way to go"; and Special Report No 3/2016 "Combating eutrophication in the Baltic Sea: further and more effective action needed" (http://eca.europa.eu).

AUDIT SCOPE AND APPROACH

24. Through this audit, we assessed whether EU actions improved the safe access of citizens to quality drinking water in Bulgaria, Hungary and Romania. In particular, we examined whether:

- the requirements of the Drinking Water Directive have been met;
- the examined ERDF/CF-funded projects improved the quality of drinking water and the access to its supply;
- the revenues generated and the additional national public funding are adequate to ensure the maintenance and sustainability of the EU-funded investments in drinking water supply infrastructure.

25. We decided to focus on the EU13 Member States because in 2010 we already published a Special report covering the theme of drinking water in the 2000-2006 programme period, which focused on the EU15 Member States[24]. The selected Member States had been chosen mainly because of the amount of EU funds allocated to them between 2007 and 2020 (3.7 billion euro) which represent about 50 % of the total EU allocations to the management and supply of drinking water for the EU13 Member States (see ***Annex I***), the limited access to drinking water (in the case of Romania) and because of the high level of water losses reported during the 2008-2010 period.

26. The audit was based on evidence provided by the Commission and the visited Member States. In particular, it was carried out through:

- interviews with representatives of the Directorate-General for Environment and the Directorate-General for Regional and urban policy;
- an analytical review of relevant EU and national documentation;

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[23] EPRS, Water legislation, Cost of Non-Europe Report, May 2015.

[24] Special Report No 9/2010.

- interviews with representatives from the Ministry of Environment, Ministry of Health, Managing Authority, regulatory bodies, etc., of the selected Member States;

- visits and reviews of nine ERDF/CF projects (three in each of the three visited Member States), including project documentation such as applications, grant agreements, reports and other documents related to project implementation;

- interviews with water operators, project beneficiaries and managing authorities of the nine projects examined.

27. The ERDF/CF drinking water projects examined for this audit relate to all aspects of the infrastructure linked to the drinking water cycle. They encompass the creation or rehabilitation of catchments (see ***Picture 1***), treatment plants (see ***Picture 2***), storage and transmission through pipes (see ***Picture 3***) and pumping stations. Each of the selected projects was among the 20 projects having received the highest EU co-financing during the 2007-2013 programme period in each Member State. They were chosen to illustrate key aspects of the fulfilment of the DWD objectives and issues of access, losses and quality.

Picture 1 - Floating intake of water in Călăraşi (Romania)

Source: ECA.

<u>Picture 2</u> - Treatment machinery at the Bogyiszló treatment plant in Szekszárd (Hungary)

Source: ECA.

<u>Picture 3</u> - Excavation works in Veliko Tarnovo (Bulgaria)

©Managing Authority of the operational programme "Environment" in Bulgaria.

28. The audit covered the period from the accession of the visited Member States to the EU until the end of 2016.

OBSERVATIONS

The 1998 Drinking Water Directive had been implemented in most respects by the end of 2016

29. The European Union cannot achieve its policy goals if Member States do not apply EU law effectively on the ground. The Member States are responsible for accurately transposing directives into their national law within the timeframe required. In addition, they are also responsible for correctly applying and implementing the entire body of EU legislation[25]. The Commission has the responsibility for monitoring the Member States' efforts and ensuring compliance with EU law, including the resort to formal legal procedures[26].

30. The main EU legislation concerning the quality of drinking water is the DWD. Accordingly, we assessed whether:

- the visited Member States correctly transposed the DWD into national legal frameworks and fulfilled its requirements;
- adequate drinking water is available for all consumers in the visited Member States;
- the monitoring arrangements provide information on the implementation of the DWD;
- updated information on the quality of drinking water is available to consumers;
- the Commission regularly reviews the scientific and technical aspects of the DWD.

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[25] Article 291(1) of the Treaty on the Functioning of the European Union (TFEU).

[26] Article 17 of the Treaty on European Union (TEU).

National legislation in the Member States visited is in compliance with the requirements of the Drinking Water Directive

31. The effective transposition of the DWD into national legislation is a necessary step to ensure that drinking water satisfies a common safety level across the EU. From the date of accession[27], the Commission had to ensure that the national legislations complied with the provisions of EU framework laws, except in case of specific derogations granted in the accession treaties.

32. The Commission carries out conformity studies by comparing the EU obligations with the text of the relevant articles of national legislations to assess their compliance with the requirements of EU Directives. This was done in 2004 for Hungary and in 2007 for Bulgaria and Romania.

33. For the three Member States visited, the Commission identified that the national legislations did not comply in every respect with the DWD and therefore infringement procedures (see ***Box 2***) were launched in 2008 against Hungary and in 2009 against Bulgaria and Romania[28] (see ***Annex III***).

Box 2 – Infringement procedure

Where it detects a failure to comply with European Union law, the Commission may initiate a procedure for failure to fulfil an obligation provided for in Article 258 of the TFEU.

In the first stage of the procedure, the Commission sends the Member State a letter of formal notice inviting it to submit its observations within two months. This exchange of views is not normally publicised.

Where the observations submitted by the Member State fail to persuade the Commission to change its point of view or where the Member State fails to respond to the request, the Commission may issue a reasoned opinion, allowing the Member State an additional two-month period within which

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27 1st May 2004 for Hungary and 1st January 2007 for Bulgaria and Romania.

28 Infringement procedures 2008/2247 for Hungary, 2009/2259 for Bulgaria and 2009/2260 for Romania.

to comply. At this stage the Commission issues a press release informing the EU's citizens of the purpose of the procedure.

If the Member State fails to conform with European Union law, the Commission can take the case to the Court of Justice, whose judgment is binding.

If the Member State fails to comply with the Court's judgment, the Commission may, after sending a further letter of formal notice, bring the matter before the Court of Justice a second time, seeking the imposition of a lump sum or penalty payment under Article 260 of the TFEU.

34. As a result of infringement procedures, the three Member States amended their national legislation. Consequently, the cases were closed in 2009 for Hungary and in 2010 for Romania. For Bulgaria, because of the magnitude of the amendments, the Commission updated its conformity study in 2012 detecting further non-compliances, and therefore the infringement procedure was only closed in 2015. Our review showed that, overall, the national legislation in the three Member States visited currently complies with the requirements of the DWD.

Derogations from Drinking Water Directive granted in Hungary and Romania, but not in Bulgaria

35. Member States may provide for derogations from the parametric values, up to a maximum value to be determined by them, provided that no derogation constitutes a potential danger to human health and if the supply of water intended for human consumption in the area concerned cannot otherwise be maintained by any other reasonable means (see ***Box 3***).

Box 3 - Derogations - Article 9 of the DWD

Any derogation granted either by the Member States or the Commission should specify:

(a) the grounds for the derogation;

(b) the parameter concerned, previous relevant monitoring results, and the maximum permissible value under the derogation;

(c) the geographical area, the quantity of water supplied each day, the population concerned and whether or not any relevant food-production undertaking would be affected;

(d) an appropriate monitoring scheme, with an increased monitoring frequency where necessary;

(e) a summary of the plan for the necessary remedial action, including a timetable for the work and an estimate of the cost and provisions for reviewing;

(f) the required duration of the derogation.

36. These derogations should be limited to as short a time as possible and can last for a maximum of three years. If after this first period, issues leading to the derogation are persistent, Member States can extend the derogation for an additional period of up to three years, informing the Commission. In exceptional circumstances, a Member State may ask the Commission for a third derogation for a further period not exceeding three years.

37. Member States are required to inform the Commission within two months of any derogation concerning LWSZ. Derogations concerning SWSZ need only to be communicated as and from the second derogation.

38. In Hungary, at the end of the third derogation, lasting until the end of 2012, almost 80 % of the water supply zones under derogation (289 out of 365) were still not compliant with the Directive. Eventually, the measures taken by the Hungarian authorities to improve the situation in the zones under derogation started to deliver. In April 2016 there were 66 out of 365 WSZ that did not comply with the DWD. In the meantime, given the missed deadline, the Commission launched an infringement procedure against Hungary in May 2016.

39. Romania was also granted derogations in the accession treaty[29], which lasted either until the end of 2010 or until the end of 2015. Since accession, Romania has notified the Commission of seven subsequent derogations (i.e. second derogation) with deadlines between 2014 and 2018. But, according to the Romanian Ministry of Health, at the end of 2015 there were still 335 water supply zones, supplying water to approximatively 762 000 people (about 3.8 % of the total population of Romania), where the quality standards had

[29] Annex VII Chapter 9 Environment, part C - Water quality (OJ L 157, 21.6.2005, p. 166-171).

still not been completely achieved for some parameters. According to the Romanian authorities, further measures to ensure compliance with the DWD are planned in the 2014-2020 period through the operational programme "Large Infrastructures", the National Rural Development Programme (NRDP) and the National Programme for Local Development.

40. In Bulgaria, no derogations have been granted up to the time of this report. Nevertheless, according to the Bulgarian Ministry of Health, there are several areas of the country with compliance issues. The most serious ones are related to nitrate/nitrite and involve about 300 SWSZ. For about 150 of these, non-compliance is persistent and relates to agricultural practices[30]. As a consequence, it can be estimated that about 124 000 people, i.e. 1.7 % of the total population, is using drinking water which is not in full compliance with the requirements of the DWD.

41. Whether covered by a derogation or not, all three Member States have consumers who still do not have access to drinking water of an adequate quality. Member States are taking mitigating actions but sometimes these are late, as in the case of Hungary. In Romania such actions are currently being implemented but it is too early to judge as to their effectiveness.

Shortcomings in the Drinking Water Directive monitoring arrangements

Some Member States are late in reporting monitoring data

42. The three synthesis reports (see paragraphs 5 to 7) covering the years from 2002 to 2013 were published with an average delay of more than 17 months. ***Table 2*** shows the due dates and the actual publication dates of the synthesis reports covering the years from 2002 to 2013.

[30] For detailed information about pollution of water due to agricultural practices, refer to the Court's Special Reports No 23/2015 and No 3/2016.

Table 2 - Due dates and actual publication dates of the synthesis reports

Synthesis report	Date due	Date published	Delay
2002-2004	November 2006	December 2007	13 months
2005-2007	November 2009	December 2011	25 months
2008-2010	November 2012	June 2014	19 months
2011-2013	November 2015	October 2016	11 months

43. According to a study published in 2013[31], this was due to the complexity of the information to be provided by Member States (in terms of number of parameters and amount of detailed information) which led to incomplete and late contributions from Member States.

44. For the 2011-2013 reporting period, the majority of the Member States provided their data within the required deadline (February 2015)[32]. However, two Member States (Greece and Italy) necessitated up to six additional months to deliver their data, and one Member State, Hungary, only finalised its reporting in April 2016, i.e. more than a year later than required.

Member States visited have not complied with all monitoring obligations

45. The DWD allows the reduction or the removal of monitoring for certain parameters, especially indicator parameters. In general, a Member State may reduce the number of samples to be tested for certain parameters if:

(a) the results of samples tested during a period of at least two successive years are constant and significantly better than the limits, and

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31 Development of a Concept for the Future of Reporting under the Drinking Water Directive - critical analysis report, May 2013.

32 http://rod.eionet.europa.eu/obligations/171/deliveries.

(b) no factor is likely to cause a deterioration of the quality of the water beyond the point where the sample is taken[33].

46. With the transposition of the Commission Directive (EU) 2015/1787, Member States have the possibility of derogating from the parameters and sampling frequencies, provided that a risk assessment is performed[34] (see paragraphs 61 to 63).

