



International Conference
WATER RESOURCES PROTECTION 2019
From environmental goals towards drinking water quality
17th – 18th June 2019, Bratislava

Background to the Conference

The EU Water Framework Directive (WFD) aims to achieve good status of all waters in the EU. Article 7 of the WFD is focused on bodies of water used for drinking water supply. It requires the member states to ensure the necessary protection for water bodies identified for drinking water supply to avoid deterioration in their quality in order to reduce the level of purification treatment required in the production of drinking water. Achievement of good water status is a precondition to ensure sufficient and safe water sources intended for human consumption. In 2018, the European Commission published a proposal to revise the Drinking Water Directive 98/83/EC aiming to protect human health from adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean. The proposal helps improving coherence with other water related directives, extends its complexity, and scope of action. It introduces a new approach based on risk assessment. It also provides for a greater access and information to citizens.

Since July 2018, the Slovak Republic has been chairing the Visegrad Group (V4). Under its presidency, the emphasis is on strengthening the internal dynamics, competitiveness, security, connectivity and cohesion of the Visegrad region as an integral part of the EU. The following priorities of the Slovak Presidency in the area of the water resources management are intertwined with:

- ensuring the quality control of drinking water in terms of its health safety, the enforcement of state health supervision over drinking water supply to people, monitoring of drinking water quality indicators, as well as the issue of contamination of drinking water sources with pesticides;
- efficient water resources management, especially in the area of prevention of the negative impacts of drought. The Slovak presidency advocates for a proactive V4 approach, drawing attention to the discussion and concrete steps and measures to retain and return water to the landscape, improve drought monitoring, management of drought crisis and water supply during prolonged droughts.

Slovakia is a country rich in water resources with the largest reservoir of groundwater in Central Europe – Zitny Ostrov. More than 80 % of the water resources used for drinking water supply are groundwater sources. The Slovak Republic is not yet dependent on other methods and processes for securing water resources. Although the availability, quantity and quality of drinking water sources, as well as the quality of drinking water supplied to the citizens is very high, the effects of climate change are already being felt in our region. Therefore, it is essential not only to pursue the measures that have been set up, but also to get prepared for new challenges and threats that will emerge in almost all countries in the European and non-European regions.

Objectives of the Conference

The international Conference *Water Resources Protection - From Environmental Goals towards Drinking Water Quality* aims to:

- The establishment of a platform for experience exchange on:
 - preparation of planning documents and implementation of measures to achieve good water status and environmental objectives of the Water Framework Directive;
 - creating conditions for the water resources protection, including water bodies intended for human consumption, and by implementing measures;
 - approaches to address, assess and apply risk analysis of drinking water supply, considering not only the risks to the supply of drinking water in the distribution system but also the risks to the water supply itself;
 - preparing and implementing adaptation measures in order to mitigate the climate change impact on the availability and quality of water resources.
- The enhancement of a cooperation between the environment, agriculture and health sectors in their joint efforts to ensure the protection of the quality and quantity of water resources as a prerequisite for ensuring access to drinking water and safe drinking water supply considering both old and new risk factors contributing to water pollution and escalating impacts climate change.

We are convinced that this Conference will be one of the steps that will pave the way for this joint effort.

Thematic sessions of the Conference

1. The international context of the water resources protection and access to drinking water

Ensuring the availability and sustainable management of water resources and sanitation for all is one of the 17 goals of the Agenda 2030 adopted by UN in 2015 (Sustainable Development Goals Agenda). This goal (SDG6) comprehensively covers the issue of improving water quality by reducing water pollution, increasing the share of safe water reuse, the efficient and sustainable use of water resources, reducing water scarcity and implementing integrated river basin management, including transboundary cooperation. It follows and supports the principles already applied in several international conventions and strategies. These were transposed and being implemented in the EU Water Framework Directive (WFD), which is currently undergoing a regulatory fitness and performance assessment process (REFIT¹). However, the reality shows the difficulty in consistent implementation. The assessment of progress towards meeting the WFD targets points out that a high percentage of EU water bodies are unlikely to achieve the planned good water status by 2027². Similarly, the UNEP Global Environmental Outlook (GEO-6)³ indicates that the world is currently not on track to meet the sustainable development goals and targets by 2030, and 2050 respectively. Both freshwater systems and oceans are over-exploited, poorly managed and polluted. More than 1.4 million people die annually due to waterborne diseases and lack of sanitation. By 2050, the main cause of death will be antimicrobial resistance resulted by the presence of pollutants in freshwater systems.

Nevertheless, the ambitions for water protection are and must remain high. Responding to new challenges in water protection, such as microplastics, pharmaceuticals, climate change impacts and/or overexploitation of water resources, is underpinned and gradually addressed. This is evidenced in policies and programs such as 7. Environmental Action Program (2013), A Blueprint to Safeguard Europe's Water Resources (2012), Agenda 2030 (2015), conclusions of the Council on Sustainable Water Management (2016), revised Common Agricultural Policy (2018), the EU Strategic Approach to Pharmaceuticals in the Environment (2019), and other ongoing processes, such as a regular review of the achievements of EU⁴.

