

*Uspješna mreža*  
**znanja, iskustva i najboljih praksi**  
*- Aquasan mreža u BiH*

## Policy Memorandum 2022

### POSITIONS OF AQUASAN NETWORK IN BiH IN THE WATER SERVICE SECTOR

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BECOME A CORPORATE CULTURE**



With the Policy Memorandum 2022, the Association for Water and Environmental Protection "Aquasan Network in BiH" takes a stand on important sector topics.

Aquasan Network in BiH is a leading association of experts that contributes to the sustainability and quality of water services and environmental protection in BiH and other countries in South-east Europe by strengthening capacity and advocating for policy improvement.

## ① Residual sludge from wastewater treatment plants

# STRATEGY OF SLUDGE MANAGEMENT FROM A WASTEWATER TREATMENT PLANT IS A PRIORITY

The effect of wastewater treatment is not only measured by the quality of treated wastewater but also by the efficiency of treatment of residual sludge, whether or not treated, obtained from a municipal wastewater treatment plant (WWTP). According to the Council Directive 91/271/EEC concerning urban wastewater treatment, the costs of treatment and final disposal of sludge make up to 50% of the total operating costs of the WWTP. Therefore, the choice of wastewater treatment option must include a more comprehensive solution for the treatment and disposal of sludge, as the costs of treatment and disposal are part of the operational costs of wastewater treatment.

Current practice of preparation and implementation of infrastructure projects in BiH, which include the construction of WWTP, is primarily focused on the effluent and its compliance with the prescribed criteria. Sludge-related issues, such as where it will be disposed of, what characteristics it should have and what the economic balance of its final disposal are mostly left to be addressed at later stages.

There are many reasons why the construction of new and the operation of existing WWTPs transforms the problem of wastewater treatment from liquid to solid:

- There is no clear sludge management strategy,
- Infrastructure development budgets are limited and sludge management is not one of the priorities;
- The quantities of sludge required for certain technological solutions for its disposal are insufficient;
- Restrictions defined by legislation and natural conditions of the karst area.



Currently, there is no sludge management system and strategy in either the Federation of BiH or the Republic of Srpska. The existing institutional and legal framework at the level of the Federation of BiH (FBiH) and the Republic of Srpska (RS) dealing with sludge has not clearly and precisely defined sludge management, while at the EU level there are a number of directives that clearly and precisely regulate sludge management.

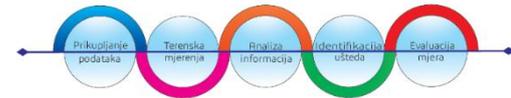
### KEY STEPS FOR ESTABLISHING A SLUDGE MANAGEMENT SYSTEM

- Review and update of entity wastewater collection and treatment programs to set up an updated database of existing WWTPs;
- Determining the situation regarding sludge production in entities: quantity, quality, location and time of sludge formation;
- Analysis of the legal framework at the entity level in BiH as well as the EU Sewage Sludge Directive;
- Analysis of sludge management options: financial, technical, planning, environmental, operational feasibility study;
- Development of a sludge management strategy which, in addition to the system for permanent solution, will also provide solutions for temporary disposal;
- Adoption of the strategy and implementation of the adopted system.

Aquasan Network in BiH advocates urgent development of a sludge management strategy in BiH which will define the establishment of a sludge management system. In addition, we advocate that decision makers, domestic and international financial institutions begin to apply the principles according to which projects and capital investments for wastewater collection and treatment will not be considered complete or feasible if a solution for final disposal of WWTP sludge is not provided in the investment planning phase.



## 2 Energy efficiency of pumping stations in PUCs



# DETERMINING POSSIBILITIES FOR SAVING ELECTRICITY MUST BE AN IMPERATIVE

In order to see the energy picture of our own processes, equipment and infrastructure, it is necessary to create reliable and credible internal records that will provide detailed data on electricity consumption. Precise metering and monitoring system enables public utility companies (PUCs) to become aware of problems and bottlenecks in the system, identify the cause of the problem and take measures to solve the problem.

### Common issues include:

- Leaks
- Pipes with high coefficient of friction
- Improperly built system
- Oversized system
- Selection of inappropriate equipment
- Outdated equipment
- Poor maintenance
- Waste of usable water
- Undersized system
- Hydraulic non-functional system

### Troubleshooting measures can be:

- System redesign and subsequent installation of equipment
- Reduction of impeller diameters in pumps
- Reduction of leaks and losses
- Installation of pipes with low coefficient of friction
- More efficient pumps
- Adjustable speed motors
- Installation of capacitor banks
- Improving the mode of operation and maintenance
- Water recycling and reuse
- Development of a hydraulic system model

Aquasan Network in BiH advocates strengthening the capacity of PUCs to conduct energy audits and reviews in order to identify strategic points where intervention could be made and electricity savings achieved.

## 3 Relations with water service users

# ORIENTATION TOWARDS WATER SERVICE USERS MUST BECOME A CORPORATE CULTURE

Water service relationship management is a combination of strategies, procedures and modern technologies that PUCs' uses in interaction with its service users in order to inform them as well as collect and analyse data on service users in order to improve business relations with them.

Aquasan Network in BiH advocates the development and implementation of strategies and procedures for relations with water service users that will enable:

- Understanding the needs of service users;
- Defining clear roles and responsibilities in the processes of water service delivery (contract with service users) with defining general and technical conditions for water service delivery;
- Establishing a customer-oriented business strategy;
- Establishing regular communication with service users using various communication channels and tools;
- Quick and professional response to inquiries, complaints and requests from service users;
- Undertaking all activities for the most efficient achievement of the goal - that service users are satisfied with the delivery of water services and, accordingly, regularly fulfil their obligations.



## About Aquasan Network in BiH

Association for Water and Environmental protection "Aquasan Network in BiH" is an organization created to respond to challenges in the water service and environmental sector in BiH with the aim of strengthening cooperation amongst relevant sector actors, promoting and advocating joint interests of the sector and enable learning through the exchange of experiences, knowledge, information and good practices as well as contributing to the development of individual, organizational and institutional capacities in the water and environmental protection sector.

Aquasan Network in BiH has been working since 2010, firstly as an informal network and since 2014 as a registered association that works to strengthen its own capacities through the preparation and implementation of projects at the national and regional level. These projects have enabled new partnership, cooperation and coordination with relevant actors from BiH and South-East Europe. In addition to capacity development activities, Aquasan Network in BiH organizes and contributes to events aimed at improving the regulatory and institutional framework of the water service sector at all levels in BiH.

Through these activities and events, Aquasan Network in BiH has become a recognizable actor not only in BiH, but in the whole South-East Europe region. Aquasan Network in BiH has its educated and certified trainers and moderators who through various interactive formats such as training, peer exchanges, advisory services, etc. apply the best standards for adult learning on topics identified by LGUs and PUCs as key topics in the water and environmental sector. In this way, Aquasan Network in BiH continues its development as a competence center that transfers its experience and knowledge to others and, thereby, contributes to the overall improvements of the water service sector in BiH.



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