47. The national legislations of the three Member States visited comply with the monitoring requirements of the DWD. However, we detected several non-compliances in the actual monitoring carried out. The tri-annual reporting provides the percentage of LWSZ that has been monitored for each parameter. In the 2011-2013 reporting, we noted that in all the three visited Member States, not all the parameters had been monitored in all the LWSZ, without any justifications or explanations about possible monitoring exceptions. For example, trace elements[35] were reported to be monitored on average in 81 % of the LWSZ in Bulgaria and Hungary and in only 41 % of the LSWZ in Romania.

48. This was also confirmed for some of the ERDF/CF projects examined where we noted that the monitoring was not carried out in accordance with the DWD. In particular, fewer parameters than required in the DWD were tested.

49. In Bulgaria, the issue of insufficient monitoring is recognised by the national authorities. As mentioned in the Bulgarian National report on Environment for 2012, most of the water operators, for some parameters (such as benzo(a)pyrene, antimony, mercury and polycyclic aromatic hydrocarbons) do not comply with the monitoring requirement of the DWD in terms of volume and frequency[36]. In addition, not all the large water supply zones were

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[33] Note 4 to Table B1 of the DWD. These provisions will be replaced by the new Annex II of the DWD as modified by Commission Directive (EU) 2015/1787 (OJ L 260, 7.10.2015, p. 6), which must be transposed by Member States at the latest by October 2017.

[34] Commission Directive (EU) 2015/1787 of 6 October 2015 amending Annexes II and III to Council Directive 98/83/EC on the quality of water intended for human consumption (OJ L 260, 7.10.2015, p. 6).

[35] Arsenic, boron, cadmium, chromium, copper, mercury, nickel, lead, antimony and selenium.

[36] On p. 102 of the Bulgarian National report on Environment for 2012.

monitored for all the parameters. The above-mentioned parameters were monitored on average in only 66 % of the LWSZ.

50. Moreover, according to preliminary data for 2014 and 2015, some parameters such as chromium, iron and enterococci were not monitored in all the SWSZ: iron was monitored in about 90 % of the SWSZ and chromium and enterococci in about 80 % of the SWSZ. As the population served by SWSZ in Bulgaria is about 1.7 million[37], this means that an estimated 330 000 people were served by SWSZ not tested for enterococci. At the same time, in the tested SWSZ the level of non-compliance was above 2 %.

51. According to the Bulgarian authorities, there is a lack of sufficient laboratory capacity: full checks of the samples can only be made in six of 28 Regional Health Inspectorates' laboratories and bromate can only be tested for in two of them. A procedure for improving the analysis capacity of Regional Health Inspectorates is ongoing under the 2014-2020 Operational Programme "Environment".

EEA checks on Member State reporting on compliance did not detect inconsistencies

52. The compliance monitoring data provided by Member States are verified by the EEA on behalf of the Commission. The desk verifications by the EEA do not include on-the-spot verifications and are therefore by definition limited in scope. There are also cases where plausibility checks could have allowed the EEA to detect inconsistencies in Member States' reporting:

- inaccuracies concerning the total number of analysis (and the consequent frequency of exceedance) for the parameter "coliform" in Romania (see ***Box 4***), and

- an error concerning the parameter "nitrites" in Bulgaria, which refers in reality to the parameter "nitrates".

[37] Overview of the drinking water quality in Bulgaria, reporting 2011-2013 under DWD, p. 12.

Box 4 - Example of inconsistencies in Member States' reporting on compliance with the DWD that could have been detected by the EEA

In the 2011-2013 reporting[38]:

- the total number of analyses reported for 2013 for the parameter coliform is 7 717[39] and
- the frequency of exceedance for this parameter is around 15.5 %.

However, the Annual report on the quality of drinking water for 2013[40] specifies correctly that:

- the total number of analyses for the parameter coliform in 2013 was 67 475 and therefore
- the correct frequency of exceedance was around 1.8 %.

As the total number of analyses reported for the parameter coliform for 2011 and 2012 was respectively 65 871 and 71 877, and the reported number for 2013 was only about one tenth of these numbers, this error could have been easily detected.

Moreover, also for several other parameters such as iron, manganese and colony count, the number of analysis reported in the Results of the reporting 2011-2013, and therefore also the frequency of exceedance, are different from those published in the Annual report for 2013.

Information on the fulfilment of monitoring requirements for Small Water Supply Zones is lacking

53. SWSZ provide drinking water to approximately 65 million people in the EU. Based on 2010 data, the Commission estimated that, in the EU as a whole, more than one third of SWSZ were not properly monitored or the drinking water supplied was not complying with

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38 Overview of the drinking water quality in Romania - Results of the reporting 2011-2013 under the Drinking Water Directive 98/83/EC.

39 Table 3-2.

40 *Calitatea apei distribuite în sistem centralizat în zonele cu peste 5000 de locuitori sau cu un volum de distribuţie de peste 1000mc/zi în anul 2013 (ZAP mari)* – Raport sintetic, published on the website of the National Centre for Monitoring Community Environment Risks.

all quality standards[41]. In 2010, for the three Member State visited, the percentage of SWSZ that were not properly monitored was high: 44 % in Romania, 60 % in Hungary and nearly 100 % in Bulgaria, as compared to the EU average of 27 %.

54. For the 2011-2013 reporting period, about half of the Member States provided information on SWSZ and reported an overall (all parameters included) compliance above 98 %[42]. The Commission followed-up compliance in SWSZ through a survey during the summer of 2016. 21 Member States replied to the survey and confirmed an overall compliance for microbiological indicators of 98 %.

55. However, according to the DWD, reporting on SWSZ is not mandatory. The Commission cannot check whether the monitoring takes place in accordance with the way it is reported and must assume that Member States report in good faith, in accordance with the principle for sincere cooperation[43].

56. Whether this is the case is however less clear and the Commission has taken a number of initiatives in recent years to incentivise Member States to properly monitor their SWSZ. In 2011, the Commission published a study concerning the implementation of a Risk Assessment for small water supplies[44]. Moreover, in 2014 the Commission issued a Guidance document including best practices for small supplies[45]. The outcomes of this guidance in terms of improved monitoring of SWSZ will only be visible once Member States send their data for the next reporting period (2014-2016), towards the beginning of 2018.

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41 http://ec.europa.eu/environment/water/water-drink/reporting_en.html and http://ec.europa.eu/environment/water/water-drink/small_supplies_en.html.

42 COM(2016) 666 final, p. 2.

43 Article 4.3 of the Treaty on European Union.

44 Towards a Guidance Document for the implementation of a risk-assessment for small water supplies in the European Union, Overview of best practices. November 2011.

45 Small drinking water supplies: a “Framework for action” to improve management - ISBN 978-92-79-44633-7 (http://ec.europa.eu/environment/water/water-drink/pdf/Small%20drinking%20water%20supplies.pdf).

Information to consumers on the quality of drinking water is not easily accessible

57. Member States are required to take the measures necessary to ensure that adequate and up-to-date information on the quality of water intended for human consumption is available to consumers[46]. In the three Member States visited, this requirement is correctly transposed in the national legislations.

58. We noted however that the Commission did not publish any guidance to Member States on how to meet the requirements of the DWD in this respect. A 2016 evaluation study found that practices in making such information available to customers differ significantly between Member States and even between water suppliers within a single Member State[47].

59. For the ERDF/CF projects examined, we found that the consumers do not always have easy access to such information, unless requested by the citizens themselves or in cases of accidents to the water network. In Hungary, information available to consumers in 2017 dates from 2014[48]. In one project in Bulgaria[49] and one in Romania[50], the available information to consumers was dated 2015. For another project in Romania[51], the information was not published at all, but only provided upon request. In this case, following the audit visit, the website of the water operator was updated and as of February 2017, data covering the year 2016 have been published.

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[46] Article 13 of the DWD.

[47] Study supporting the revision of the EU Drinking Water Directive, Evaluation Report, Ecorys, May 2016.

[48] In Hungary, the public is informed on the website of the National Public Health and Medical Officer Service ("ÁNTSZ") (www.antsz.hu) and on the website of the National Institute of Environmental Health ("OKI") (https://oki.antsz.hu). Websites consulted on 25 January 2017.

[49] Project BG161PO005-1.0.06-0073-C0001, Municipality of Panagyurishte.

[50] Project CCI 2007RO161PR003, Călăraşi county.

[51] Project CCI 2009RO161PR005, Constanța region.

A revision of the Drinking Water Directive has been included in the Commission Work programme for 2017

Commission reviews in 2003, 2008 and 2013 have resulted in a first revision of the DWD in October 2015

60. The Commission reviews the Annexes of the Directive in the light of scientific and technical progress at least every five years and must make proposals for amendments, where necessary[52]. The first review took place in 2003. In the context of that review, the Commission organised a consultation with representatives of Ministries of Health or Environment, water associations and research groups which highlighted that microbiological surveillance should be given more attention since consumers suffer more from infections than from intoxications.

61. In 2008, in the context of the second review, the Commission ordered an external study concerning possible revisions of the DWD[53]. This study recommended the inclusion of drinking water safety planning (DWSP) into the DWD. The concept of DWSP, introduced by the World Health Organisation (WHO) in 2004, consists of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer[54]. The study was updated in 2010 with a focus on DWSP. Following these two studies, in November 2010, the Commission concluded that a legislative revision of the DWD was not necessary at that time.

62. Starting from 2013, the Commission organised a series of meetings and workshops in relation to the implementation and possible revision of the DWD for the third review[55].

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[52] Article 11 of the DWD.

[53] European Commission DG Environment, "Impact Assessment of possible Revisions to the Drinking Water Directive. Final report", September 2008.

[54] World Health Organisation, Guidelines for Drinking-water Quality, third edition, 2004 (www.who.int).

[55] Informal expert group on the implementation of Directive 98/83/EC (Drinking Water Directive).

Based on this third review the Commission decided to revise the text of Annexes II and III of the DWD.

63. The Directive revising Annexes II and III of the DWD was adopted in October 2015 and Member States need to transpose it into national legislation within a period of 24 months[56]. The new Annex II provides an option to perform drinking water monitoring in a more flexible way, provided a risk assessment is performed following the principle of the water safety plan approach laid down in the WHO Guidelines for Drinking Water Quality. This will allow focusing monitoring resources where they are most needed and, when the outcome of the risk assessment permits, a reduction of monitoring can be considered. The new Annex III provides for revised specifications for the analysis of parameters.

The Commission has identified the need for a further revision of the DWD to address additional shortcomings

64. In December 2014, following the European Citizens' Initiative *Right2Water* (see paragraph 19), and in the context of the regulatory fitness (REFIT) programme, the Commission launched a study on the DWD. This study aimed at supporting an evaluation of whether the DWD needed to be revised, and was published in May 2016[57].

65. On the basis of this study, the Commission adopted in December 2016 a Staff working document which concluded that the DWD fulfilled its objectives of contributing to the protection of human health[58]. In parallel, it also identifies several areas for improvement, notably the need to:

- revise the parameters, to better consider safety planning and risk-based approach;
- reinforce the provisions in the DWD to ensure the availability of up-to-date information to consumers; and

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[56] Commission Directive (EU) 2015/1787.

[57] Study supporting the revision of the EU Drinking Water Directive, Evaluation Report, Ecorys, May 2016.

[58] SWD(2016) 428 final, "Refit Evaluation of the Drinking Water Directive 98/83/EC".

