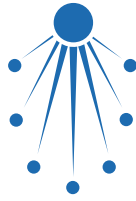




ADKOM



КОМУНАЛНА ХИГИЕНА-СКОПЈЕ
NP HIGIJENA KOMUNALE - SHKUP



10TH INTERNATIONAL CONFERENCE

WATER AND WASTE

REALITY AND CHALLENGES

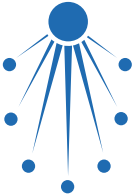
2018

REPORT



ABOUT THE ORGANIZERS

ADKOM



ADKOM

ADKOM is a non-government and non-profit organization that brings together public utility companies in the Republic of Macedonia. ADKOM represents the interests of its members in order to improve the working conditions and promote the services they offer.

ADKOM's mission

ADKOM's mission To unite and represent the interests of the Public utility companies in the Republic of Macedonia, to support and assist in building capacities for providing reliable, affordable and quality services in the sphere of communal activity, and to increase the awareness of citizens about the role and significance of the PUCs.

ADKOM's vision

ADKOM is recognized and desirable partner in the field of communal services, a center of knowledge and experience for the Public utility companies, and promoter of their joint cooperation in support of a sustainable local and regional development in an inclusive way.



КОМУНАЛНА ХИГИЕНА-СКОПЈЕ
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PE "COMMUNAL HYGIENE", SKOPJE

[ЈП „КОМУНАЛНА ХИГИЕНА“, СКОПЈЕ]

PE "Communal Hygiene", Skopje, whose founder is the City of Skopje, is one of the largest enterprises in the communal area in the Republic of Macedonia.

In its over a hundred years of existence and operation, PE "Communal Hygiene" successfully cares for the maintenance of public cleanliness on the territory of the City of Skopje. Developing alongside the development and modernization of Skopje, with the good organization, efficiency, responsibility and discipline, PE "Communal Hygiene" has grown into a leader in the field of utility activities in the country.

The company employs about a thousand workers and disposes with over 130 special utility vehicles for the collection and transportation of communal waste and for performing other activities that are under the competence of enterprises.



PE “WATER SUPPLY AND SEWAGE”, SKOPJE

(“VODOVOD I KANALIZACIJA”, SKOPJE)

The main activity of PE “Water Supply and Sewage”, Skopje is the collection, distribution and treatment of potable water as well as drainage of urban wastewater. Permanent and uninterrupted provision of sanitary potable water necessary for the life of citizens is an imperative in the work of PE “Water Supply and Sewage”, Skopje.

The beginnings of the water supply system in the city of Skopje date back to the distant 1907, when a potable water well was dug under the Kale fortress, in the former locality-Diesel, positioned next to the river Vardar, but the revolutionary venture for the city’s water supply took place in 1936, when the first Rasche Dam was designed and built. In 1937 Skopje was connected to the Rasche spring, whose water supply aorta participates with 98% of the total water supply system. The years 1963 and 1964 were crucial for the water supply of the city of Skopje, when the new Rasche Dam and one main pipeline with a profile F1600 mm were built. In 1969, the second main pipeline Rasche 2 with a profile F1600 mm was built, which provided the city of Skopje with one more capacity for pure and potable spring water. In 1964, the well area Nerezi was built, and in 1992 the wells from the Lepenec well area were put into use, which with their capacity greatly contribute to the uninterrupted water supply of the city. Currently, PE “Water Supply and Sewage” Skopje operates with a 1200 km water supply network and 1050 km sewage network.

Throughout this period, up till present day, the company has undergone a series of disruptions, ups and downs, but the constant commitment of the professional staff contributes to successful handling of all the challenges. The concept of long-term development of the activity is based on medium-term programs and plans, in order to perceive the total needs of the final beneficiaries (end-users) and determine the priorities, all in accordance with the real possibilities of the company for providing funds for capital investments.

The goal of the management team of the company is achieving long-term development goals and establishing new ones by constantly monitoring the needs of our users, in order to overcome the real problems. Through long-term planning of all factors that affect the operation of the company, the constant monitoring of technical and technological trends and professional development and training of staff, and with the unreserved support of the City of Skopje and its expert services, PE “Water Supply and Sewage”, Skopje tends to grow in one of the leading water supply companies in the region.



FOREWORD

In the Republic of Macedonia, there is still clean and quality potable water, but in nature, water is found less and less in its true form and is increasingly polluted by various types of pollutants, which as a final consequence endanger the health of people. Moreover, in relation to the water, a big problem in the country is that almost all of the sewer ends directly in the rivers, which has devastating consequences for the environment in its turn.

In the past years, in the Republic of Macedonia, the issues related to waste management have also been very intensively addressed. For modern policies, in the domain of waste management, in addition to being a generator of negative environmental impacts, waste is also considered as a resource.

Worldwide, over the past two decades, major steps have been made in improving the performance of water utilities in terms of optimizing operating costs and optimizing the quality of services, while striving to maintain the price of water in reasonable economic limits.

ADKOM – The Association of communal service providers is representative of the interests of the public utility companies in the country and is a reliable partner in their daily operations. Following the world standards, as well as the needs in the country, ADCOM organized the 10th International Conference on the topic “Water and Waste - Reality and Challenges”.

The Conference took place on 23-26 April 2018 in Ohrid, and it was organized in cooperation with PE “Water Supply and Sewage”, Skopje and PE “Communal Hygiene”, Skopje.

The main goal of the 10th International conference was to examine the various options that could be taken to “modernize” the regulation of the water sector in the Republic of Macedonia in order to promote truly sustainable utility companies that protect our environment, while also providing safe supply of potable water and wastewater treatment at the national level.



From the presented papers of the international conference, answers were obtained regarding the directions for the operation of the public utility companies in the Republic of Macedonia, where they stand in their development and to what level is their provision of services to the citizens, and certainly also take into account citizens' satisfaction with the services offered.

The sessions were attended by over 300 representatives from national and local authorities, as well as the management teams of enterprises from the country and the region. A large number of papers were presented and a great number of participants were actively involved, sharing the problems faced by public utilities, best practices for solving them, and sharing experiences between stakeholders.

Moreover, ADKOM organized, in the framework of the conference, a dialogue on the topic "Strengthening the dialogue for sustainable and efficient water services between the central government, the local self-government units and public utility companies in the Republic of Macedonia", where the participants had the opportunity to discuss the creation of a favorable environment for improved services in the water sector, including capacity building discussions. The conclusion of the dialogue resulted in a need for better coordination among the stakeholders, and ADKOM, in cooperation with the donor community, is ready to initiate and implement it.

A technical exhibition was organized during the conference was organized, with 17 companies from the Republic of Macedonia as well as from abroad presenting their activities, products and equipment at exhibition stands, related to the conference topics.

ADKOM
Executive Director
Bsc Lolita Stojanovska



OPENING OF THE 10TH INTERNATIONAL CONFERENCE



The 10th international conference was opened by Mr. Zoran Gorgiev, President of ADKOM. Mr. Gorgiev noted that ADKOM is recognized not only in the country, but also in the whole region, as an association representing the interests of public utility companies.

Mr. Gorgiev added that the challenges in the communal sector are enormous, but in order to improve the operation of public utility companies (PUCs) while also ensuring clean and quality potable water, as well as proper treatment of wastewater and waste, ADKOM organized this conference in cooperation with PE "Water Supply and Sewage" Skopje and PE "Communal Hygiene" Skopje.