The objective of this session is to underline the international context and the need to create synergies in defining international policies, mutually reinforcing joint efforts to ensure sufficient quality and quantity of water resources for all.

¹ [The European Commission's regulatory fitness and performance \(REFIT\) programme](#)

² [EEA European waters Assessment of status and pressures 2018, EEA Report No. 7/2018, ISSN 1977-8449](#)

³ [Global Environmental Outlook \(GEO-6\)](#)

⁴ Environmental Implementation Review ([COM/2016/0316 final](#))

2. Legislation in the context of implementing measures to achieve the environmental objectives of the WFD targeting the resources used for the abstraction of drinking water

The bodies of surface water and groundwater intended for the abstraction of drinking water are subject of the protection in both the Water Framework Directive (in Article 7) and the new approach of the Drinking Water Directive. Environmental objectives that are stipulated for all water bodies including those defined according Article 7 are designed to achieve good water status and are a prerequisite for the creation and provision of sufficient and high-quality reserves of water resources to supply the population with drinking water. The basic planning documents to ensure the achievement of the WFD objectives are the river basin management plans. The Article 7 of the WFD requires ensuring necessary protection for the bodies of water identified with the aim of avoiding deterioration in their quality in order to reduce the level of purification treatment required in the production of drinking water. One of the options for protecting water resources is the designation of safeguard zones of water resources with adequate compliance with the rules imposed to activities permitted and prohibited in these zones. However, the safeguard zones are not sufficient for the overall and effective protection of water resources. An important principle remains in the proper management of waters, land and all economic activities, whose synergy in the catchment is reflected in the actual state of water resources. It is essential to integrate policies in areas such as sustainable food production, common agricultural policy, sustainable use of pesticides, chemicals management, health protection, transport, fishery, energy policy, spatial planning and habitat protection. Involvement of all sectors is a must.

The objective of this session is to share experience in legal instruments and effective integration of sectoral policies in the V4 countries.

3. Risk management in relation to drinking water supply: from a water source to a tap

The objective of the Directive 98/83/EC on the quality of water intended for human consumption is to protect human health from negative effects of any contamination of water intended for human consumption by ensuring safety and cleanliness. The directive is an important instrument to ensure the high quality of water consumed in the EU. Following the conclusions of the process of assessing the regulatory suitability and effectiveness of the Directive, as well as the requirements of the European Citizens' Initiative (Right2Water), the EC has presented a revised proposal for Directive 98/83/EC at the beginning of 2018. This proposal strengthens the protection of water resources as well as consumer protection by introducing a new approach of risk-based assessment to ensure the supply of drinking water to the population. This approach was introduced firstly in the Commission Directive (EU) 2015/1787⁵ that revised the Annex II and III of the Drinking Water Directive 98/83/ES. These revised annexes II and III and their risk-based approach were transposed to the national legislation. The Slovak legislation introduced the concept of risk management, which represents a comprehensive analysis of the hazards of the entire system (from the water source to the tap) to human health and the safety of production and delivery of drinking water. In Slovakia, it is yet a voluntary instrument. It is a mandatory tool for those operators who want to reduce the number or scope of mandatory water sampling. Some EU countries have decided to go beyond the Directive's obligations and have introduced risk analysis in their national legislation as binding on the management of drinking water production.

The presentation of the V4 partners' experiences with the application and benefits of the risk-based approach to water management practices is a valuable asset for all conference participants. At present, an amendment to Council Directive 98/83/EC is being prepared in full, with all the annexes, so we welcome this Conference as a platform for exchanging experiences and identification of the most important steps in introducing a risk-based approach into national legislation.

Discussion Question:

1. Can risk analysis be understood as a form of prevention?
2. Can we see monitoring programs currently being developed by operators as a basis for risk analysis?
3. What are the responses from water managers? Is a risk analysis a useful tool for detecting the risk of drinking water supply across the entire distribution chain, i.e. from source to consumer, or are operators having trouble processing it?