- tackle the issue of materials in contact with drinking water.

66. In November 2015, the Commission launched a study on materials in contact with drinking water which was published in March 2017[59]. Currently, an impact assessment is being carried out, which is also planned to be published by the end of 2017. It will assist the Commission in its revision of the DWD, which has been included in the Commission Work programme for 2017[60].

67. In addition, in December 2015, the Commission has launched the "Drinking Water Parameter Cooperation Project", implemented by the WHO Regional Office for Europe. The 18 month project will review and evaluate the latest evidence available in order to have a basis for proposing a revised list of parameters to be included in Annex I of the revised DWD[61].

All ERDF/CF projects examined improved drinking water in the areas concerned, but water losses remain a common problem

68. We examined nine ERDF/CF projects during this audit, three in each of the Member States visited, to assess the contribution provided by EU funded projects to the fulfilment of the DWD objectives. ***Figure 2*** provides an overview of the examined projects. Additional information on each project is available in ***Annex V***.

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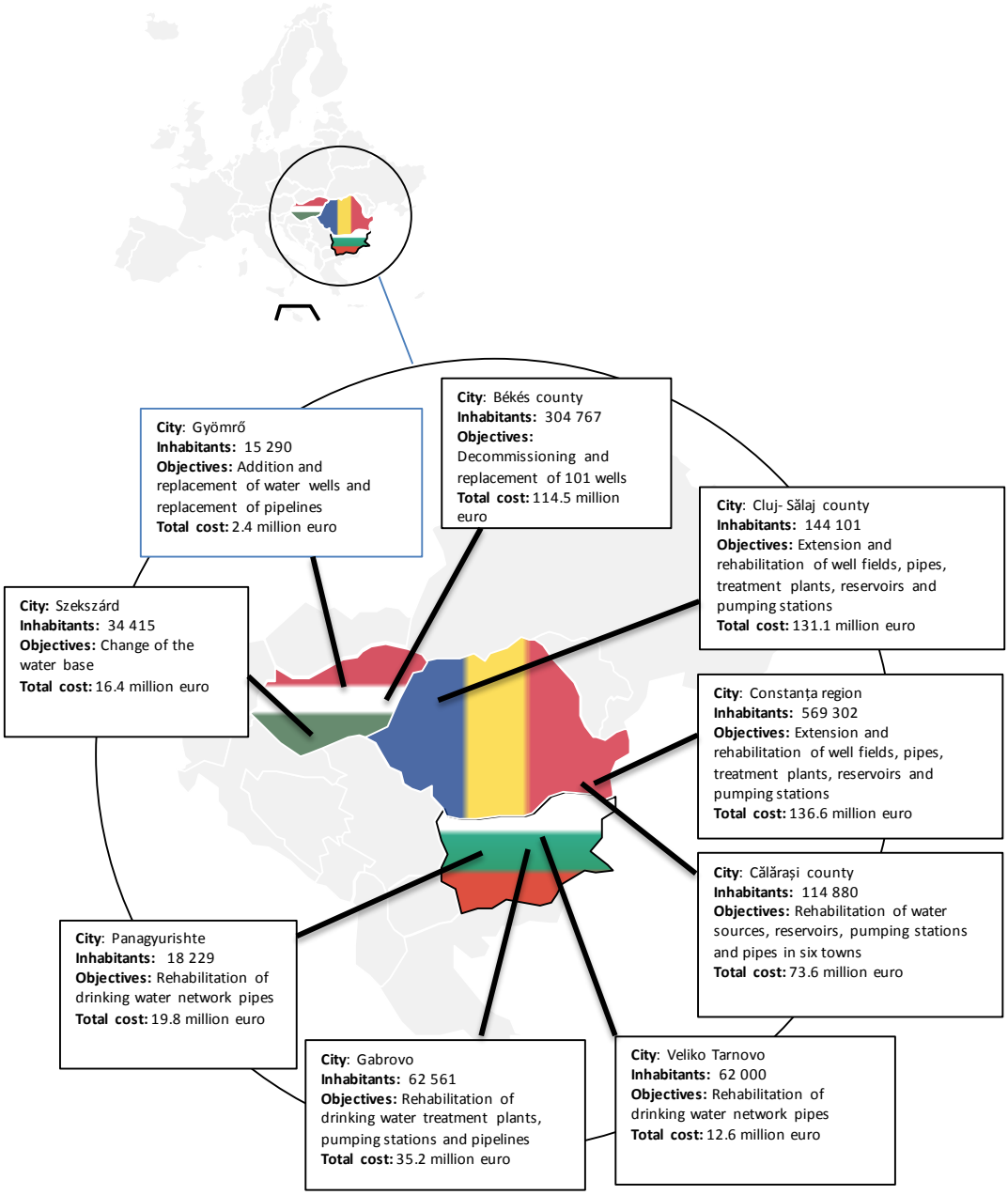
[59] Support to the implementation and further development of the Drinking Water Directive (98/83/EC): Study on materials in contact with drinking water, March 2017.

[60] COM(2016) 710 final of 25.10.2016 "Commission Work Programme 2017 - Delivering a Europe that protects, empowers and defends".

[61] Information note, WHO Regional office for Europe, CIRCABC.

Figure 2 - Overview of projects examined



Source: ECA.

69. For these projects, we checked whether they were suitable options for improving access to good quality drinking water or for reducing water losses. Our assessment has been based on:

- a review of project documentation such as applications, grant agreements, final reports, laboratory protocols and other documents related to the project implementation; and

- interviews with water operators, project beneficiaries and managing authorities.

70. Project beneficiaries were municipalities or associations of municipalities or counties. All the projects in Bulgaria and Romania were mixed projects: in addition to drinking water, they also addressed issues concerning waste water, which was also a priority in both countries.

71. Five of the nine projects examined were major projects. For these five projects, JASPERS[62] (the common technical service established between the Commission, the European investment Bank and European Bank for Reconstruction and Development) was involved in the project preparation and provided independent advice to help the beneficiaries and the competent national administrations.

72. For all projects examined we found that the situation before their implementation, including information on the quality of water, the population connected and the status of the supply network (such as the age of the infrastructure and the percentage of water losses), had been properly assessed and described in the grant application.

Overall, the completed ERDF/CF projects examined achieved most of their objectives, but were sometimes delayed

Projects' achievements

73. We checked the targets and indicators set for the completed ERDF/CF projects examined. We concluded that they achieved their main objectives of improving the water quality, increasing access to drinking water or of reducing water losses as set out in their respective cost-benefit analyses, feasibility studies, grant agreements or project applications (see ***Table 3***).

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[62] JASPERS is a technical assistance partnership between three partners (the European Commission, the European investment Bank and the European Bank for Reconstruction and Development). It provides independent advice to beneficiary countries to help prepare high quality major projects to be co-financed by two EU Structural and Investment Funds (the European Regional Development Fund and the Cohesion Fund).

Table 3 - Main objectives of the ERDF/CF projects examined

Member State	Main objectives addressed by the projects examined	Main activities related to drinking water
Bulgaria	Improve water quality Reduce water losses	Reconstruction of a water treatment plant and pumping stations (major project) and replacement of old pipelines.
Hungary	Improve water quality	Rehabilitation of the water distribution network and development of new pumping stations, construction of a connection system between the existing distribution network and the new water production systems, construction of new wells to exploit new water bases and construction of new water treatment plants.
Romania	Improve water quality Increase access to drinking water Reduce water losses	Rehabilitation and construction of water treatment plants, construction of water wells and reservoirs, extension and rehabilitation of the distribution network.

74. In Bulgaria, the treatment plant and pumping stations for the major project in Gabrovo were reconstructed (see ***Picture 4***). Moreover, for all three projects, the network pipes were rehabilitated and operational permits were obtained.

Picture 4 - Water treatment plant in Gabrovo (Bulgaria)

©Managing Authority of the operational programme “Environment” in Bulgaria.

75. In the case of Hungary, the results of the test runs showed an improvement in water quality for all three projects examined. However, two projects (Békés and Szekszárd) were not yet in operation at the time of the audit visit. Moreover, for one of the projects (Szekszárd) further investments will be needed for ensuring long-term compliance with the DWD. This was due to poor planning (see ***Box 5***).

Box 5 - Additional investments needed for one CF project in Hungary (Szekszárd)

The very low level of the Danube in recent years (medium water level of 124 cm in 2015 versus 150-250 cm in previous years) resulted in higher than normal concentrations of Iron and Manganese in raw water. This led to non-compliant samples for the parameter manganese and the concentration of iron close to the threshold in the drinking water provided. To ensure long-term compliance, the need for additional iron and manganese removal capacity emerged, which will be co-financed by the EU during the 2014-2020 period, through a project of HUF 876 million (2.8 million euro).

However, the water level in the Danube, which, according to the project operator led to this situation, is not uncommon and the additional investment could have been anticipated. Similar low levels had been already registered in 2003 and 2011[63].

[63] Hungarian Hydrological Forecasting Service (http://www.hydroinfo.hu).

<u>Picture 5</u> - Well providing bank filtered water from the Danube, Hungary

Source: ECA.

76. In the case of Romania, of the three projects examined, the project in Cluj and Sălaj counties, which had the objectives of improving drinking water treatment and distribution, achieved its objectives and the one in Călăraşi only partially achieved them (see ***<u>Box 6</u>***).

Box 6 - Partial achievement of objectives in a Romanian project (Călăraşi)

One of the objectives of the projects was to reduce water losses to 19 %. The target for the performance indicator "Physical water losses" was not achieved due to an underestimation of the water losses before the project. In fact, the estimates (34 %) referred only to water losses in the distribution network, and were based on 2006-2007 data when the metering system for water catchment, pumping and distribution was not in place and when not all the customers were metered.

At project completion (July 2016), water losses were reported to be around 56 %. At the end of 2016 water losses were reduced to less than 51 %. The value reported after the project represents the water losses in the whole water system, including abstraction and treatment. In addition, a second cause for the high value of water losses reported in the final report is the fact that a works contract, which was supposed to finish in March 2013, was concluded only in June 2016 because of insolvency of the company that was originally awarded the contract.

Concerning the objective of improving drinking water quality, the results of the tests done after the project's implementation showed that the quality of water met the required standard in all but one of the municipalities (Lehliu), where, in 2015, the analyses for free residual chlorine and for ammonium reported values above the thresholds respectively in more than 9 % and nearly 17 % of the cases. According to the project beneficiary, these parameters have been exceeded during the summer (July, August), when the quantities of water treated for human consumption reached the plant's maximum capacity and the pre-treatment dose for chlorine was not sufficient.

77. The third project, in the Constanța region, also achieved its output indicators concerning the rehabilitation or construction of the physical infrastructure[64], but the fulfilment of the performance objectives will only be able to be verified when the part of the works funded under the 2014-2020 period will be completed in 2019 (see paragraph 79).

Picture 6 - Laboratory analyses in Călăraşi (Romania)

Source: ECA.

[64] Km of transmission and distribution pipes, rehabilitation or construction of wells, reservoirs, pumping stations and chlorination and treatment plants.

78. The project beneficiaries in Bulgaria were required to report at completion stage to their managing authorities on outputs and financial implementation of the projects, but not on project impacts. For example, water losses and disruption of service were the main problems concerning drinking water that the projects in Bulgaria were planned to solve. Nevertheless, there were no specific indicators concerning these two aspects in the grant agreements. Our audit could however confirm that all ERDF/CF projects examined contributed to a reduction of water losses and of service disruptions.