On behalf of PE "Water Supply and Sewage", Skopje, Ms. Lindita Shakiri, Assistant Director for technical issues addressed the meeting. Ms. Shakiri pointed out that PE "Water Supply and Sewage", Skopje, as the largest public enterprise in the country, stimulates and supports the organization of conferences, just like the present conference, which aims to explore ways, to increase knowledge, to cross experiences, to establish new visions, but also, most importantly, to provide contacts among all who work in the communal sphere.

Mr. Pance Orcev, representative of the Energy Regulatory Commission of the Republic of Macedonia, said that one of the measures for achieving efficient water management is through the establishment of regulation in

the water sector. Mr. Orcev reiterated that the Energy Regulatory Commission obtained the legal competence to regulate the issues of water tariff establishment, and the Law on water services determination entered into force from January 2015.

Mr. Visar Ganiu, Vice President of ZELS, pointed out that the situation in our country in terms of water and waste is not looking good at all. There are still municipalities that do not have a quality water supply infrastructure, and that there are still illegal landfills. Mr. Ganiu noted that there are improvements in these sectors and investments are expected that will assist municipalities in capital and infrastructural investments.

Mr. Ilber Mirta, Head of the Water Sector in the Ministry of Environment and Physical Planning of the Republic of Macedonia also addressed the conference, pointing out that in the last report of the European Commission in the area of water, it is emphasized that it's crucial to make even bigger efforts regarding the reduction of water loss, alignment with European Water Directives, as well as improving institutional cooperation and coordination. Mr. Mirta emphasized that it is precisely in this direction that this international conference is held, that is, representing the latest technologies, experiences from the region for the operation and modernization of public utility companies in the country.



FIRST PANEL SESSION: EXPERIENCES OF THE REGULATOR IN THE TRANSITIONING PERIOD IN ESTABLISHING THE PRICES OF WATER SERVICES / TARIFFS



Moderators:

- **Mr. Shamil Rexhepi,**
Energy Regulatory Commission of
the Republic of Macedonia
- **Mr. Dimitar Kochkov,**
Energy and Water Regulatory Commission (EWRC),
Republic of Bulgaria



Panelists:

- **Ms. Jadranka Ivanova,**
Ministry of Environment and Physical
Planning of the Republic of Macedonia
- **Mr. Pance Orcev,**
Energy Regulatory Commission of the
Republic of Macedonia Macedonia
- **Mr. Ivailo Kashciev,**
Energy and Water Regulatory Commission
(EWRC), Republic of Bulgaria
- **Ms. Silvana Simaku,**
Regulatory Commission from Albania
- **Mr. Milos Petrovic,**
Regulatory Commission from Montenegro
- **Mr. Raif Preteni,**
Regulatory Commission from Kosovo



Papers:

- “Process of data collection and management in some Macedonian water utilities”,
Authors: Javor Dimitrov and Lea Pavlovik

Mr. Rexhepi, as one of the moderators of the first panel session, emphasized that during this session it is planned to share experiences from the regulatory bodies coming from the countries from the region, to see how the activities are progressing during the regulatory process, as well as to consider the planned activities within the scope of the legal competencies and obligations.

Afterwards, Mr. Kochkov took the floor, pointing out that the Energy and Water Regulatory Commission of the Republic of Bulgaria has signed a cooperation agreement with the Energy Regulatory Commission of the Republic of Macedonia. He emphasized that this agreement made it possible to exchange experience regarding all activities during the regulatory period. He also expressed satisfaction with the fact that starting from this year, the Energy Regulatory Commission of the Republic of Macedonia is a full member of the European Water Regulators Network, WAREG.

Ms. Jadranka Ivanova, Ministry of Environment and Physical Planning of the Republic of Macedonia, recounted who was the main motivator for the introduction of a regulatory body for water services in the country. By building the first wastewater treatment plant in Prilep, where as an obligation, in order to receive the funds, Macedonia was asked to reform the system for determining water services tariffs. Ms. Ivanova informed that previously there existed a methodology, but it was not binding, and there was no mechanism for ensuring compulsion. As previously mentioned by donors who were interested in investing in infrastructure, they asked for it to be sustainable. “Hence, we prepared a study, taking into account the experiences of the other countries, and it proved to be best to introduce a regulator that will determine the prices of water services. Together with colleagues from the Energy Regulatory Commission, we managed to establish this water management regulation system,” emphasized Ms. Ivanova.

In her presentation, Ms. Ivanova added that the Ministry of Environment and Physical Planning of the Republic of Macedonia also had another motivator, i.e., that the country needs 1.5 billion euros in order to meet the required standards in terms of water. The attendees were informed that it is necessary to construct 87 new treatment plants, of which 16 should with tertiary treatment, while the rest should provide secondary treatment of urban wastewater. Additionally, 123 agglomerations in RM were determined. Ms. Ivanova said that a good plan had been developed to reach this step and noted that out of 1.5 billion euros, 90% of the infrastructure will be managed by the PUCs. And it is precisely from here that she sees the challenge that the central, local government, and ADKOM, as well as the PUCs, should work together on. It is with the establishment of the regulatory body that we have accomplished a big step forward and how the Ministry remains to support the PUCs in strengthening their capacities, said Ms. Ivanova.

During this panel session, representatives of the Regulatory Commissions from Macedonia, Bulgaria, Albania, Montenegro and Kosovo explained the process of regulation and the manner of work in their countries.



ENERGY REGULATORY COMMISSION OF R. MACEDONIA

Mr. Pance Orcev explained that regulatory bodies that carry out economic regulation have one of the most essential tasks, namely establishing a balance between the profitable operation of the PUCs and the country's efforts to ensure the welfare of the society. It was emphasized that in order to obtain a quality service, it is necessary to set prices that would justify the costs of the operation of the PUCc, in order to enable quality water infrastructure utilization. Emphasis was placed on the fact that it is particularly important that water services are financially affordable for the population, and as a final process of the reforms in the sector, to provide quality services with the lowest prices or costs. Mr. Ortsev informed the participants that the Energy Regulatory Commission of the Republic of Macedonia has already published, in a very transparent manner and in accordance with the Law on Determining Prices for Water Services, all sub-legal acts, the Methodology for determining the tariffs for water services, the Rulebook on the Manner and the Procedure for Determining the Tariff for Water Service and Regulatory Tariff for Water Service and Guidelines for the Preparation of a Request for Water Services Tariffs.

Mr. Orcev pointed out that, although the regulatory period for the PUCs with over 10,000 PE has been completed, there are still some PUCs that do not have established tariffs. The following three problems were identified:

1. The procedures for adopting prices by the water management companies were made in the period after the adoption of the procedures by the PUCs. Due to this time difference, an inadequacy appeared in the part of the prices of the PUCs and they were not realistic.
2. There are PUCs and local self-government units that, while the regulatory period lasted, had been still establishing their management boards or councils of the municipalities.
3. Due to certain costs that are included in the calculation in the methodology for calculation of tariffs, pursuant to Article 17 paragraph 2 of the Law on Determining the Prices of Water Services, PUCs have submitted new requests for tariff change. Some of these requests have been met, because they are justified.

Mr. Rexhepi added that, according to the law, the Regulatory Commission is obliged to regulate four water services: raw water, water supply or potable water supply, drainage and urban wastewater treatment. He also explained that the phase of the first requests for the establishment of tariffs received from the group with over 10,000 PE has been completed, but they are now in the phase of considering the strategy in terms of business plans, tariff adjustment plans, list of indicators and the remaining data for the second group of water services providers - below 10,000 PE. Mr. Rexhepi emphasized the need to pay attention to all legal deadlines, as all processes are dependent on them.



