



WATER SUPPLY AND WASTE-WATER MANAGEMENT

19 November 2020

No VAE-12

SUMMARY

Relevance of the Audit

Clean drinking water is essential for the quality of human life; thus, it is significant to ensure that all people are supplied with good quality drinking water that is safe to use. It is crucial to constantly supervise and control the quality of drinking water since prolonged use of drinking water containing concentrations of chemical (toxic) substances exceeding the limit values can cause irreversible harm to human health.

The use of water in the household or in the production process produces effluents which may lead to adverse effects on the environment before being discharged properly into the natural environment. Improperly treated waste-water pollutes the environment adversely affecting the quality of lakes, rivers and other bodies of water and groundwater.

Drinking water supply and waste-water treatment services are public services, determining the quality of the environment and people's lives. Drinking water supply services are provided to 2.3 million (83.1%), while waste-water treatment services are provided to 2.1 million (76.5%) Lithuanian residents. Each year approximately 140 million m³ of groundwater is abstracted, whereas 164.6 million m³ of domestic waste-water, treated by centralised systems, is released into the environment. 28,654 km of centralised drinking water supply and domestic waste-water treatment networks are operated in Lithuania, while services are provided by 71 licensed drinking water supply operators and 68 waste-water treatment operators.

In Lithuania, the main resource of drinking water is groundwater. The microbiological qualities of this type of water are generally good; however, problems concerning water contamination with chemical elements are encountered¹. Since the infrastructure of the centralised drinking water supply system is not sufficiently developed, safe drinking water

¹ https://vmvt.lt/sites/default/files/ataskaita_vand_lr_2018_galutine.pdf.

of good quality is not accessible to all residents of the country. There are still residents in Lithuania who are not equipped with waste-water treatment installations and release untreated waste-water into soil or a nearby water body. There are some cases when operating companies release untreated or improperly treated waste-water into the natural environment.

Considering the fact that, in 2004–2018, EUR 1.4 billion were invested into the development of drinking water supply and waste-water treatment infrastructure and understanding the importance of drinking water supply and waste-water treatment as well as aiming to assess if clean and safe drinking water is supplied to residents and waste-water is treated in compliance with the set requirements before its release into the environment, the National Audit Office of Lithuania initiated the audit of drinking water supply and waste-water management.

Audit Objective and Scope

The objective of the audit is to assess if residents have the possibility to obtain safe drinking water meeting the quality requirements and to release properly treated waste-water into the environment.

Audited entities:

The Ministry of Environment, which shapes the policy concerning drinking water supply and waste-water treatment, organises, coordinates, and controls its implementation.

The State Food and Veterinary Service, which performs state control of drinking water safety and quality.

The National Energy Regulatory Council, which issues licences for drinking water supply and waste-water treatment services, supervises and controls licensed activities of drinking water supply and/or waste-water treatment.

Key Audit Questions:

- whether centralised drinking water supply and waste-water treatment services are accessible to all residents;
- whether drinking water used by residents is safe and of good quality;
- whether waste-water is treated in compliance with the set requirements before its discharge into the natural environment.

The audited period:

- 2014–2018, assessment of the development of the infrastructure of drinking water supply and waste-water treatment;
- 2014–2018, assessment of the quality of drinking water supply and waste-water treatment.

The audit was temporarily suspended in 2020 due to the resolution of Seimas² to perform an audit of Efficiency and Effectiveness of Environmental Protection and Pollution Prevention Activities. The aim of the renewed audit was to assess the changes that have taken place; as a result, the data for 2019 were also analysed on certain issues.

The audit has been performed following the Public Auditing Requirements and International Standards of Supreme Audit Institutions. The scope and applied methods of the audit are described in more detail in Annex 2 “Scope and Methods of the Audit” (page 47).