Delays in the implementation of the projects

79. All the projects examined in Hungary and Romania finished later than planned. The Hungarian projects ended with a delay between six and eight months compared to the timeframe stipulated in the initial grant agreements. Two of three Romanian projects had a delay of more than 30 months. The third project, which was supposed to end in November 2015, was extended to the 2014-2020 programme period because of the insolvency of the entrepreneur and the forecasted completion date is now the end of 2019. The situation was appreciably better in Bulgaria where two of the projects were completed with a small delay of three months and the third one was finished on time.

Financial implementation of the projects

80. In Hungary, only one of the projects examined respected the initial cost estimates. For the other two projects examined (Békés and Szekszárd), final costs were more than 20 % and 9 % higher than the total costs set in the grant agreement. In both cases, following a public procurement procedure, the increases were related to higher than estimated costs of construction. The managing authority accepted these cost increases and amended several times the grant agreement. This also led to corresponding increases in the EU funding.

81. On the other hand, for the projects examined in Bulgaria and Romania, the final costs were significantly lower (between 19 % and 33 %) than the amount budgeted in the grant agreement. This was mainly due to savings in the public procurement procedures. In the case of one major project in Bulgaria (Gabrovo) the cost reduction resulted also from the revision of the scope of the project (see ***Box 7***).

Box 7 - Cost reduction in a major project in Bulgaria (Gabrovo)

The cost-benefit analysis, annexed to the project application, incorrectly assumed an increase in water consumption which would follow an increase of the population. In fact, however, the population decreased. Based on this incorrect assumption, the volumes of water needed, as well as the required investment for the water treatment plant were over-estimated in the proposal. During the implementation of the project, the project planning was adjusted to a more realistic demographic scenario and water consumption. This, along with savings from the public procurement procedures, resulted in a cost reduction of 33 %.

Losses in the drinking water supply system are still high

82. Water losses consist mainly of water leaking from the system before it reaches the end consumer (technical or physical losses), and of water consumed without being properly billed, for example, through illegal connections or improper metering of consumption (commercial or apparent losses)[65]. While the former unnecessarily increases production costs (because more water than necessary must be produced), the latter means foregone revenues. Water losses are normally estimated on the basis of the balance of water inflows and outflows in the system.

83. According to a 2015 World Bank study[66], the average level of water loss in the EU in 2012 was about 34 %. Of the visited Member States, only Hungary reports a lower percentage (24 %). Romania reports water losses in the order of 40 % and Bulgaria over 60 % (see ***Figure 3***). In all three Member States, water losses have actually increased from 2005 (or 2007 for Romania) to 2013. The increase in reported water losses, especially in Romania, is mainly due to the improvement of metering, which led to a more accurate measurement of leakages.

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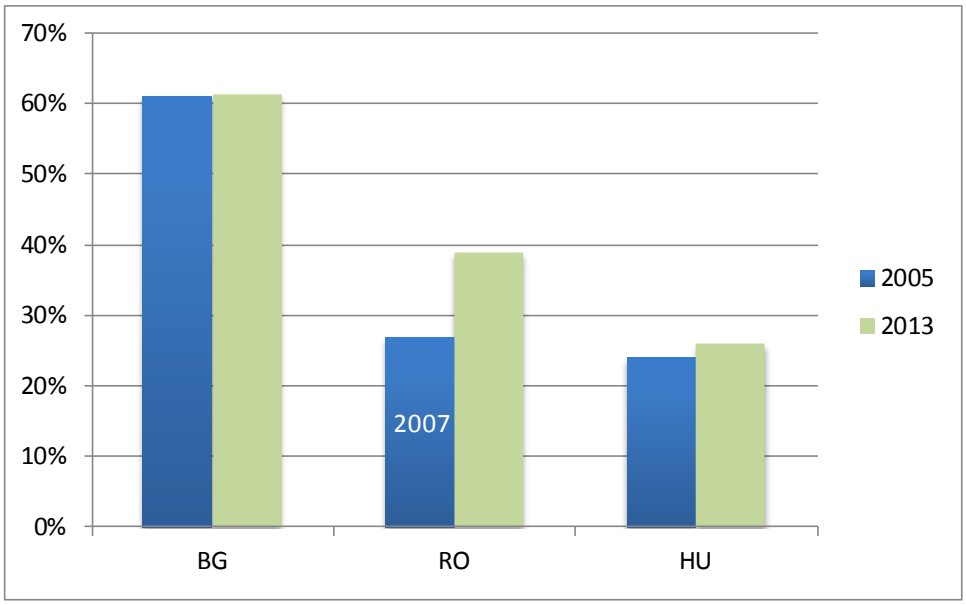
[65] The technical term is “nonrevenue water” as it is water that is not or cannot be billed. For simplification purposes and because water operators do not always provide details about the different types of nonrevenue water, we will use the term “water losses” in all instances in this report.

[66] Water and Waste water Services in the Danube region, May 2015 (http://sos.danubis.org/).

Figure 3 - Proportion of water losses (%) - Bulgaria, Romania and Hungary



NB: For Romania, data refers to 2007.
Source: Data gathered from Member States (ministries, national statistical offices and association of water utilities).

84. For the 2014-2020 period, the Commission identified, for the three visited countries, the need to increase the efficiency of water use, including the reduction of water losses[67]. In addition, the Commission published in 2015 an EU Reference document on Good Practices on Leakage Management, to help Member States overcome these issues and provide guidance for the design of policies to improve efficient water use by utilities throughout the EU[68]. For Bulgaria, the need to improve water management has also been stressed since 2012 in the Council's country-specific recommendations[69].

85. In Hungary, the Association of Water Utilities carried out a benchmarking exercise in 2008 which concluded that average water losses in Hungary were around 15-17 % in 2008

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67 Country position papers for Bulgaria - Ref. Ares(2012)1273775 - 26/10/2012; Hungary - Ref. Ares(2012)1286381 - 30/10/2012; Romania - Ref. Ares(2012)1240252 - 19/10/2012.

68 Other CIS thematic documents "Good Practices on Leakage Management", 2015, ISBN 978-92-79-45069-3 (http://ec.europa.eu/environment/water/water-framework/facts_figures/guidance_docs_en.htm).

69 Council recommendations 2012/C 219/03, 2013/C 217/03, 2014/C 247/02, 2015/C 272/08 and 2016/C 299/08.

(around 10-13 % for the best four performing service providers, and 40 % for the worst). During the 2007-2013 programme period, the reduction of water losses, to a level below 20 %, was one of the selection criteria for EU co-financed projects.

86. In Romania, the water losses in the network are considered acceptable if they are below 15 % of the total quantity entered in the distribution system[70]. Rehabilitation or modernisation works, as appropriate, are compulsory if the water losses (from the abstraction to the user) are above 20 %. However, because of the limited funding in the 2007-2013 programme period, priority was given to increasing access to water and thus to the extension of the water network.

87. In Bulgaria, water losses of 60 % are very high compared to other EU countries. Individual targets in terms of water losses have been set for each water operator to be achieved by 2021. There is also a national target of 49 % to be achieved by 2026[71]. In addition, the 2014-2023 Strategy for water supply and sanitation set the target to be achieved at national level for water losses at 30 % by 2039[72].

88. ***Table 4*** shows the situation concerning water losses before and after the implementation of the projects examined. Concerning the nine ERDF/CF projects examined, all but one, resulted in a reduction of water losses (see paragraph 76 and ***Box 6***). However, according to more recent information, water losses in this project have decreased since the project completion.

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[70] Article 116 of the Annex to the order 88-2007 of the regulator.

[71] Decision of the State regulator ПК-1/22.06.2016.

[72] Strategy for Development and Management of the Water Supply and Sanitation Sector in the Republic of Bulgaria 2014-2023 (approved by Council of Ministers decision No 269 of May 7, 2014) (http://www.mrrb.government.bg/?controller=articles&id=5265).

Table 4 - Water losses before and after the implementation of the projects examined

Member State	Projects	Water losses before the project	Targets	Water losses after the project
Bulgaria	Project 1 (Gabrovo)[1]	73 %	39 %	44 %
	Project 2 (Veliko Tarnovo)[1]	70 % (in the area of the project)	20 %	20 % (in the area of the project)
	Project 3 (Panagyurishte)[1]	60 % (in the area of the project)	Not set	44 % (in the area of the project)
Hungary	Project 1 (Békés)	30 %	Not set	28 %
	Project 2 (Szekszárd)	13 %	Not set	10.9 %
	Project 3 (Gyömrő)	8.8 %	Not set	7.7 %
Romania	Project 1[1] (Călăraşi)	34 % (in the distribution system)	19 %	50.4 % (for the whole system, including abstraction and treatment)
	Project 2[1] (Constanța)	64 %	45.2 %	44 %
	Project 3[1] (Cluj)	42 %	36 %	36.9 %

[1] These projects involved the refurbishment of only a part of the network whereas the data on water losses are only available for the entire network.

Significant funds in addition to EU co-financing is still needed to provide access to quality drinking water and to ensure that EU-funded investments can be adequately maintained

89. We assessed whether the visited Member States identified the additional funding needs to ensure the supply of good quality drinking water to its citizens and the extent to which this can be provided from national public and private resources. In addition, we examined whether the cost-recovery principle was duly taken into consideration when setting water tariffs so that the existing infrastructure can be properly maintained.

The investment gap for the three visited Member States up to 2020 is estimated at 6 billion euro

90. Financial support from the EU budget should not replace national public expenditure[73]. This means that sufficient national public and private resources must be available to ensure an adequate level of investments in the long run and to maintain the infrastructure already put in place thanks to EU funding since they are excluded from future EU financing.

91. Moreover, the same expenditure can receive support from only one EU fund or instrument[74]. For drinking water projects, which are considered revenue generating, only eligible expenditure reduced by potential net revenue can be financed. The net revenue takes account of not only the cash in-flows but also cash out-flows, such as operating (including maintenance) costs and the replacement cost of the investment over a specific reference period.

92. Overall, ERDF/CF allocations to drinking water related investments in the EU13 Member States had been about 4 billion euro in the 2007-2013 programme period and about 3.4 billion euro are planned for the 2014-2020 programme period. The ERDF/CF allocations to drinking water related projects in the three visited Member States for both the 2007-2013 and 2014-2020 programme periods amount to around 3.7 billion euro (***Table 5***).

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[73] Article 95(2) of Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006 (OJ L 347, 20.12.2013, p. 320).

[74] Article 65(11) of Regulation (EU) No 1303/2013.

Table 5 - ERDF/CF allocations for drinking water related projects in Bulgaria, Hungary and Romania

Amounts in million euro	2007-2013	2014-2020	Total
Bulgaria	166	145	311
Hungary	529	216	745
Romania	1 388	1 261	2 649
Total	**2 083**	**1 622**	**3 705**

93. In 2014, Bulgaria adopted the 2014-2023 Strategy for water supply and sanitation[75] with the aim of improving the quality of water services and achieving the EU environmental standards. According to this document, for the 2014-2023 period, the investment needs for drinking water (abstraction, treatment, transmission and distribution) have been estimated at about 2.5 billion euro (BGN 5.0 billion). In comparison, the EU funding allocated to drinking water related investments in Bulgaria for the 2014-2020 period amount to about 145 million euro. This indicates an investment gap of around 1 600 million euro[76] in the case of Bulgaria until 2020.