ENERGY AND WATER REGULATORY COMMISSION – R. BULGARIA

Mr. Ivailo Kashciev informed the participants that the Water Regulatory Commission was established in 2006. It was also stated that the process of establishing the commission was more or less the same as it is now in Macedonia.

In his presentation, Mr. Kashciev explained that the obligations of the Regulatory Commission are in terms of regulating the quality and prices of water services, approving common deadlines for water service operators and control.

Speaking about the regulatory period over the past 10 years, Mr. Kashciev added that they had been facing a number of challenges that they are now trying to overcome. As part of the problems he mentioned the Business Plans and non-digitized data - databases, lack of asset registers, lack of commercial efficiency, different accounting practices are part of the issues that led to low quality data. One of the biggest problems in the regulatory process was that the approval of the Business Plans and the tariff adjustment plans were two different procedures, and due to the time difference, the connection between them was being lost.

Regarding the new regulatory period 2017-2021, the attendees were informed that changes were made in the policies, since problems of the last regulatory period were observed. Mr. Kashciev noted that the changes, i.e., the improvements were in relation to the key performance indicators, which from 50 were reduced to 30, the water service providers were separated into 4 groups: large, medium, small and micro levels, a request was made for the implementation of internal databases, registers, ISO certificates, and so on.

In his address, Mr. Kashciev explained that the Regulatory Commission in Bulgaria differs from the Regulatory one in Macedonia in that they have the final say regarding tariff regulation, unlike in Macedonia where the tariffs require approval from the council of the municipality.

REGULATORY COMMISSION FROM ALBANIA

Ms. Silvana Simaku, explained that the Regulatory body in Albania was established by law in 1996. The role of the regulatory body is to protect the interests of costumers by attending to the financial stability of enterprises, that is, of companies providing water services in Albania. Ms. Simaku also informed that they are taking care of water resources through the implementation of the Potable Water Directive and the Urban Waste Water Directives. The instruments that the regulatory body uses are divided into four pillars: sector development, tariff regulation, performance monitor and information and costumers protection. But the most important instrument they use is the Tariff Determination Manual and the Expenditure Guide. Once a regulatory commission has been established, there is an agreement, which has been approved and in force, between consumers and water providers, said Ms. Simaku.

In addition, Ms. Simaku informed that the regulatory body decided to revise the methodology for determining the tariffs for the documents that should be prepared and submitted by the water service providers in order to simplify the application process.



REGULATORY COMMISSION FROM MONTENEGRO

Mr. Milos Petrovic pointed out that they have limited experience in Montenegro, since the regulatory commission was established in 2016. What Mr. Petrovic emphasized was that they had faced the big differences between the PUCs, that is, the difference between those PUCs located on the coast, from those in the north. PUCs on the coast have a degree of recovery over 100%, and the remaining 60/80%. In addition, PUCs located in small settlements have a problem with employing engineers because they do not want to remain in work at those places. For the commission and ministries all these problems posed a challenge to find the best way to implement the regulatory process. Mr. Petrovic stressed that four sub-legal acts need to be developed – methodology, benchmarking rulebook, licensing policy and a quality standard rulebook. It was explained that the law that was adopted in 2016 in Montenegro has parts that can not be fully implemented, remarks have been sent by them and by the PUCs to the Ministry and expect to begin with the amendments to the law.

REGULATORY COMMISSION FROM KOSOVO

Mr. Raif Preteni informed that the Regulatory Body for Water Management (RBWM) is an independent economic regulator that regulates the activities of the providers of water services in Kosovo. It is financed by the Budget of the Republic of Kosovo and is in accordance with the law on managing public finances and the corresponding responsibilities. It was also pointed out that the RBWM is managed by the Director and the Deputy Director, who are elected by the Assembly of the Republic of Kosovo and submits reports to the Assembly of the Republic of Kosovo.

Mr. Preteni added that RBWM issues licenses for water and wastewater services and wholesale services related to treated and untreated waters. Licenses are issued for a period of 1 to 10 years, depending on the level of compliance with the required conditions. Regarding the inspection, RBWM verifies whether the service providers respect the primary and secondary legislation. Inspection activities are conducted by the inspection unit in coordination with all other departments.

Mr. Javor Dimitrov, during the presentation of the paper “Process of collecting and managing the data in some of the public utility companies in the Republic of Macedonia”, explained that this paper is based on the experience of the authors from the EU-funded project “Reform in the system for water supply, collection and treatment of wastewater at the local level”; EuropeAid/136063 / IH/ SER/ MK (2016-2017, under the guidance of Eptisa).

Mr. Dimitrov added that the paper aims to provide more details on the status of systems and routines for data collection and management in terms of their adequacy, especially for tariff regulation purposes. Further on in the paper, additional measures are presented to improve the process of data collection and management.



CONCLUSIONS FROM THE FIRST PANEL SESSION:

The opportunity to hear about the experiences of the Energy Regulatory Commission of the Republic of Macedonia, as well as the experiences from other regulatory bodies in the region, is an indication of the need to organize further conferences of this type. Based on the experiences presented in the panel discussion, there was an impression of unification of some of the regulatory measures, but it is also evident that in different countries the application of regulatory measures is different and as such is a good opportunity for their further harmonization.



DIALOGUE SESSION: STRENGTHENING THE DIALOGUE AMONG CENTRAL AND LOCAL GOVERNMENT AND PUBLIC COMMUNAL UTILITIES FOR SUSTAINABLE, EFFICIENT AND AFFORDABLE SERVICES



The moderator of the dialogue session, Ms. Katerina Canevska Arsovska emphasized that the significance and purpose of this session is to encourage the dialogue between the different stakeholders in this sector, especially important among the line ministries, the regulator, ZELS, ADKOM. The dialogue is for the sole purpose, i.e., sustainable, efficient and accessible communal services.

Ms. Svetlana Zdravkovska, GIZ ORF MMS, mentioned in her address that the conference featured various challenges this sector faces and believe that dialogue is one method to make changes, that is, to deal with all those challenges. It is much easier to implement strategies that we build together and for which there is a commitment from several stakeholders, said Ms. Zdravkovska. It was initiated that ADKOM is a driving force in establishing stakeholder dialogue and that ADKOM should put all expert opinions on the table so that they can be used. Ms. Zdravkovska pointed out that this is what they would like to see in function in the country.

Mr. Zoran Gorgiev, President of ADKOM, emphasized the need for dialogue between the local and central government and the PUCs in order to find better ways for cooperation. Dialogue is needed in order to reach a level of higher cooperation and greater decentralization of the government, we are initiating this to provide citizens with better services, said Mr. Gorgiev.

Ms. Lindita Shakiri stated that PE "Water and Sewerage" as one of the biggest enterprises in the country is most affected, because they are constantly undergoing major changes. She, therefore, emphasized the importance of dialogue and reiterated that it is necessary in order to offer better services to citizens and to create enterprises that will be effectively sustainable.



Mr. Pance Orcev, Energy Regulatory Commission of the Republic of Macedonia says that he agrees on the importance of the dialogue, but also that not all stakeholders are interested in participating in it. He gave an example where the Energy Regulatory Commission of the Republic of Macedonia, at the last preparatory session for the water tariff of Studencica, called twenty institutions to make any particular suggestion that will be used and incorporated in the decision, but only three of the institutions attended. Mr. Orcev stressed that more efforts must be made to improve the overall coordination.