Key Audit Results

In Lithuania, not all residents have the possibility to receive (obtain) drinking water meeting safety and quality requirements, while improperly treated waste-water is being released into the environment. The results of the audit have revealed that the infrastructure of the centralised services of drinking water supply and waste-water treatment is not sufficiently developed, whereas, in densely populated areas (agglomerations), not all generated waste-water is collected centrally, not all water supply operators have licenses, fewer than planned residents are connecting to the networks, and the quality of the drinking water and proper waste-water treatment is not ensured.

1. CENTRALISED DRINKING WATER SUPPLY AND WASTE-WATER TREATMENT SERVICES ARE NOT ACCESSIBLE TO ALL RESIDENTS

In 2004–2018, approximately EUR 1.4 billion from the State budget and European Union (EU) funds were invested in the sector of water management; despite this, the current development of centralised drinking water supply and waste-water treatment networks does not ensure that these services will be accessible to 95% of residents. All municipalities have prepared water supply and waste water management infrastructure development plans; however, the planned infrastructure was not fully completed until 31 December 2018: 33 (out of 60) municipalities, which have indicated in the plan the length of drinking water supply networks to be built, implemented only 24.4% of their plan, while 40 municipalities, which have indicated in the plan the length of waste-water collection networks to be built, implemented only 23.8% of their plan. In 2004–2018, 44% fewer than planned residents connected to the built networks. All of this meant that, at the end of 2019, 83.1% of residents used centralised drinking water supply services, whereas 76.5% of them used waste-water treatment services. The investment in the water sector has been relatively long and high and should not, in the European Commission’s view³, be among the funding priorities of the future. The possibilities to reach objectives identified in the

² Resolution No XIII-2801 On Assigning National Audit Office to Perform Public Audit of the Seimas of 28 January 2020.

³Information provided by the Ministry of Environment to the National Audit Office by an email on 19/06/2020.

strategic documents are being reduced. EU cuts in funding for the sector, and Lithuania's failure to take decisions on other sources of funding reduces the chances of reaching objectives identified in strategic documents ⁴ (Section 1.1, pages 14–19).

Urban waste-water treatment directive obliges EU countries to treat all waste-water, generated in densely populated areas (agglomerations), in a centralised manner. In the Treaty of Accession to the EU, Lithuania has committed to do so since 2010, but not only has not implemented the requirements of the Directive for more than 10 years, but also has not determined the boundaries of the territories in which all the generated waste water must be managed centrally (agglomerations). Without the boundaries of agglomerations, it is not possible to determine what part of waste-water is treated centrally. If the requirements of the Directive are not implemented, the following sanctions might be applied to Lithuania: fine for each day until the requirements of the Directive are implemented or a lump-sum fine, or both. The amount of fine depends on the extent and duration of the violation. The minimal lump-sum fine for Lithuania would be EUR 437 thousand (Section 1.2, pages 19–22).

2. According to municipal data, until 31 December 2018, almost half of drinking water supply (45.7%), a-third of municipal waste-water collection (34.4%) and more than 72% of surface waste-water collection networks have not been inventoried. The non-inventory of networks does not allow for an accurate assessment of their condition and the need for funds for upgrading the infrastructure. According to municipalities, the funding requirement for the upgrading (renovation) of centralised networks for the following 5 years amounts to approximately EUR 604.9 million, but this amount is not accurate since the exact amount can only be determined after the inventory of all drinking water supply and waste-water treatment networks has been completed (Section 1.3, pages 22–23).

3. NOT ALL DRINKING WATER USED BY RESIDENTS IS SAFE AND OF GOOD QUALITY

The supply of drinking water is a licensed activity; however, 35 (out of 109) drinking water operators supply this water to 2.5 thousand residents without holding a licence. These suppliers have not applied to the National Energy Regulatory Council concerning the issuance of a licence, while municipalities and the National Energy Regulatory Council do not exchange available information on water supply operators on a periodical basis. In this way, drinking water operators are enabled to operate without having the right to do so. When operating without a licence, they are not obliged to coordinate the price of the drinking water with the National Energy Regulatory Council, to ensure the development of drinking water supply services and periodic inspection of activities. In this way, uninterrupted drinking water supply as well as the quality of the supplied water might not be ensured, while adverse effects on human health might not be prevented (Section 2.1, pages 24–25).