94. In Romania, to ensure compliance with quality standards and the deadlines of the DWD, the authorities adopted in 2004 an "Implementation Plan on the quality of water intended for human consumption", identifying the necessary actions regarding the supply of drinking water and the related financial needs up to the end of 2015, which were estimated at 5.6 billion euro. This amount was later revised, in the Operational Programme "Large Infrastructures" for 2014-2020, to 5.8 billion euro, on top of the investments already made during the 2007-2013 period (EU contribution of 1.38 billion euro). In comparison, the EU funds allocated to investments related to drinking water in Romania for the 2014-2020

[75] Strategy for Development and Management of the Water Supply and Sanitation Sector in the Republic of Bulgaria 2014-2023.

[76] The need of 2 500 million euro is for 10 years, therefore the needs can be estimated at 250 million euro per year. For the seven years up to 2020, the needs can consequently be estimated at 1 750 million euro, from which to deduct the 145 million euro of EU funding.

period amount to about 1.26 billion euro. This indicates an investment gap of around 4 540 million euro in the case of Romania until 2020.

95. Finally, although of a much lesser magnitude, in Hungary additional national or other resources will be needed to fulfil the needs for improving water quality. According to an evaluation carried out in 2013, the investment needs to improve water quality in Hungary up to 2020 were estimated between 415 million and 460 million euro (HUF 130 000 - 140 000 million) whereas the EU allocation for the 2014-2020 programme period amounts to 216 million euro (HUF 67 634 million)[77]. This indicates an investment gap of up to 244 million euro in the case of Hungary until 2020.

User fees are not sufficient to ensure the sustainability of the projects

96. The financial sustainability of the provision of water services is ensured when the revenues from these services are sufficient to cover both operating and maintenance costs and to recover capital costs and thus allow investments to be renewed. This is the cost recovery principle.

97. For both the 2000-2006 and 2007-2013 programme periods, Commission guidance proposes that water tariffs should cover at least operating and maintenance costs, as well as a significant part of the depreciation charge on assets[78]. Depreciation can be considered as a proxy of the cost needed to renew the infrastructure in the future.

98. For the 2014-2020 programme period, the approval of operational programmes is subject to an ex ante conditionality on cost-recovery, where there must be an adequate

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[77] Aspects of water and waste water improvements - final evaluation report No 101/2012 - ÖKO Zrt -Budapest, 2013 (Msz.: 101/2012. Ivóvíz és szennyvíz fejlesztések egyes kérdései - Értékelési zárójelentés ÖKO Zrt -Budapest, 2013. Március).

[78] For the 2000-2006 programme period: Technical paper 1 - Application of the polluter pays principle - Differentiating the rates of Community assistance for Structural Funds, Cohesion Fund and ISPA infrastructure operations (6.12.99). For the 2007-2013 programme period: Guidance on the methodology for carrying out cost-benefit analyses, working document No 4, 8/2006.

contribution of the different water uses to the recovery of the costs of water services[79]. The definition of what is an adequate contribution is, however, at the Member States' discretion.

99. In Bulgaria, according to the 2014-2023 Strategy, in a large number of Bulgarian water companies, operating costs are not covered by the revenues generated from water tariffs, despite the increases in rates since 2008 (water supply tariffs increased by 16 % from 2008 to 2011, passing from 1.19 BGN/m^3 to 1.38 BGN/m^3). In fact, according to all scenarios developed in the strategy, the average combined tariffs for water and waste water would need to increase by 2024 to approximately the double of the tariffs in place in 2011 to achieve the objective of compliance and sustainability.

100. The non-respect of the cost recovery principle carries a significant risk for the sustainability of EU co-financed infrastructures. For example, in Bulgaria, on average, more than 400 million euro (BGN 800 million) would be needed annually, just to maintain the length and average age of the network in the current condition. However, between 2007 and 2011 less than 100 million euro (BGN 200 million) have been invested on average each year[80].

101. At the same time, water services must be socially affordable for customers. Commission guidance[81] refers to 4 % of household income as a commonly accepted affordability ratio, i.e. the total water bill (drinking water and waste water) can represent 4 % of household income. The principle of affordability is taken into account in the legislation of the three visited Member States. In Bulgaria, affordability is ensured when the invoice cost of the water services does not exceed 2.5 % of the average monthly income of a household in the district concerned[82]. In Romania, the recommended general affordability level for the water

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79 Ex ante conditionality 6.1 of Regulation (EU) No 1303/2013.

80 Strategy for Development and Management of the Water Supply and Sanitation Sector in the Republic of Bulgaria 2014-2023.

81 European Commission, "The new programming period 2007-2013 - Guidance on the methodology for carrying out cost-benefit analyses - working document No 4", 8/2006.

82 Additional provisions, paragraph 1, point 4 of the Law on the regulation of the water and sewerage services.

supply and sanitation is 3.5 % of the average monthly household income at national level (separate for urban and rural areas)[83]. Based on the information included in the project applications, tariffs had been set at approximately 2 % - 2.5 % of the net income of an average income household. Finally, in Hungary, although the principle of affordability is mentioned in the legislation[84], no specific affordability rate has been defined.

102. In Bulgaria and Romania, water supply tariffs are established by the water operator and endorsed by the regulator[85]. In both countries, national legislation provides that the tariffs should cover the costs of providing the service, ensure the effective and secure operation of the service, environmental conservation and protection, and public health, discourage excessive consumption and encourage capital investment, to ensure the respect of the operator's financial autonomy and ensure continuity of the service[86].

103. In addition, in Romania, water operators implementing projects financed from EU funds are required to establish a reserve fund for maintenance, replacement and development for the whole period of investment. It should be supplied from the revenues of the water services and thus taken into account when establishing the tariffs[87]. However, two of the three projects examined did not take into consideration the reserve fund when determining these tariffs. According to the water operator of one of the projects examined (in Călăraşi), the inclusion of this fund in the tariff structure would have led to charges which would have been too high for the residential consumers to afford. This may result in sub-standard maintenance and the impossibility of replacing the installation in the longer term and put the sustainability of water infrastructure at risk.

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83 According to the National Strategy for the acceleration of development of the public utility community services, Approved by GD 246/2006.

84 Law CCIX on water utility services.

85 Energy and Water Regulatory Commission in Bulgaria and National Regulatory Authority for the Public Services of the Communal Management in Romania.

86 Ordinance regulating the quality of water and sewerage services in Bulgaria and Law 241/2006 in Romania.

87 Article 8(1) of the Annex to the ANRSC order No 65/2007 approving the methodology for the establishment, adjustment or modification of prices/tariffs for public services in the water supply and sanitation.

104. In Hungary, full cost-recovery is required and from 2012 onwards detailed requirements for tariff setting at national level are to be set by Decree of the Minister in charge[88]. The same legislation specified that for 2012 the tariffs could only be increased by a maximum of 4.2 % compared to the 2011 tariffs. A subsequent law of 2013[89] specified that the tariff should be decreased by 10 % compared to the 2012 tariffs as from July 2013. Since then, as no Decree for setting tariffs has yet been adopted, tariffs have remained unchanged.

105. For the three projects examined in Hungary, the tariffs in place in 2016 were on average 15 % lower than those announced in the applications and used to assess the projects. This implies that cost-recovery may not be achieved and thus that the maintenance may not be carried out properly and there might not be enough reserves in place for the replacement of equipment in the long term and thus ensuring the sustainability of water infrastructures.

106. Similar issues as regards the risk of revenues generated being insufficient to ensure the operation and maintenance of EU-funded infrastructure have already been highlighted in several of our previous reports[90].

CONCLUSIONS AND RECOMMENDATIONS

107. Overall, we found that citizens' access to and supply of quality drinking water in Bulgaria, Hungary and Romania has improved. This is to a large extent due to the significant ERDF and CF investments made in recent years. Nevertheless, there are still areas where citizens are supplied with water from the public supply network that is not fully in compliance with the EU standards set out in the 1998 Drinking Water Directive. Moreover, significant further national public and private investments are and will be needed to ensure access to good quality water to all citizens in these Member States and to ensure that EU-funded investments in water facilities can be adequately maintained.

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88 Law CCIX on water utility services.

89 Article 4 of Law LIV (2013) of 1.11.2013.

90 Special Reports No 9/2010 and No 2/2015.

The 1998 Drinking Water Directive had been implemented in most respects by the end of 2016

108. The Commission has closely monitored the compliance with the DWD's requirements and where necessary has used infringement procedures in all the three Member States visited. A number of derogations were granted to Hungary and Romania at the time of their accession to the EU, and additional derogations were put in place by these Member States at a later stage. Member States must immediately inform the Commission of these derogations whenever they concern large water supply zones (LWSZ), but only from the second derogation in case of small water supply zones (SWSZ). By 2016, the national legislations in all three Member States visited were in compliance with the requirements of the Drinking Water Directive. Nevertheless, and despite the significant improvements in water quality in the three Member States visited in recent years, some citizens are still confronted with drinking water that does not meet all EU quality standards (see paragraphs 31 to 41).

109. The reporting by Member States on the quality of water intended for human consumption, published every three years, is the main tool used by the Commission to detect non-compliance with the parametric values laid down in the DWD. We identified a number of shortcomings in the current monitoring arrangements. First, Member States are late in reporting data to the EEA based on which the Commission assesses the implementation of the DWD. For example, Hungary only provided its data for the 2011-2013 reporting period in April 2016, more than one year later than required. Second, the EEA (which checks monitoring compliance on behalf of the Commission) did not detect inconsistencies in the data for the 2011-2013 period reported by Member States. Third, in all the three visited Member States, we found that not all the parameters required under the DWD had been monitored, without any justifications or explanations about possible monitoring exceptions. This was also confirmed for some of the ERDF/CF projects examined where we noted that the monitoring was not carried out in accordance with the DWD and fewer parameters than required in the DWD had been tested. Finally, according to the DWD, reporting on SWSZ is not mandatory. The Commission does not have investigative powers and cannot check whether the monitoring takes place in accordance with the way it is

reported. It is assumed that Member States report in good faith, in accordance with the principle for sincere cooperation (see paragraphs 42 to 56).

110. Member States are required to take the measures necessary to ensure that adequate and up-to-date information on the quality of water intended for human consumption is available to consumers. In the three Member States visited, we found that this requirement had been correctly transposed in national legislation, but practices in making such information available to customers differ significantly and in general, up-to-date information on the water quality is not systematically provided to citizens. There is currently no Commission guidance on this aspect (see paragraphs 57 to 59).

111. A revision of the Drinking Water Directive has been included in the Commission Work programme for 2017 to address a number of shortcomings identified by the Commission on the basis of the Member States' reporting and scientific advice (see paragraphs 60 to 67).

Recommendation 1

The Commission should follow-up gaps in Member States' monitoring based on existing reporting and enforce the requirements of the Drinking Water Directive in this respect.

Implementation date: by the end of 2018 (at the end of the current reporting period).

Recommendation 2

The Commission, in the context of the current revision of the DWD, should address the following issues in a proportionate manner:

(a) improving the provision of information from Member States to the Commission about derogations concerning SWSZ;

(b) the extension of the reporting requirements to SWSZ;

(c) regular reporting ensuring that up-to-date information on the compliance with the DWD is collected from Member States. The Commission should consider options such as alternative IT tools (e.g. data harvesting from national administrations) to facilitate

the reporting exercise, make it swifter and to ensure availability of up-to-date information;

(d) improving the requirements for the provision of adequate and up-to-date information on the quality of water intended for human consumption available to consumers.

Implementation date: by the end of 2017.