Ms. Jadranka Ivanova, Ministry of Environment and Physical Planning of the Republic of Macedonia, added that dialogue can only be conducted if the problems are understood, discussions must be done based on facts, and discussions should be conducted in order to make positive decisions and changes. During the discussion, Ms. Ivanova pointed out that priorities must be determined and all activities must be directed towards these goals. There can no longer be a status quo, at least not in the environment, said Ms. Ivanova.

Ms. Ana Karanfilova - Maznevskva, Ministry of Environment and Physical Planning of the Republic of Macedonia, followed up on the discussion and stated that it is really important to discuss facts and figures in public debates. Ms. Maznevskva said she believed that it was not about ignorance, but about mistrust, and therefore suggested restoring confidence in order to create common goals and to transfer competencies.

From the aspect of waters, Mr. Ilber Mirta, Ministry of Environment and Physical Planning of the Republic of Macedonia, said that they have established good communication with the PUCs, but also that public discussions are mostly organized through European projects. Moreover, after the end of those projects, discussions also come to an end. Mr Mirta pointed out that this is something we need to work on and to start to independently organize discussions of this type.

Mr. Bojan Durnev, Ministry of Agriculture, Forestry and Water Economy, added that there are seven companies under their jurisdiction and as a Ministry they do not have an insight into what these water management companies had submitted to the regulator. They receive this submitted information from the Government and can only be assessed as positive or negative. Due to this problem, Mr. Durnev proposed to organize a discussion between the Regulator, the Ministry of Environment and Physical Planning and the Ministry of Agriculture, Forestry and Water Economy for that regulation of all water related prices, one institution to control them in order to have it insight regarding the values, i.e., costs.

Ms. Natasha Petrovska, Mayor of the Municipality of Bitola, said that the problem does not exist only in terms of prices, but rather in the conviction of the citizens regarding the quality of the service. It was emphasized that a number of problems arose in the management of regional landfills by regional centers, where experience has shown that at such a stage it is necessary for the central government to take control. The PUCs, as well as the local government, that is, the municipalities, go through various states of their capacities and the ability to deal with the problems. Hence, Ms. Petrovska pointed out that there must be one center that would monitor all the conditions in the sector and make a systemic approach through which it will effectively work on solving all problems at the state level. Moreover, it was mentioned that dialogue must exist, but besides public enterprises, local and central government, it should also include the non-governmental and business sectors.

Ms. Jadranka Ivanova said that the introduction of the regulator in the water sector was done on the basis of a dialogue. She added that within the project and after that, they had a dialogue with



the municipalities and the PUCs on the topic of how their work could be improved and how to go about it. “The regulator came as a final decision, and then many meetings were held. Dialogue has always existed, sometimes being more intense, depending on the problems,” said Ms. Ivanova.

Ms. Lindita Shakiri added that in these dialogues and public debates, the key is to exchange experiences, knowledge and sharing of resources. She pointed to the plan for the construction of the treatment station in Skopje and underlined with this example how important the cooperation between the local, central government and the PUC itself is in the preparation of such a plan.

Mr. Slavko Ruzinovski, PE “Communal Hygiene” Skopje, followed up on what Ms. Karanfilova-Maznevska said on the topic of waste management and added that a Regulator and a tariff was introduced for the water, and Methodology was prepared for the waste. Regarding the methodology, Mr. Ruzinovski informed that not all PUCs implement it properly and that this issue requires some actions. Moreover, Mr. Ruzinovski emphasized the importance of resolving regional landfills, saying that the central government should take control at this moment.

CONCLUSIONS FROM THE DIALOGUE:

Much greater coordination is necessary between the central government, the local self-government units and the PUCs in the policy-making process.

ADKOM is competent and ready to initiate and implement the dialogue between the stakeholders in cooperation with the donor community.



SECOND PANEL SESSION: REFORM FOR THE INSTITUTIONAL SETUP IN WATER MANAGEMENT IN THE REPUBLIC OF MACEDONIA



Moderator:

• **Mr. Ylber Mirta,**

Ministry of Environment and Physical Planning
of the Republic of Macedonia

Panelists:

- **Ms. Stanislva Dodeva,** Swiss Embassy in the Republic of Macedonia
- **Mr. Dragan Dimitrievski,** GEING
- **Ms. Biljana Puleska,** FON University
- **Mr. Bojan Durnev,** Ministry of Agriculture, Forestry and Water Economy
- **Mr. Ad Sanen,** Consultant
- **Mr. Martin Wolf,** Consultant
- **Ms. Daniela Buzarovska,** Consultant
- **Mr. Brian Faulkner,** Consultant





Papers:

- “The Path towards Financial Self Sustainability and Full Cost Recovery”, *Authors: James Hunt and Daniela Buzarovska*
- “Size matters; the need for organizational clustering of municipal drinking water and wastewater services in Macedonia”, *Authors: Ad Sannen, Jane Vrteski and Daniela Buzarovska*
- “Integrated water management in Macedonia”, *Author: Martin Wolf*
- “The significance of strategic planning, the use of international practices and European directives in the management of groundwaters”, *Authors: Dragan Dimitrievski, Ljupco Dimitrievski, Sonja Lepitkova, Milorad Jovanovski and Ljupco Petkovski*
- “River basins and water accounts: The roles and responsibilities of water utilities”, *Authors: Brian Faulkner and Daniela Buzarovska*

Mr. Ylber Mirta, as the moderator of this panel session, pointed out that, regarding the improvement of the institutional settlement, so far there were several initiatives, activities, meetings but no long-term results have been achieved. The government’s work program stipulates a water agency that is expected to grow from a plan into a functionality. On the topic of the water agency, Mr. Mirta called the first panelist, Ms. Biljana Puleska from FON University, who gave her own presentation on the topic “Perspectives and possibilities for Improving the Institutional setting in the Water Sector”. Through this presentation the attendees were informed about the report, which, with the support of the Swiss Cooperation Office in Macedonia, the Swiss Embassy), was prepared in 2014 for the Ministry of Environment and Physical Planning, and it was developed in the direction of restructuring the water sector, with the aim of better management.

The report starts from the current situation, focusing on legislation and institutional set-up and ends with suggestions for improvement. During her presentation, Ms. Puleska presented the existing legislation, the institutional settlement, as well as the conclusions for the same.

Regarding the possibilities for improvement, two options were pointed out. **The first option is to establish/develop capacities for “water sector” in each department/ministry/local unit/ ...** involved to the level of being fully capable to participate in joint (not integrated) water resources management and to participate and assist in the decision-making process of a well-coordinated “inter-ministerial coordinative and decision-making body”

The second option is the establishment/development of a central water resources management body that should be capable to take responsibility to operate, taking into account the multi-disciplinary nature of water management.



Joint management, i.e, the first option, aims to form an **inter-ministerial coordinating body**, which has the capacity to carry out the tasks professionally. The future benefits are as follows:

- The more efficient use of the limited financial capacities, and the combination of different sources of financing should strengthen the borrowing capacity and reduce the cost of financing.
- Coordinative investment planning

The second phase is the introduction of agencies that will provide professional support in each of the sectors of the Ministries. At this stage, the point is to establish expert bodies that will be strengthened to the extent that they implement the legislation and strategies, but policymaking as a competence remains within the power of the Ministries. In these agencies, each of the Ministries can delegate their representatives and thus ensure control over the activities of the agencies.