⁴Drinking Water Supply and Waste-Water Management Development Strategy for 2008–2015 approved by Resolution No 832 of the Government of 27 August 2008; Water Sector Development Programme for 2017–2023 approved by Resolution No 88 of the Government of 01 February 2017.

Following the frequency established in Lithuanian Hygiene Norm HN 24, the suppliers of drinking water shall conduct 55 tests of microbiological, chemical (toxic) and other indicators. In 2014–2018, 93 (out of 175) water suppliers provided drinking water from 744 (out of 1,898) water locations to 327.1 thousand residents without having performed all the indicator tests specified in the hygiene norm. The State Food and Veterinary Service indicated that not all mandatory indicator tests are being included in the monitoring plans since the water treatment companies do not have the required financial possibilities to conduct the testing and drinking water is supplied to a small number of residents. When coordinating the monitoring plans, the State Food and Veterinary Service misinterprets the legislation (e.g. allows not to conduct tests of certain indicators). In water locations, where not all tests have been conducted, in 77% of cases, more than 21 (out of 55) indicators specified in the hygiene norm have not been tested. Without planning and carrying out all the indicator tests specified in the hygiene norm, residents are supplied with drinking water of unknown quality. Drinking water that has not been thoroughly tested has been supplied from 308 (out of 1,898) water locations to 110.7 thousand residents for 5 consecutive years. Long-term water supply without testing, i.e. without assessing its quality and compliance with the safe use requirements, may have adverse effects on human health. (Section 2.2, pages 26–27).

It is prohibited to supply drinking water that does not comply with the requirements laid down in the hygiene norm unless it has been demonstrated that such water will not pose a potential risk to human health during a strictly limited period of use. Between 2014 and 2018, each year 17 thousand residents have been supplied with centralised drinking water from approximately 4% (81 of 1,898) of operating water locations that exceeded limit values of toxic (chemical) indicators. This drinking water was supplied to the residents without assessing its safety for use. Prolonged use of drinking water exceeding limit values for toxic elements established in the hygiene norm may cause irreversible or lasting health damage: there may be an increased risk of cancer, damage to vital organs or their systems, and other health problems that could have a negative impact on a full life (Section 2.3, pages 27–29).

16.9% of residents obtain drinking water individually; however, the water in dug wells does not always meet safety and quality requirements. In 2014–2018, the results of toxic indicator testing of more than 10 thousand drinking water samples from dug wells carried out by the State Food and Veterinary Service together with the National Public Health Centre revealed that approximately 29.8% of samples did not meet the requirements on water quality. The long-term consumption of such water without any measures to ensure its quality may pose a risk to the health of residents. 60% of surveyed residents know that tests have to be carried out at least once a year; however, only 10% of respondents carry them out at least once a year, while almost half of the residents (48%) do not carry out these tests (Section 2.4, pages 29–32).

4. NOT ALL WASTE-WATER IS TREATED BEFORE ITS DISCHARGE TO THE NATURAL ENVIRONMENT TO THE SET REQUIREMENTS

In Lithuania, only 53% of surface water bodies are of good condition⁵. Though the condition of the water bodies does not meet the set requirements, between 2014 and 2019, approximately 39.8 million m³ or 24.2% of untreated or insufficiently treated domestic waste-water and 7.7 million m³ or 13% of surface waste-water have been released each year.

62 % of the cases analysed in centrally managed municipal waste-water were not cleaned up to the set requirements due to inadequate, outdated or insufficient capacity treatment facilities, 10 % due to lack of collection systems. 56% of the cases analysed in the surface waste-water have not been cleaned up to the set requirements due to the lack of installed treatment facilities and, 12% due to their failure. By not ensuring that the domestic and surface waste-water is centrally treated up to set requirements and discharging this waste-water into the natural environment for a number of years, damage might be caused to the environment (Section 3.1, pages 33–37).