All ERDF/CF projects examined improved drinking water in the areas concerned, but water losses remain a common problem

112. Overall, the ERDF/CF projects examined achieved their main objectives of improving the water quality, increasing access to drinking water or of reducing water losses as set out in the grant agreement or the project application. All but one of the ERDF/CF projects examined were implemented according to the most-suitable option for fulfilling the identified needs. Moreover, the completed ERDF/CF projects examined achieved most of their objectives, but were sometimes delayed (in particular in Hungary and Romania). Costs higher than those initially budgeted were noted for two of the three projects examined in Hungary (see paragraphs 73 to 81).

113. In 2012, the average level of water losses in Hungary was around 24 %, in Romania around 40 % and in Bulgaria over 60 %. This compares to an EU average of about 34 %. In all three Member States, the water losses have actually increased from 2005 (or 2007 for Romania) to 2013. The increase in reported water losses, especially in Romania, is linked to the improvement of metering, which led to a more accurate measurement of leakages. For Bulgaria, the need to improve water management has also been stressed since 2012 in the Council's country-specific recommendations. Concerning the nine ERDF/CF projects examined, all but one, resulted in a reduction of water losses. However, according to more recent information, water losses in this project have decreased since the project completion. Overall, water losses, especially in Bulgaria and Romania, remain high and this impacts on the overall efficiency of the water system and increases costs for both consumers and society as a whole. During the 2007-2013 programme period, only Hungary had used the

planned reduction of water losses as selection criteria for EU-funded projects (see paragraphs 82 to 88).

Recommendation 3
Member States should require that plans to reach a certain level of reduction of water losses are included as selection criteria for all water facility projects that allow the meeting of national targets. Implementation date: by the end of 2017.

Recommendation 4
The Commission should support Member States in promoting actions aiming at the reduction of water losses. This could be achieved, for example, by including water loss reduction in the scope of EU funding in the field of drinking water infrastructure, or by enhancing transparency on water losses. Implementation date: for the next programme period.

Significant funds in addition to EU co-financing still needed to provide access to quality drinking water and to ensure that EU-funded investments can be adequately maintained

114. Sufficient national public and private resources must be available to ensure an adequate level of investments in the long run and to maintain the infrastructure put in place thanks to EU funding. Financial support from the EU budget should not replace public expenditure by a Member State. The ERDF/CF allocations to drinking water related projects in the three visited Member States for both the 2007-2013 and 2014-2020 programme period amount to around 3.7 billion euro. This means that overall, the visited Member States will be required to invest more than 6 billion euro to cover their estimated needs by the end of 2020. This indicates that not all of the needed investments in water facilities are likely to be made, in particular in Bulgaria and Romania (see paragraphs 90 to 95).

115. The financial sustainability of the provision of water services is therefore only ensured when the revenues from these services are sufficient to cover both operating and maintenance costs and to recover capital costs and thus allow investments to be renewed. This is the cost recovery principle. At the same time, water services must be socially affordable to the customers. For the 2014-2020 programme period, the respect of the cost-recovery principle was made mandatory through the necessity to fulfil an ex ante conditionality. This means that the approval of operational programmes for the 2014-2020 programme period is subject to the existence of an adequate contribution of the different water uses to the recovery of the costs of water services. The definition of what is an adequate contribution is, however, at the Member States' discretion. Overall, in none of the three Member States will the level of user fees be sufficient to cover the operational and maintenance cost of the drinking water facilities (see paragraphs 96 to 106).

Recommendation 5

Member States should:

(a) ensure that water tariffs provide for the sustainability of water infrastructure, including its maintenance and renewal;

(b) while ensuring the full cost-recovery in the water tariffs structure, consider, if necessary, granting financial or other forms of support to households for which the cost of water services is above the affordability rate.

Implementation date: immediately.

This Report was adopted by Chamber II, headed by Mrs Iliana IVANOVA, Member of the Court of Auditors, in Luxembourg at its meeting of 5 July 2017.

For the Court of Auditors

Klaus-Heiner LEHNE

President

ANNEX I

ERDF/CF spending on the management and supply of drinking water (2007-2013 and 2014-2020 programme periods)

Country	2007-2013	2014-2020			Total allocation 2007-13 and 2014-20
	Amounts in million euro				
	Code 45 Management and distribution of drinking water	**Code 020** Provision of water for human consumption (extraction, treatment, storage and distribution infrastructure)	**Code 021** Water management and drinking water conservation (including river basin management, water supply, specific climate change adaptation measures, district and consumer metering, charging systems and leak reduction)	Total codes 020 and 021	
RO	1 388		1 261	1 261	**2 650**
PL	478	239	266	505	**983**
HU	529	155	60	216	**744**
LV	563		122	122	**685**
CZ	251	115	77	192	**443**
LT	153	101	127	227	**381**
SI	226	125	14	139	**365**
BG	166	55	89	145	**311**
EE	204	46	35	81	**285**
SK	86	68	82	150	**236**
HR	16	169	40	209	**225**
MT	6	29	59	87	**94**
CY			20	20	**20**
Total EU13	4 066	1 103	2 252	3 355	**7 421**
Total EU28	7 394	1 761	2 972	4 733	**12 127**

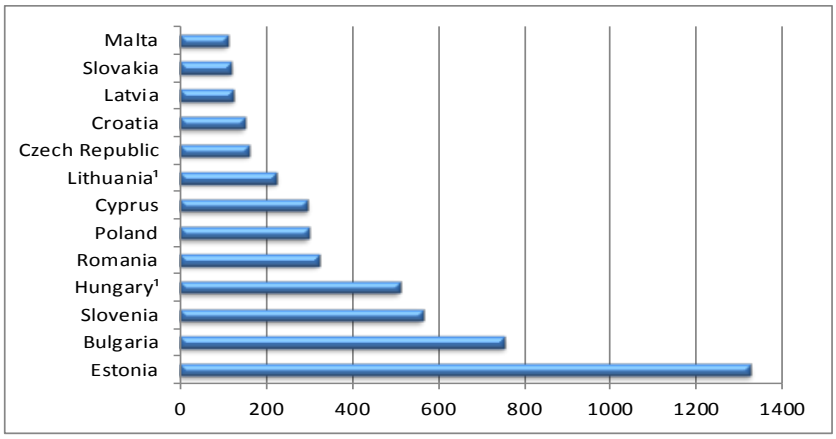
ANNEX II

Sources of drinking water in the EU

About 50 % of drinking water is taken from groundwater and about 40 % from surface water[1]. The remaining 10 % of drinking water is obtained from other sources, like artificial groundwater recharge[2] or bank filtration water[3].

The amounts of water abstracted (all water uses included) vary immensely among EU13 Member States ranging from 100 cubic metres per capita in Malta to 1 300 cubic metres per capita in Estonia (see ***Figure 1***).

Figure 1 - Amount of m^3 of water abstracted per capita in 2013



1 Data for Hungary and Lithuania refer to 2012.

Source: Eurostat.

Supplying drinking water for domestic consumption accounts for less than a fifth of all water use[4] (see ***Figure 2***).

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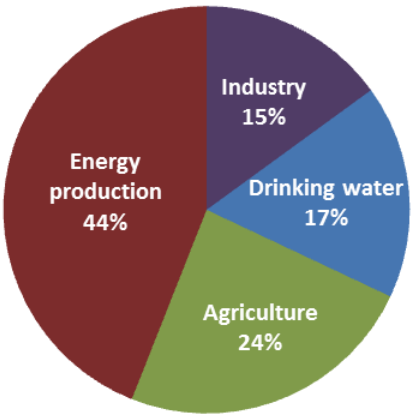
1 European water policies and human health - EEA Report No 32/2016, page 18, http://www.eea.europa.eu/publications/public-health-and-environmental-protection.

2 Artificial recharge is the planned, human activity of augmenting the amount of groundwater available through works designed to increase the natural replenishment or percolation of surface waters into the groundwater aquifers.

3 Bank filtration is a type of filtration that works by passing water to be purified for use as drinking water through the banks of a river or lake. It is then drawn off by extraction wells some distance away from the water body.

Figure 2 - Water use in the EU



Source: EEA.

[4] Results and lessons from implementing the Water Assets Accounts in the EEA area - EEA, Technical Report No 7/2013 of 22 May 2013, p. 71.

ANNEX III

Previous ECA reports and their main conclusions

Audit scope	Conclusions
Special Report No 9/2010 - Is EU Structural measures spending on the supply of water for domestic consumption used to best effect?	
The focus of the audit is on the infrastructures exclusively dedicated to domestic water supply co-financed by the ERDF/CF and completed during the 2000–2006 programme period.	We concluded that whilst structural measures' spending has contributed to improving the supply of water for domestic use, better results could have been achieved at a lower cost.
Special Report No 4/2014 - Integration of EU water policy objectives with the CAP: a partial success	
This audit addressed the question as to whether the objectives of EU water policy had been successfully integrated into the Common Agricultural Policy (CAP).	We concluded that cross-compliance and rural development funding have thus far had a positive impact in supporting the policy objectives to improve water quantity and quality, but these instruments are limited relative to the policy ambitions set for the CAP.
Special Report No 2/2015 - EU-funding of urban waste water treatment plants in the Danube river basin: further efforts needed in helping Member States to achieve EU waste water policy objectives	
This audit analysed the progress with regard to the implementation of the urban waste water treatment directive and, for a sample of 28 EU-co-financed waste water treatment plants, assessed the performance in treating waste water, the way of handling sewage sludge produced and the financial sustainability of the infrastructure.	We concluded that ERDF/CF spending during the 2007-13 programme period has played a key role in bringing forward waste water collection and treatment, however not sufficient to meet the deadlines regarding waste water treatment.
Special Report No 23/2015 - Water quality in the Danube river basin: progress in implementing the water framework directive but still some way to go	
This audit focused on whether Member States' implementation of the water framework directive lead to an improvement in water quality.	We concluded that the implementation of the measures has led to little improvement in water quality. Member States exempted a significant number of water bodies from the 2015 and 2021 deadlines

	for reaching good status.
Special Report No 3/2016 - Combating eutrophication in the Baltic Sea: further and more effective action needed	
The aim of the audit was to assess whether the EU actions have been effective in helping Member States to reduce nutrient loads into the Baltic Sea.	We concluded that the implementation of the nitrates directive by Baltic Sea Member States is not fully effective. The EU actions have led to limited progress towards nutrient reduction in the Baltic Sea.