Integrated water resources management at the Agency level as a third stage, full integration is proposed. Integrating all activities into one expert body as an independent state-level management authority. In that, price regulation is proposed to be outside within an independent body, however, if there is a regulatory system that will determine the objectives of all water management services and inspection supervision over the implementation of laws, it should also be outside of this frame, said Ms. Puleska adding that in this way it is presented how to organize or to transform the water sector.

The paper “The Path towards Financial Self Sustainability and Full Cost Recovery” presented by Ms. Daniela Buzarovska examines the key element in the reference to this support: the way local business plans should be taken into account in national-level plans in order to provide financial and technical assistance, and vice versa. The paper illustrates the manner this can be achieved in practice through the application of sectoral financial modeling and investment planning at the central level, using the “best available information” from the local level.

Mr. Ad Sanen, during his presentation “ Size matters; the need for organizational clustering of municipal drinking water and wastewater services in Macedonia” pointed out that the paper focuses on the issue of how to achieve a sustainable and consolidated sector for potable water and wastewater in the Republic of Macedonia in the next 20 years. Mr. Ad Sanen noted that for this purpose it is necessary to develop mechanisms for cooperation between municipalities and their public utility companies, in order to prepare and implement significant capital investments and to achieve more adequate scope and size of operation, and again he emphasized the importance of dialogue.

Mr. Martin Wolf, during his presentation on the paper “Integrated Water Management in Macedonia” said that the activities of the EU’s recent program for support of the water sector in Macedonia, conducted in the period from 2014 to 2017, aim to strengthen implementation of the national agenda for reforms in the water sector, to strengthen the sector management capacities in accordance with EU policies and more specifically to assist the relevant competent water management authorities in Macedonia in the future implementation of the requirements of the Water Framework Directive (WFD), including the preparation and implementation of investment projects for infrastructure for water and wastewater.

In the paper “The significance of strategic planning, use of international practices and European directives in the groundwater management”, Mr. Dragan Dimitrievski covered the following topics:

- development of groundwater management - long-term investment in infrastructure for groundwater exploitation



- planning (strategic approach) in the management of groundwater (sustainable exploitation)
- the use of experiences from international practices can be extremely important
- meeting the requirements of the European directives and international standards for the Republic of Macedonia, as a candidate country for EU membership, are mandatory

“River basins and water accounts: The roles and responsibilities of water utilities” was presented by Mr. Brian Faulkner and Ms. Daniela Buzarovska. The paper gave an overview of SEEAW’s basic “core accounts”, and illustrated their importance in determining the efficient and effective use of waters both in the context of policy and in the context of management, especially through the development of critical indicators relating to water exploration , the intensity of water use and water productivity.

Ms. Stanislava Dodeva, Swiss Embassy in the Republic of Macedonia, in her address mentioned it is really important that there is a body that should first take the technical, professional and expert role in order to help the ministry to continue with its role, that is, regulating the sector, establishing and creating policies and the authority over the implementation of the laws to be created. Ms. Dodeva added that experts often come through the projects who specifically work on a specific issue, but the body of this type, which would be a technical core, would enable the work to be successfully completed and implemented even after their departure.

Mr. Bojan Durnev, Ministry of Agriculture, Forestry and Water Economy, says that it is crucial to establish an agency or a Ministry that will give approval for further activities, that is, the waters must be integrated into one institution.

CONCLUSIONS FROM THE SECOND PANEL SESSION:

At the panel session “Reform of the Institutional Settlement in Water Management in the Republic of Macedonia” the need was confirmed for establishing these reforms from the aspect of providing integrated water management and meeting the requirements of the Water Framework Directive.

The future institutional setup should be based on dialogue and inclusion of all stakeholders without exception.



THIRD PANEL SESSION: SUPPLY OF DRINKING WATER AND COLLECTION AND TREATMENT OF WASTEWATER



Moderators:

- **Ms. Ljupka Dimovska-Zajkov,**
Ministry of Environment and Physical Planning of the Republic of Macedonia
- **Ms. Sanja Horvat,** PE Koprivnicke vode, R. Croatia

Panelists:

- **Mr. Darko Blinkov,**
State Environmental Inspectorate of the Republic of Macedonia
- **Mr. Dejan Dimitrovski,**
Faculty of Technology and Metallurgy, Skopje
- **Mr. Todor Anovski,**
Faculty of Technology and Metallurgy, Skopje
- **Ms. Sonja Lepitkova,**
Goce Delcev University, Stip
- **Mr. Andrej Ivanc,**
RIKO, Slovenia
- **Mr. Zoran Bozinovski,**
PE "Water Supply and Sewage", Skopje
- **Mr. Kiril Lisichkov,**
Faculty of Technology and Metallurgy, Skopje
- **Mr. Vait Ajro,**
Director of the IMPE "Proakva", Struga





Papers:

- “Sludge management from WWTPs, challenge and need for water and waste management”, *Authors: Ljupka Dimovska-Zajkov, Sonja Lepitkova and Vlatko Trpeski*
- “Waste water collection and waste water treatment; Project in Municipality of Grosuplje”, *Authors: Andrej Ivanch, Ivana Simeonova, Stane Stopar, Matjaz Bletza, Sonja Lepitkova and Marko Bahor*
- “Experience management for wastewater treatment plant-Volkovo”, *Authors: Vesna Pancevska,*
- “Benefits of Regional Wastewater Treatment - Case Study: Kocani Wastewater Project”, *Author: Ivo Folmli, Nikola Vangelov, Juliana Brasnarska and Reto Buehler*
- “FILTRAN®, a new constructed wetland process with less footprint for nitrogen removal from domestic wastewater”, *Author Oliver Bastin, Christopher Meunier and Mario Menegotto*
- “Ecoremediation for waste water and sewage sludge sanitation”, *Authors: Gregor Plestenjak, Alenka Mubi Zalaznik and Daniel Vrhovshek*
- “Wastewater to no waste integrated waste treatment plant design optimization with co-located industrial reuse operation”, *Author: Nafa Kalaf*
- “Satellite Leak detection Project in Mitrovica, Kosovo”, *Author: Bojan Ristovski*
- “Pressure management, measure to reduce water losses in water supply systems”, *Author: Angelina S. Todorovska*
- “Stabilization and product enhancement of sludge from wastewater treatment plants for usage in agriculture”, *Authors: Vait Ajro, Philip Chantris and Esida Lebellp.*

At this panel session, the topics were directed to the systems for water supply, collection and treatment of wastewater. Ms. Sonja Lepitkova and Mr. Todor Anovski emphasized the importance of separating the atmospheric waters from the communal ones, adding that their interference burdens the operation of the treatment plants. Mr. Zoran Bozinovski pointed out that we are making efforts in the country to follow EU directives and by-laws, but we do not have adequate staff training to monitor the changes to them. Mr. Kiril Lisichkov added that there are staff in Macedonia who follow the trends, but as it was noted at the dialogue session, there must be a greater link between all stakeholders as well as the academic fellowship on the topic of waters.

Ms. Ljupka Dimovska-Zajkov pointed out that the aim of the paper “Sludge management from WWTPs, challenge and need for water and waste management” is to provide data and information on the management of sludge, as well as the necessary elements for environmental impact assessment, economic and social impacts, including the health effects from existing practices in the use of sludge from the treatment of waste water on the soil and to present potential risks and/or opportunities and policy options related to the use of sludge in the EU countries and Macedonia.