24% of residents are not connected to the centralised waste-water collection networks and treat their waste-water individually. In 2014–2019, having conducted inspections on approximately 8.5 thousand residents and economic operators, the Environmental Protection Department identified 1,971 cases (27.2% of all inspections) when residents and 443 cases (35% of all inspections) when economic operators treat their waste-water inappropriately. Having established that inappropriately treated waste-water is released into the natural environment, it is essential to ensure that the pollution is stopped. An assessment of whether re-inspections were carried out in 11 selected cities showed that environment protection officers, in more than 80% of cases, having identified that residents do not treat their waste-water properly, did not ascertain that the pollution was stopped. Having established that waste-water is improperly treated, officers apply sanctions provided for in legal acts (impose an administrative fine, etc.) and carry out their inspections only upon receiving information on possible violation of waste-water treatment or during preventive campaigns. In the event of failure to ensure that waste-water treated individually by economic operators and residents is treated to the set requirements, preconditions for pollution of the natural environment (land, soil, lakes, rivers or other water bodies, groundwater) are created (3.2 Section, pages 38–40).

Recommendations

To the Ministry of Environment

1. In order to enable residents to use centralised drinking water supply and waste-water treatment services and to implement objectives established in the strategic planning documents, to envisage measures encouraging:

⁵Water Sector Development Programme for 2017–2023 approved by Resolution No 88 of the Government of 01 February 2017, Annex The List of Assessment Criteria and Pursued Objectives of the Implementation of the Water Sector Development Programme for 2017–2023, code of the assessment criterion R-1-1.

- 1.1. municipalities to implement the plans for development of drinking water supply and waste-water treatment infrastructure (1 key audit result);
- 1.2. residents to connect to the drinking water supply and waste-water collection networks built by the municipalities (1 key audit result).
2. In order to reduce the waste-water pollution and its negative impact on the natural environment and to implement requirements of the Directive 91/271/EEC concerning urban waste-water treatment by incorporating municipalities: to prepare and provide for measures promoting installation or modernisation of waste-water treatment equipment in municipalities, in this way ensuring that only the waste-water treated to the set requirements is released into the natural environment (3 key audit result).

To the National Energy Regulatory Council

3. In order to prevent negative consequences to human health, to ensure continuous provision of services and the quality of supplied drinking water, to implement measures prohibiting unlicensed suppliers to provide drinking water supply services to residents (2 key audit result).

To the State Food and Veterinary Service

4. To ensure that all residents are provided with drinking water meeting all safety and quality requirements, implement additional measures and:
 - 4.1. ensure that indicator tests specified in hygiene norm HN 24 are included into drinking water supply monitoring plans prepared by water suppliers during their coordination (2 key audit result);
 - 4.2. strengthen control of drinking water suppliers to ensure that the indicator tests specified in the monitoring plans are carried out (2 key audit result).

To Municipalities

While the Ministry of Environment, the State Food and Veterinary Service, and the National Energy Regulatory Council implement the recommendations of the public audit, municipalities should: carry out testing and having identified that toxic substances contained in the drinking water exceed the limit values specified in the hygiene norm, in cooperation with the National Public Health Centre, to assess whether the supply of such water for a limited period of time does not have adverse consequences for the health of the population and to provide for measures to ensure that the population is supplied with drinking water which meets the safety and quality requirements; to carry out inventory of all drinking water supply and waste-water treatment networks and assess their condition, to periodically provide information to the National Energy Regulatory Council on drinking water supply and/or waste-water treatment activities of unlicensed economic operators in the territory of the municipality, and ensure drinking water supply and/or waste-water treatment services to residents (by overtaking the infrastructure, etc.) if the National Energy Regulatory Council does not issue the licence for drinking water supply and/or waste-water treatment to the economic operators or if economic operators terminate unlicensed activities.

To ensure a greater impact of the audit, the results were presented to the administrations of the municipalities, control and audit authorities of municipalities and the Association of Local Authorities in Lithuania.

Measures and deadlines for the implementation of recommendations are provided in the report section “The Plan for the Implementation of Recommendations” (page 41).