ANNEX IV

Infringement procedures concerning the Drinking Water Directive in the visited Member States

Member State	Infringement procedure	Date of Formal notice Article 258 TFEU	Reasons	Date of closure
Bulgaria	2009/2259	20.11.2009 Additional formal notice on 26.9.2013	Incorrect and/or incomplete transposition of the DWD	26.2.2015
Hungary	2008/2247	18.9.2008	Incomplete transposition of the DWD	8.10.2009
Hungary	2016/2047	27.5.2016 (preceded by a "Pilot" opened in December 2013)	Non-fulfilment of the requirements of the DWD	Active procedure
Romania	2009/2260	8.10.2009	Incorrect and/or incomplete transposition of the DWD	28.10.2010

ANNEX V

Overview of projects examined

Project	Total cost (euro)[1]	(euro)	% of EU contribution	Start date	End date	Objective	Total number of inhabitants covered by the project	Cost/ Inhabitants (euro)
Bulgaria								
Project 1 - BG161PO005-1.0.02-0077-C0003 Town of Gabrovo (major project)	35 193 027	33 458 011	95 %	23.2.2010	31.10.2016	The improvement of the water cycle of the concerned area: from treatment and supply of drinking water to conduct and treatment of waste water. Concerning drinking water, the project included a reconstruction of the drinking water treatment plant, the rehabilitation of four pumping stations and the construction of a new one, and replacement of old pipelines.	62 561	562.54
Project 2 - BG161PO005-1.0.02-0058-C0002 Municipality of Veliko Tarnovo	12 556 568	12 459 867	99 %	15.12.2008	15.12.2013	The aim of the project was to improve the quality, effectiveness, efficiency and ecological aspect of the water and sewerage services in the concerned area. Measures related to drinking water included the construction of 4.26 km of pipelines and the rehabilitation of existing pipelines for 5.35 km.	62 000	202.53
Project 3 - BG161PO005-1.0.06-0073-C0001 Municipality of Panagyurishte	19 755 571	19 144 663	97 %	14.9.2012	31.3.2016	The focus of the project was to improve and develop the waste water infrastructure in the concerned area. The activities included the rehabilitation of 23.7 km of drinking water network pipes.	18 229	1 083.74

Hungary								
Project 1 - KEOP-1.3.0/09-11-2012-0009 – Békés county (major project)	114 528 040	86 480 346	76 %	30.9.2013	28.12.2015	The supply of good quality drinking water for the 66 water supply zones in the concerned county, which were not meeting the standards set in DWD (generally for arsenic, iron, manganese, ammonium and in some respects for COD, boron, iodium and nitrates). The project involved the de-commissioning of 101 independent water production wells that had been replaced by increased centralised production, treatment and subsequent transmission of treated water.	304 767	375.79
Project 2 - KEOP-1.3.0/B/2F/09-11-2011-0002 – Szekszárd town	16 428 142	10 834 606	66 %	27.3.2012	19.10.2015	The change of the water bases of the concerned city due to the danger of contamination from volatile chlorinated aliphatic hydrocarbon deriving from a disused industrial site. According to studies, remediation was not feasible in the short-term. Therefore, to ensure the continuous supply of good quality drinking water for the city, the project included the construction of new wells on the banks of Danube along with a new water treatment plant. A main pipeline of 20.8 km had to be constructed between the water treatment plant and the city.	34 415	477.35
Project 3 - KEOP-1.3.0/2F/09-2010-0009 – Gyömrő town	2 357 403	1 661 194	70 %	3.1.2011	21.1.2013	The change of the water bases in the concerned city due to bad quality of raw water (the water from the old wells of the south side of the city contained more Ammonium than the thresholds permitted). The project involved the development of new water wells as well as the expansion of the capacity of existing wells already providing good quality water. In addition, old lead and asbestos-cement pipelines had to be replaced and new chloral disinfection equipment had to be installed to enable protection against bacterial infection of water.	15 290	154.18

Romania								
Project 1 - CCI 2007RO161PR003 Călăraşi county (major project)	73 583 449	62 983 433	86 %	9.10.2008	31.7.2016	The rehabilitation of the water supply and waste water collection systems in six towns. Concerning drinking water, the main measures were: - the rehabilitation of groundwater and surface water sources, water transmission pipes, and water treatment plants; - the rehabilitation and extension of water reservoirs, pumping stations, water metering and distribution networks.	114 880	640.52
Project 2 - CCI 2009RO161PR005, Constanța region (major project)	136 610 301	120 978 394	89 %	22.11.2010	31.7.2016	The development of a sustainable water and waste water system in the concerned counties (Constanța and Ialomita) by improving the quality of the existing services and reducing the negative impact of waste water discharges. Concerning drinking water, the main measures involved extension and rehabilitation of well fields, water main pipes, water treatment plants, chlorination plants, extension and rehabilitation of water reservoirs, pumping stations, distribution networks and the installation of new water metering.	569 302	239.96
Project 3 - CCI 2007RO161PR009 Cluj- Sălaj area (major project)	131 085 082	105 280 052	80 %	1.10.2008	30.6.2016	The improvement of drinking water treatment and distribution, as well as waste water collection and treatment, in eight agglomerations located in the concerned counties. Concerning the drinking water supply, the project included the construction and modernization of water sources intended for drinking water abstraction, rehabilitation of water treatment plants, distribution network extension and rehabilitation, metering and acquisition of laboratory and leakage detection equipment.	144 101	909.68

[1] All the grant amounts are originally expressed in the national currencies. For the projects in Bulgaria, the amounts in euro have been calculated with the exchange the fixed exchange rate of 1.95583 BGN/euro. For the projects in Romania, the amounts in euro have been calculated with an average exchange rate between the Inforeuro exchange rate in place at the time of the projects approval and the Inforeuro exchange rate in place when the projects were completed. For the projects in Hungary, the amounts in euro have been calculated with the exchange rate of 313.12 HUF/euro that was the official exchange rate in place on 31.12.2015.

REPLIES OF THE COMMISSION TO THE SPECIAL REPORT OF THE EUROPEAN COURT OF AUDITORS

"IMPLEMENTING THE DRINKING WATER DIRECTIVE: WATER QUALITY AND ACCESS TO IT IMPROVED IN BULGARIA, HUNGARY AND ROMANIA, BUT INVESTMENT NEEDS REMAIN SUBSTANTIAL"

REPLIES OF THE COMMISSION

II. The Commission recalls that 'safe access of citizens to quality drinking water' is not part of the objectives of the current Drinking Water Directive.

V.

(a) **The Commission partially accepts the recommendation and will implement it as follows:**

The Commission will focus on main gaps identified affecting the quality of the drinking water but cannot systematically follow up on all monitoring gaps due to resource limitations.

It will look at how to improve reporting provisions as part of the on-going revision of the Drinking Water Directive.

(b) The Commission **accepts** recommendations (b1) to (b4) in substance. However, this is subject to the outcome of the Drinking Water Directive revision, which is not known at the time of this report, and the content of the proposal amending the DWD depends largely on the impact assessment conclusions. The proposal is not yet finalised and the Commission is looking into options to improve the identified shortcomings. In this context, the proposal will have to be in line with the objectives of the "Better Regulation" guidelines[1] that the Commission's proposals "*meet policy goals at minimum cost and deliver maximum benefits to citizens, businesses and workers while avoiding all unnecessary regulatory burdens*", in particular, as far as small entities are concerned.

(b)1- The Commission will overall consider, in the framework of the revision of the Directive, how to improve information, monitoring and reporting from SWSZ.

(b)2- The Commission will overall consider, in the framework of the revision of the Directive, how to improve information, monitoring and reporting for SWSZ, using the risk-based approach for monitoring also for SWSZ.

(b)3- The Commission will overall consider, in the framework of the revision of the Directive, amendments to reporting provisions of the Directive.

Reporting should ideally focus on information necessary for the compliance check (incidents, new substances, etc.).

(b)4- The Commission will consider how to improve access to information for consumers as part of the Drinking Water Directive revision as the issue has been identified as an area for improvement in the Commission Staff Working Document on REFIT of the Drinking Water Directive 98/83/EC[2].

(c) **The Commission accepts this recommendation.**

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[1] http://ec.europa.eu/smart-regulation/guidelines/docs/swd_br_guidelines_en.pdf

[2] SWD(2016) 428 final

The Commission is sensitive to the issue of water losses and intends, within the revision of the Drinking Water Directive, to promote action at Member States level in line with the subsidiarity principle.

However, reducing water losses by EU-funded activities might lead to funding maintenance, which is not always an investment priority, especially for Member States where there is not sufficient supply network to cover the population.

VI. The Commission notes that these recommendations are addressed to the Member States.

7. The reporting exercise is the main policy tool for Member States to ensure that monitoring is carried out and that monitoring information on the quality of water intended for human consumption is available.

Detected non-compliance with the parametric values of the Directive is usually followed up immediately by Member States.

11. The Commission followed-up on the fact that only half of the Member States reported on small water supply zones by launching a voluntary 'lighter' reporting exercise (survey) on SWSZ in 2016, using a simplified methodology (average Member States' compliance for microbiological and chemical parameters). The results of this survey confirm an overall compliance for microbiology on average above 98% for SWSZ across Member States.

The Czech Republic reported for the 2008-2010 period that according to the national authorities the level of compliance was high, and provided sample compliance data only for a selection of 8 parameters for reference year 2011.

14. The information on losses in the distribution network was mentioned in the 2008-2010 report in the chapter 'challenges' as a one-time example amongst several others. Water losses are currently not part of drinking water reporting. The Commission will consider how to improve transparency on water losses as part of the Drinking Water Directive revision.

15. See reply to paragraph 14.

18. The Commission recalls that the existing Drinking Water Directive 98/83/EC regulates only the quality of water intended for human consumption: it sets minimum quality criteria for the water provided at the tap. It does not regulate the supply of drinking water, nor the quality or quantity at the source. Options to improve access to water will be considered in the revision of the Directive subject to the results of the impact assessment.

20. The principle of cost-recovery of Art. 9 WFD refers also to environmental and resource costs, not only financial costs.

21. The Commission considers that the 4 % affordability level is indicative and was used for the purpose of cost benefit analysis. The Commission points out that conditions vary across Europe, therefore any affordability threshold for water tariffs should be established on a case-by-case basis by water operators/regulators.

30.

Second indent: The Commission recalls that the Drinking Water Directive only regulates the quality of water intended for human consumption.

See also reply to paragraph 18.

38. According to a report received from Hungary in February 2017, showing the situation on 31 December 2016, 18 municipalities were still reported as being non-compliant. The Hungarian authorities also informed the Commission of further delays in the expected compliance timeline in a

recent meeting. The Commission has taken due account of this latest information and is considering the necessary steps in that regard.

39. The Commission notes that these derogations most likely concerned on average small to very small water supplies.

According to the regular reporting cycle provided for in the Directive, the 2015 data will only be reported to the Commission early in 2018, together with 2016 data.

However, in accordance with the reporting requirements of the Directive, Member States can choose whether to report data on small water supplies.

It is therefore difficult for the Commission to detect such situations, but the Member State should be taking remedial action.

40. See reply to paragraph 39

In addition, Bulgaria did not report any data on SWSZ for the parameters nitrate/nitrite, but only average compliance rate of measured drinking water quality parameters: 2011: 97.8%, 2012: 97.7%, and 2013 97.8%.

41. Where the Commission had the necessary information, as in the case of Hungary, it has taken appropriate legal action.

42. The Commission notes that there has been a reduction in the delays of the publication of the report since 2005.

Late publication was partly due to timing, completeness and quality of Member States' reporting.

43. The reporting is indeed complex. For example within the 2011-2013 reporting period a very large number of analyses have been carried out in Member States: 4.1 million on microbiological parameters, 7.1 million on chemical parameters and 17.5 million on indicator parameters.

47. Member States have the possibility to reduce the monitoring frequency in case they consider that a parameter is not present in a WSZ, in accordance with note 4 table B1 of Annex II (until 27 October 2017) or in accordance with Part C of Annex II of the Directive (after 27 October 2017).

Moreover, the Commission does not have investigative powers and cannot therefore check whether the monitoring takes place in accordance with the way it is reported. It is assumed that Member States report in good faith, in accordance with the principle of sincere cooperation.

49. Member States can make use of the general derogation in Annex II, Part 2, Audit Monitoring that all parameters set in accordance with Article 5(2) and (3) must be subject to audit monitoring unless it can be established by the competent authorities, for a period of time to be determined by them, that a parameter is not likely to be present in a given supply in concentrations which could lead to the risk of a breach of the relevant parametric value. Member States are not required to report to the Commission on the use of this general derogation.