Mr. Marko Bahor, during the presentation of the paper “Waste water collection and waste water treatment; Project in Municipality of Grosuplje”, explained that the goal is to show a solution for waste water collection and treatment for the municipality of Grosuplje. The solution involves the construction of a new system for primary sewage in the length of about 15 km and the removal of a 34-year old wastewater treatment plant with a size of 10,000 PE (physical range) and construction of a modern wastewater treatment plant with a size of 20,000 PE with tertiary treatment, anaerobic digestion and biogas utilization.

Ms. Vesna Pancevska, through the paper “Experience management for wastewater treatment plant-Volkovo”, presented the experiences and problems that arose from the two-year operation of this plant. It was pointed out that the adoption of the waste management and treatment regulations applicable in the EU countries could be a significant opportunity for more efficient resolution of the problems with the treatment plants.

Mr. Ivo Folmli noted that the provision of high quality and efficient sanitation services in Macedonia is a major contribution to protect groundwater and surface water bodies from pollution by urban wastewater. Regional wastewater management, i.e., consolidation of some or all of the activities of public utility companies, is an opportunity to increase the quality of services, as well as to reduce the specific costs of wastewater disposal and the impact on the environment. During the presentation he provided his views on “Benefits of Regional Wastewater Treatment - Case Study: Kocani Wastewater Project”.

Mr. Mario Menegotto explained that FILTRAN® is a two-layer planted filter process, with a vertical flow bed area on top of a horizontal flow bed, developed by the CEBEDEAU in Belgium and marketed by ALMADIUS and CEBEDEAU. As an advanced constructed wetland technology, FILTRAN® has been developed to address cases with less available footprint or with more stringent water discharge limits, especially regarding nitrogen, while minimizing cost.

Ms. Alenka Zalaznik pointed out that all countries today are facing various environmental problems, mainly due to human activity. The article “Ecoremediation for waste water and sewage sludge sanitation”, elaborates the finding of natural solutions for wastewater and sewage sludge treatment in smaller settlements that usually represent 40% of the settlement. Such sustainable solutions can save significant resources in the operation and maintenance of wastewater treatment plants (WWTP).

Mr. Nafa Kalaf said that, given the global challenges for water, sanitation and energy production, this innovation in the paper “Wastewater to no waste integrated waste treatment plant design optimization with co-located industrial reuse operation”, aims to reach from wastewaters to no waste, with co-located industrial re-use demonstrates the scientific development of a measurable and configurable design of wastewater treatment plants, through which existing industrial processes are collectively integrated, resulting in a synergy station whose main results are energy and potable water.



Mr. Bojan Ristovski, during the presentation of his paper “Satellite Leak detection Project in Mitrovica, Kosovo”, mentioned that it aims at the use of modern technology in detecting the leakages in the water supply system of Mitrovica, Kosovo. Mr. Ristovski informed the attendees that this is the first project of its kind in the Balkans and beyond in the region. It was noted that this special algorithm only detects the leaks of the treated water. It was recommended that this satellite test be done 2-3 times a year, and it was further explained that one shot (recording) could cover a whole area of water supply.

The paper “Pressure management, measure to reduce water losses in water supply systems” was presented by Ms. Todorovska, who pointed out that water losses are the main problem for water utilities. She also added that research shows that the trend of water losses is at a steady increase, while also increasing the exploitation costs of the systems. The basic measures in reducing water losses include the implementation of consumption zones and management of operating pressures.

The management challenges regarding sludge generated by wastewater treatment plants (WWTPs) are beginning to increase rapidly in the Balkans and Eastern Europe, as countries act on wastewater treatment to levels that are in line with the EU Water Framework Directive, said Mr. Ajro. He added that the stabilization and improvement of sludge production from wastewater treatment plants for use in agriculture aims to describe the procedure where various organic wastes are used to produce combined organic mineral fertilizer, which is suitable enough for application in agriculture.

CONCLUSIONS FROM THE THIRD PANEL SESSION:

At the session “ Supply of drinking water and collection and treatment of wastewater” the need is evidenced for cooperation and sharing of knowledge in the field of potable water supply and the system for collecting and treating wastewater, especially between the academic community and business sector as well as increasing the capacities of service providers and customer awareness.



**FOURTH PANEL SESSION:
STRENGTHENING THE CAPACITY OF
PUBLIC UTILITY COMPANIES FOR SUSTAINABLE,
EFFICIENT AND AVAILABLE WATER SERVICES**



MoModerator:

- **Ms. Katerina Canevska Arsovska**



Panelists:

- **Mr. Zoran Gorgiev**,
President of ADKOM
- **Mr. Jane Vrteski**,
Management Consultant
- **Mr. Rado Rusev**, IAWD
- **Mr. Oliver Nachevski**, GIZ
- **Mr. Miodrag Kolic**, NALAS
- **Ms. Elisabeta Pochi**, SHUKALB
- **Mr. Walter Osterwalde**, ilu Switzerland
- **Mr. Strahil Gavritov**, PE "Plavaja" Radovich



Papers:

- “Capacity Building for Public Utility Staff to Operate the New Waste Water Treatment Plant in Gevgelija”, *Authors: Walter Osterwalder, Krste Krstev and Alex Isenschmid*
- “Kocani Waste Water Treatment Project - Corporate Development” *Authors: Mile Paunkoski and Lidija Dojcinovska*

Ms. Katerina Canevska Arsovska explained briefly that the purpose of this session is the existing programs for capacity development of public utility companies in the water sector, the activities and plans of ADKOM for capacity development in Macedonia, as well as presenting the best practices from the associations and from public utility companies aimed at capacity building in the sector. The regional network for capacity building and the Danube Partnership Learning, as well as the possibilities for development of the capacities of ADKOM, ZELS, the public utility companies and the local self-government units were presented. At the same time, the first upcoming measures of the regional capacity building network and the Danube Partnership Learning were promoted, which should be implemented through the Training Center of ADKOM, and they also emphasized the need for creating synergies, sharing knowledge and experience related to development and implementation of capacity development measures through regional and structured approaches, in order to achieve an understanding of the need for a systemic and structured approach in capacity development.

Mr. Miodrag Kolic briefly explained that NALAS is a network of associations of local self-governments in Southeast Europe, which unites 14 associations of local self-government. They work together to promote the processes of decentralization and promote integration processes in the European Union. NALAS members are actively involved in the implementation of the regional capacity development network in the area of water and sanitation services. In order to improve cooperation between local self-governments and PUCs, it is necessary to strengthen their capacities, and as a result of this, the implementation of the project for a regional network for capacity development began, said Mr. Kolic. He added that 16 local self-governments and PUCs were covered, and the final beneficiaries were the management and managerial staff in PUCs and municipalities.

Goal of the project:

- Water companies in the Western Balkans to improve their efficiency and effectiveness, contributing to better provision of services covering a larger number of users who will have access to potable water and sanitation services, observing the fulfillment of EU environmental legislation.



The project focuses on achieving 3 results.

- **Result 1:** Operational support and capacity development of partners in the project for preparation and delivery of products for capacity development
- **Result 2:** Product development, adaptation of existing products in the region for capacity building
- **Result 3:** Lobbying activities to advance national frameworks.