⁵ 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

4. Protection of water sources from pollution

Assessments of the second cycle of river basin management plans⁶ showed that the status of groundwater bodies is generally better than that of surface water bodies across Europe. Good chemical status reaches 70 % of groundwater bodies, and 86 % good quantitative status. For surface water bodies, 40 % of bodies have a good ecological status and 41 % of water bodies have a good chemical status. The chemical status of both groundwater and surface water is most affected by diffuse sources of pollution. The most significant source of pollution comes from agricultural activities associated with the emission of nutrients (nitrogen and phosphorus) and pesticides into the environment. Rural settlements with unsecured drainage of municipal waste waters, as well as sediments run off, soils from built-up areas and deforested areas also contribute to pollution. The point sources of pollution are mainly the discharges of municipal waste water, pollution from storm water overflows exceeding the retention and transport capacity of water infrastructure and industrial activities that mainly affect the chemical status of surface water bodies. In the case of groundwater, the chemical status is threatened mainly by the leakage of hazardous substances from landfills and from contaminated areas (environmental burdens). Increasing knowledge also results in a recognition of new threats. These are new chemicals (micropollutants, microplastics, pharmaceuticals) whose potential consequences to human health, especially in the case of cumulated exposure, remain many unanswered questions. European waters remain under the strong influence of multiple impacts, both water pollution, over-consumption and the effects of climate change, as well as changes in the structure of productive sectors and human activities. Therefore, it will be necessary to balance economic, social and environmental interests of further development. Integrated water resources management is essential to ensure universal, equitable and sustainable access to safe drinking water, sanitation and hygiene for all and in all areas.

This session will focus on exchange of practices and knowledge regarding the implementation of measures aimed to eliminate negative impacts of anthropogenic activities on the status of water bodies and water sources used for drinking water abstraction. The session will discuss measures that support achievement of environmental goals stipulated in the WFD and measures for prevention and protection of human health.

Discussion questions:

1. What comprehensive measures do you consider necessary to eliminate water pollution from diffuse and point sources to the level of good water status in your country or a particular catchment?
2. What do you think are the possibilities in addressing new challenges to water resources by new and emerging pollutants, i.e. substances that have not yet been considered significant or not detectable? What is the vulnerability and threat of surface and groundwater drinking water sources from these substances? What are the possibilities and risks of recycling water contaminated with these substances?
3. To what extent can the effectiveness and efficiency of measures implemented in accordance with the first or second river basin management plans be assessed? What recommendations can be adopted to set measures in the third planning cycle to achieve good water status?

⁶ EEA European waters Assessment of status and pressures 2018, EEA Report No. 7/2018, ISSN 1977-8449.

5. Water sources in context of climate change (panel discussion)

Efficient water management and the prevention of negative consequences of drought are increasingly discussed at global and European level. As a result of climate change, the importance of adaptation and mitigation measures is increasing. Extreme weather fluctuations lead to endangerment of drinking water sources and restriction of drinking water supplies even in the Slovak Republic⁷. Their quality is adversely affected by low water levels, as well as flush rains. Negative consequences are reflected in 60 % of Slovakia's territory⁸. In order to minimize the effects of drought, it is necessary to create conditions for water retention in the country using both natural and technical water infrastructure. In agriculture, water management is one of the most important practices affecting emissions of methane, carbon dioxide and nitrous oxide. The demand for water to grow crops is likely to increase due to higher temperatures and greater variability of precipitation over time and space. Irrigation is an important adaptation measure in the agricultural sector, but it is also a significant consumer of energy and water. On the other hand, there are also examples of good practice in this sector that contribute to water retention, soil erosion reduction and carbon sequestration. These include precision and conservative agriculture approaches improving water balance and reducing greenhouse gas emissions. Water management needs to be implemented in a holistic way, in the context of the landscape as a whole. Inter-sectoral and inter-disciplinary cooperation, from water management through integrated landscape planning, land consolidation, agriculture and forestry to research and education, is essential. Such an approach is embedded in the Slovak Action Plan to address the consequences of drought and water scarcity⁹. It focuses on preventive (water retention) as well as crisis and operational measures. Taking into account the sectoral priorities of the national economy, it is also considering a development of a long-term drought water supply crisis plan. This cannot be done without innovative technical solutions for water retention and accumulation for multi-purpose use.

Discussion questions:

1. To what extent is country care and increase of water retention considering a grey and green infrastructure element perceived in your country as one of the strategic inter-sectoral measures? Provide examples of selected measures. Does your country have the experience of identifying the costs of implementing preventive adaptation measures in relation to the cost of potential threats or loss of water resources?
2. What is, in your opinion, an importance of the implementation of water retention measures in the Common Agricultural Policy? What are your experiences with positive or negative examples from agricultural practice? To what extent are farmers motivated to implement climate change adaptation measures at the expense of changing farming practices, possibly at the expense of yield cuts and economic indicators?
3. What are the experiences in designing and implementing crisis prevention measures to avoid reduction in the availability and delivery of drinking water as a response to climate change? What is the situation and what are the anticipated trends in a development of the drinking water sources availability in your country in the context of economic and socio-demographic development? To what extent do you perceive this problem as inter-sectoral?

⁷ Action plan for the environment and the human health in the Slovak Republic V. (NEHAP V.), adopted by the Government Decision No.3 on 9 January 2019.

⁸ Adaptation Strategy of the Slovak Republic to the climate change – update 2018, adopted by the Government Decision No. 478/2018 on 17 October 2018.

⁹ VALUE IS WATER. Action Plan to address the consequences of drought and water scarcity, adopted by the Government Decision No. 110/2018 on 14 March 2018.