50. The Enterococci group can be used as an E. coli indicator of faecal pollution. As the numbers of intestinal enterococci in human faeces are generally about an order of magnitude lower than those of E.coli, E.coli is used more frequently than Enterococci to test water.

See also reply to paragraph 49.

52. The Commission has been informed by the EEA that it will no longer perform these tasks (quality control of data, repository, etc.) and will – due to resource constraints - stop supporting the Commission for the next drinking water reporting exercises, despite Commission's demand to continue this exercise at least until the forthcoming revision of the Directive. The Commission services will look into alternatives for the data collection, quality check and preparation of national

databases for the last exercise before the revision of the Directive which will include a simplification of the reporting obligations.

Some errors (e.g. typos) may happen even though the data undergoes a quality control by the EEA and is double-checked by the Member State. Such isolated errors do not put into question the accuracy of the reporting as a whole.

Box 4 - Example of inconsistencies in Member States' reporting on compliance with the DWD that could have been detected by the EEA

The error in Table 3-2 of the Romanian Country Report, was overlooked in spite of a quality control by the EEA and double-checking by the Member State. In the national report for Romania, the figure presented in graph 2.2 indicates a 100% monitoring for coliform, which indicated there was no issue. This may be the reason why the mistake was not spotted in the table.

The quality of data provided by Member States to the Commission was controlled by the EEA and double-checked by the Member State. Therefore no additional comparison with national reports which may differ was carried out.

53. The Commission has already in the past taken action in response to concerns about small supplies: A workshop was organized on 9 November 2011, a study "Best Practices for conducting a risk-assessment for small water supplies", specific Member States factsheets in addition to the Synthesis report, and a brochure "Framework for Action for the management of small drinking water supplies" were published. The 2016 survey indicated that the situation is better than in 2010-2013, and improving.

In addition, the Commission also noted in its Staff Working Document on the Evaluation of the REFIT of the Drinking Water Directive[3] that preventive safety planning and risk-based elements were under-exploited in the current DWD and that this represented a weakness. The Commission intends to tackle this in the revision of the Directive, and is currently assessing the impacts of a potential introduction of risk-based approach for large and small water supplies, which offers opportunities for simplification to concentrate time and resources on main risks and cost-effective source measures, and to reduce the administrative burden.

58. According to the current Drinking Water Directive, a certain degree of variability between the practices regarding the availability of information is acceptable. The Commission already identified, in its Staff Working Document on REFIT of the Drinking Water Directive 98/83/EC, that a more active dissemination of relevant information would be beneficial.

69. The Commission is already considering options to address leakages, which represent a problem that impedes efficient drinking water supply, as mentioned in the inception impact assessment[4] of the Drinking Water Directive.

75. The Szekszárd project is expected to achieve its objectives in 2014 – 2020 programming period.

Box 5 - Additional investments needed for one ERDF/CF project in Hungary (Szekszárd)

Even though low levels of Danube occurred in the past, the exact occurrence and magnitude cannot be foreseen, which influences predictability of the concentrations for certain parameters and therefore makes it harder to design works as regards long-term compliance. However, during the

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[3] SWD(2016) 428 final

[4] http://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-1061434_en

2014 – 2020 period Hungary intends to take climate change into consideration in the evaluation of projects even more.

76. See below under the box 6.

Box 6 - Partial achievement of objectives in a Romanian project (Călăraşi)

The investments in the water sector co-financed by the Cohesion Fund during the 2007-2013 period improved the capacity of the operators to provide more accurate measurements and monitor better the overall performance of the utilities and infrastructure constructed. As a result, the assumptions and the objectives on which the expected investments under 2014-2020 will be based are expected to be more reliable. This clearly demonstrates a positive impact of the EU investment and ability of the Member States to learn from the mistakes and introduce appropriate measures to reduce these problems in future.

79. The Commission considers that the projects financed in Hungary and Romania were delayed due to their complexity and design. However, the beneficiaries generally reached their objectives.

In addition, for Romania, water operators encountered numerous problems resulting in delays during the procurement procedures.

To mitigate the negative impact of poor quality contracts on project implementation, the Commission promoted different horizontal initiatives to support beneficiaries such as development of standardised procurement documents, benchmarking of water operators and technical assistance.

80. Initial assumptions as regards the project costs are rather indicative. The two mentioned projects conducted proper public procurement and subsequently the contract price was the result of the competition on the market. To face this volatility on the market, under each of the projects the contingency is introduced in order to provide a margin for the variation of costs as a result of public tender.

93. In total for the period 2014-2020 the Strategy quantifies the investment needs to around EUR 6.1 billion split as follows: EUR 2.5 billion for drinking water, EUR 2.2 billion for wastewater collection and EUR 1.4 billion for wastewater treatment. Comparing the needs of EUR 6.1 billion with the EU funds allocation to water and wastewater in the programming periods 2007–2013 and 2014–2020, it may be calculated that EU funds may be able to finance from 30 percent to 40 percent of the estimated WSS total capital expenditure needs.

Indeed under OPE 2014-2020, some EUR 145 million are allocated for investments in provision of water for human consumption and water management and drinking water conservation, out of the total of EUR 1.016 billion CF allocation for water sector in Bulgaria. This sectors' allocation focuses on bridging the compliance gap with the UWWT Directive, given its high compliance investment needs as presented above.

Common reply to paragraphs 94 and 95.

In the context of the need for additional resources to fulfil the requirements for improving water quality, the national investments should cover the investment gap.

96. See reply to paragraph 20.

98. While implementing an appropriate water tariff policy is a responsibility of Member States, the ex-ante conditionality stipulates that the recovery of costs needs to be consistent with the first indent of Article 9(1) of Directive 2000/60/EC having regard, where appropriate, to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region or regions affected.

100. The Commission notes in this regard that the pace of EU funds spending picked up towards the end of the programming period 2007-2013, which allowed Bulgaria to claim almost 95 % of the respective priority axis allocation (amounting to around EUR 969 million).

101. The Commission considers that the 4 % affordability level is indicative.

See reply to paragraph 21.

103. The Commission observes that a common tariffs strategy to support long term sustainability of investments and considering affordability issues was introduced in Romania as an element of the CBA analysis for EU funded projects under 2007-2013 periods.

Under 2014-2020 period, water operators will adjust and consolidate the methodology for tariffs structure to support the extension of compliant water services to additional areas and to cover the requirements of revised CBA guidance as regard full cost recovery and depreciation of the assets. Projects design will be developed accordingly.

105. The Commission observes that tariffs in place were lowered. Consequently the Commission monitors the situations and provides recommendations to the HU authorities to ensure the financial resources required for the sustainability of the upgraded assets. However, it might be important, in individual cases, for the tariff policy adjustments to be introduced carefully and gradually over the longer period of time to reduce abrupt distortion of the social affordability of the water investment for the population.

Also please see replies to paragraphs 98 and 101.

109. The Commission is considering, as part of the Drinking Water Directive revision, modifications to the provisions on reporting.

The Commission wishes to ensure that reporting focuses on information necessary for the compliance check (incidents, new substances, etc.). The Commission intends to look into options such as alternative IT tools (e.g. data harvesting from national administrations) to facilitate the reporting exercise, make it swifter and to ensure availability of up-to-date information.

110. In light of the existing legislative framework, the Commission considers that a guidance on requirements regarding information made available to consumers may be best addressed at national level.

Recommendation 1

The Commission partially accepts the recommendation and will implement it as follows:

The Commission will focus on main gaps identified affecting the quality of the drinking water but cannot systematically follow up on all monitoring gaps due to resource limitations.

It will look at how to improve reporting provisions as part of the on-going revision of the Drinking Water Directive.

Recommendation 2

The Commission **accepts** Recommendation 2 a-d in substance. However, this is subject to the outcome of the Drinking Water Directive revision, which is not known at the time of this report, and the content of the proposal amending the DWD depends largely on the impact assessment conclusions. The proposal is not yet finalised and the Commission is looking into options to improve the identified shortcomings. In this context, the proposal will have to be in line with the

objectives of the "Better Regulation" guidelines[5] that the Commission's proposals "*meet policy goals at minimum cost and deliver maximum benefits to citizens, businesses and workers while avoiding all unnecessary regulatory burdens*", in particular, as far as small entities are concerned.

(a) The Commission will overall consider, in the framework of the revision of the Directive, how to improve information, monitoring and reporting from SWSZ.

(b) The Commission will overall consider, in the framework of the revision of the Directive, how to improve information, monitoring and reporting for SWSZ, using the risk-based approach for monitoring also for SWSZ.

(c) The Commission will overall consider, in the framework of the revision of the Directive, amendments to reporting provisions of the Directive.

Reporting should ideally focus on information necessary for the compliance check (incidents, new substances, etc.).

(d) The Commission will consider how to improve access to information for consumers as part of the Drinking Water Directive revision as the issue has been identified as an area for improvement in the Commission Staff Working Document on REFIT of the Drinking Water Directive 98/83/EC.

112. Please see comments for the paragraphs mentioned.

Despite the delays most of the objectives were achieved or helped to improve the situation in respective area. The unforeseeable events (decrease in water level in Danube) were behind not fulfilling long-term compliance objectives under one mentioned project.

113. Despite of the preference given to compliance and the construction of the new network infrastructure, the Commission observes that part of the investments co-financed through major projects during 2007-13 periods, if properly justified, included a component of rehabilitation of existing infrastructures in order to mitigate the negative impact of water losses on the performance of new investments.

During 2014-2020 period, the same approach is maintained in all of the countries where leakage is considered to be an important factor.

Recommendation 3

The Commission takes note that this recommendation is addressed to Member States.

Recommendation 4

The Commission accepts this recommendation.

The Commission is sensitive to the issue of water losses and intends, within the revision of the Drinking Water Directive, to promote action at Member States level in line with the subsidiarity principle.

However, reducing water losses by EU-funded activities might lead to funding maintenance, which is not always an investment priority, especially for Member States where there is not sufficient supply network to cover the population.

114. The Commission is aware that investment needs in the water sector (covering drinking water, waste water collection and treatment, actions to combat floods, etc) could be significant in some Member States in the coming years. The future priorities in terms of EU funding should be defined

[5] http://ec.europa.eu/smart-regulation/guidelines/docs/swd_br_guidelines_en.pdf

taking into account Member States real needs. The Commission has launched initiatives to get a better view on investments needs in the water sector.

115. The Commission notes that according to the Water Framework Directive cost recovery should include also environmental and resource costs.

Recommendation 5

The Commission notes that this recommendation is addressed to the Member States.

Event	Date
Adoption of Audit Planning Memorandum (APM) / Start of audit	20.4.2016
Official sending of draft report to Commission (or other auditee)	19.5.2017
Adoption of the final report after the adversarial procedure	5.7.2017
Commission's (or other auditee's) official replies received in all languages	11.8.2017

This report examines whether EU actions improved the quality of drinking water in Bulgaria, Hungary and Romania as required by the 1998 Drinking Water Directive.
Overall, we conclude that the situation has improved significantly. Nevertheless, there are still areas where citizens are supplied with water from the public supply network that is not fully in compliance with EU standards. Moreover, significant further national public and private funding will be needed to ensure access to good quality water to all citizens in these Member States and to ensure that EU funded investments in water facilities can be adequately maintained.
Among other things, we recommend that several remaining issues are addressed in the context of the current revision of the Drinking Water Directive and that the sustainability of water infrastructure is ensured while safeguarding the affordability of the service.

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