Learning partnership in the Danube D-LEAP

Mr. Rado Rusev discussed the Danube Learning Partnership (D-LeaP), a regional initiative of national water supply associations and IAWD, and is another initiative for strengthening the water sector capacities. The Danube Learning Partnership acts as an integrated, sustainable and effective capacity building of water supply associations in the region. The programs have been developed by Technical Partners, which train local trainers and are delivered nationally by water supply associations and local partners (centers) in the national language. Mr. Rusev added that the Training Center of ADKOM will implement the programs of the Danube Learning Partnership.

Ms. Lolita Stojanovska briefly informed the attendees about the vision and mission of ADKOM and pointed out that the ADKOM Training Center is part of them. It was explained that the measures for the establishment of the Training Center of ADKOM are the development of a work program, establishment of partnerships to support the functioning of the center of ADKOM, providing human resources and developing a curriculum for various programs for utility activities. Ms. Stojanovska pointed out that ADKOM is starting with the implementation of the first two programs “Commercial efficiency in water supply and wastewater enterprises” and “Water safety and crisis management: Continuity of building bases for disaster risk management”.

Ms. Elisabeta Pochi shared the experience that SHUKALB has been implementing the USAID-funded project for three years now, a project that develops a national training center with certificates for the employees of the water utilities. It was explained that this project consists of two components. One component is to develop training courses, which will cover various topics. And the other component, SHUKALB in cooperation with the relevant Ministry, works in order to develop a program that will certify people working in the technical sector in the enterprises. Certificates will be given to those who wish to be part of the water sector as well as to the employees already working in the water sector. The qualifications in order to obtain the certificates are from three fields, i.e., relevant education, work experience and successfully passed test. Ms. Pochi said that they are currently in the final phase of the certification process. Regarding the training center, Ms. Pochi said from her experience that capacity building programs already exist through the Danube Partnership Learning, but in order to implement them, it is of great importance to select good trainers who will transfer their knowledge, to provide finance, but also to work with the regulatory commission and with other relevant institutions in order to make the training mandatory.

Mr. Oliver Nachevski had his presentation on the topic “Advisory services for managing infrastructure assets for utility companies in Southeast Europe”. It was noted that the goal of the project is to strengthen the capacities of the enterprises participating in the implementation of activities for integrated management of infrastructure funds through training, providing support, providing support and appropriate software and best practice methodology.



Regarding the use of Cloud technology in enterprises, the following advantages were highlighted:

- Better use of resources
- Relief of administrative resources through the separation of secondary applications
- The need for IT capital reduces the elastic operating cost model by paying on the go
- Improvement of data security

The paper "Capacity Building for Public Utility Staff to Operate the New Waste Water Treatment Plant in Gevgelija", was presented by Mr. Walter Osterwalder. He explained that waste water treatment plant has been built in Gevgelija with financial assistance of the Macedonian, Swiss and Greek Governments. The public utility of Gevgelija initially had neither staff, means nor competence at hand to operate such a plant. The project has therefore foreseen an institutional project component which included capacity building such as to enable the public utility to successfully operate the plant once it is finished, said Mr. Osterwalder.

Mr. Mile Paunkoski and Ms. Lidija Dojcinovska, during the presentation of the paper "Kocani Waste Water Treatment Project - Corporate Development" explained the experience in the process of business planning and adjustment of tariffs, the cooperation with the Energy Regulatory Commission (ERC), the measures to reduce the water loss that the Public Utility Enterprise (PUC) "Vodovod" Kocani is facing currently.

Mr. Zoran Gorgiev emphasized that it is very important to invest in the development of the capacities. The staff must develop in proportion to the technology, and we are aware that there is better technology every day, said Mr. Gorgiev. He added that this ADKOM Training Center is a great help to the PUCs and that the center will be supported by all stakeholders.

Mr. Jane Vrteski pointed out that ADKOM is an association capable to implement capacity building programs, and what has been accomplished so far only confirms this. However, what ADKOM is currently striving for is to reach a higher level, that is, through the establishment of a Training Center, said Mr. Vrteski. He added that dialogue between all stakeholders is really necessary, which will integrate the efforts to strengthen the capacities of the PUCs.

Regarding the certification of the trainings that will be implemented through the ADKOM Training Center, Mr. Vrteski says that the employees who will attend the trainings developed on the Danube Partnership Learning will receive certificates for said trainings.

Mr. Miodrag Kolic added that investments in these trainings have been made in order to improve the operation. One of the measures foreseen to be implemented within the framework of a regional network for capacity development is the exchange of positive experiences in the preparation of investments and in the management of this type of facilities. This experience will start to pilot in Bosnia and Herzegovina, and we hope that it will soon be in Macedonia, said Mr. Kolic. He pointed out that a curriculum has been developed, as well as an access to the methodology of exchange of experiences in order to come to a practical exchange of knowledge and skills (know-how).

Mr. Shamil Rexhepi added that the expenses for training and improvement of the staff are taken into account by the Regulatory Commission and approved by them as other expenses within the operating expenses.



CONCLUSIONS FROM THE FOURTH PANES SESSION:

At the panel session “Strengthen the capacities of public utility companies for sustainable, efficient and available water services”, it was found that investing in capacity development in service providers is more than necessary, and that regional initiatives are extremely important for sharing experiences at the national level. It was also confirmed at this panel that ADKOM meets all the requirements for establishing an institutional framework for support for capacity building in public utility companies.



FIFTH PANEL SESSION: WASTE MANAGEMENT



Moderator:

- **Ms. Ana Karanfilova - Maznevskaa**,
Ministry of Environment and Physical Planning of
the Republic of Macedonia. Macedonia



Panelists:

- **Mr. Graham Byrne**, Ireland
- **Mr. Andrej Ivanc**, RIKO
- **Ms. Irena Apostolova**, Enviroplan S.A
- **Ms. Daniela Nelepa**, MaSVA
- **Mr. Mario Menegotto**, Belgium
- **Ms. Natasha Bakreska**, USJE
- **Mr. Slavko Ruzinovski**, PE "Communal Hygiene" Skopje



Papers:

- “The experience in solid wastes treatment, design and operation a warranty for the right choices”, *Authors: Mario Menegotto*
- “Establishment of integrated and financially self-sustainable waste management system – the case study of Pelagonija, southwest, Vardar and Skopje regions”, *Authors: T. Lolos, Eleni Leremiadi and Irena Apostolova*
- “Leachate treatment plan for disposal of non-hazardous waste – Barje, Ljubljana”, *Authors: Andrej Ivanc, Grega Verk, Sonja Lepitkova and Marko Bahor*

Ms. Ana Karanfilova Maznevska, as moderator of this session, initially pointed out that this type of conferences is of great importance for all the stakeholders, i.e., the business community, PUCs, municipalities, ministries, regulators and the scientific sphere, to exchange views, experiences as well as to receive a response to a number of issues related to the relevant topics.

Mr. Graham Byrne, through his presentation, explained the process of establishing regional management in a region of Northern Ireland. He added that their work began informally in 2000, and became a legal body in 2008. At this initial stage, one of the biggest challenges they faced was how many members would be part of the board. It was decided to have the same number of representatives from both small and large enterprises. The decisions that followed were that the manner of voting would be according to the number of votes, there would be a rotation of the president, and that the financing of the Regional Center would be proportional to the population of each of the municipalities. Mr Byrne added that after completing this phase and becoming a legal body, they started working on the infrastructure. The attendants were informed that the private sector has continued its work and has further developed infrastructure, thus starting with the conclusion of contracts. What Mr. Byrne pointed out, in terms of transport, that they developed a number of stations and that in this way, a lot of finances were saved, and on each of the vehicles they placed a display device in order to have an insight into where exactly it is moving.

Ms. Eleni Leremiadi pointed out that the paper presents the activities of the project “Preparation of necessary documents for establishing of an Integrated and Financially Self sustainable Waste Management System in Pelagonija, Southwest, Vardar and Skopje Region (EuropeAid/136347/IH/SER/MK), implemented in the period from December 2015 to December 2017 by an international consortium led by ENVIROPLAN.

Mr. Mario Menegotto presented through the paper the “The experience in solid wastes treatment, design and operation a warranty for the right choice” through the paper. He added that it is truly difficult to find experience gathering theoretical (master plan, dimensioning of treatment facilities, design...) and operational activities in a same organization. Moreover, he stressed that, especially in the field of solid waste management, this seems very important, since the design has to match a correct configuration for operators and operators have to understand the correct use of the facility they have to manage.

Mr. Andrej Ivanc said that within the framework of the project Upgrade of the regional waste treatment center in Ljubljana, co-financed by the EU, a leachate treatment plant for the leachate



water from the landfill of non-hazardous waste Barje. In this paper, “Leachate treatment plan for disposal of non-hazardous waste – Barje, Ljubljana” the structure and characteristics of the leachate water is presented. Based on relevant legislation and client demands the selection of used technology is grounded. The contractor was the firm RIKO LLC from Ljubljana, and the plant is in regular operation since 2011, added Mr. Ivanz.

The use of alternative fuels in cement kilns – part of the sustainable waste management solution, was presented by Mr. Efstathios Politis. He added that selected waste and by-products with recoverable calorific value which can be used as fuels in a cement kiln, replacing a portion of conventional fossil fuels, if they meet strict specifications. Sometimes they can only be used after pre-processing to provide ‘tailor-made’ fuels for the cement process.

Some of the benefits he pointed out were in reference to the following areas:

1. The environment:

- Reducing the use of non-renewable (fossil) fuels and raw materials
- Reduction of greenhouse gases
- Positively affect gaseous emissions
- The energy recovery is better than disposal (waste hierarchy)

2. The society:

- Promote sound waste management policy for societies – avoidance of land disposal or incineration and accompanying emissions (air, land, water).
- Open up new employment opportunities / focus on local-regional level

3. Cement industry competitiveness:

- Optimize fuel and material cost (depending on the international prices), thus Clinker production cost reduction

Ms. Daniela Nelepa, MaSVA, through her video presentation in the very end of the panel session, showed the situation in which R. Macedonia is in terms of waste.

CONCLUSIONS FROM THE FIFTH PANEL SESSION:

At the panel session “Waste management”, the need for developing a waste management system was identified, and the establishment of regional municipal waste management systems at the level of R. Macedonia is of particular importance. Afterwards, emphasis was placed on strengthening existing public utility companies in order to adapt their operations within the new regional systems.















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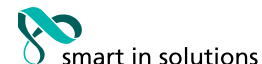


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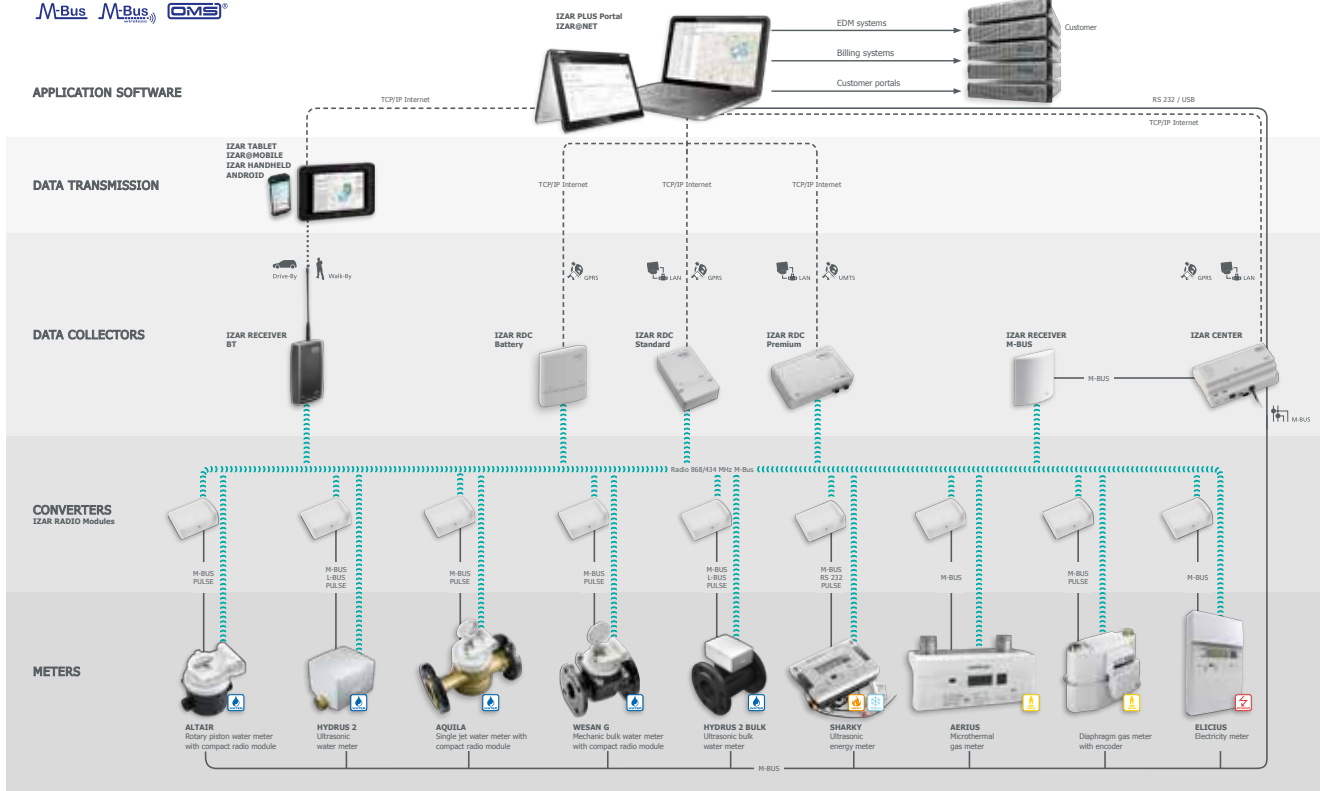
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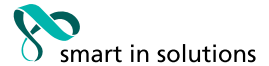
DIEHL Metering

For all-round efficiency from meter to energy data management:
 The IZAR System provides wireless and wire-based communication to the M-Bus Standard EN 13757 and the Open Metering Standard. The M-Bus protocol defines the information in value, unit and function.



IZAR PLUS Portal

Our strategy for more performance



IZAR PLUS Portal

Gain control of your energy data – anytime, anywhere.

With the new IZAR PLUS portal, Diehl Metering offers a high-performance solution for efficient energy data management.

Save energy, time and money.

The IZAR PLUS portal was specifically developed for the current and future challenges facing our customers: mobile and stationary readings, contact and reading infrastructure, tour planning and analyses are all managed centrally in one system.

The IZAR PLUS portal is the ideal tool for small and medium sized energy companies, public utilities and industrial customers with high data granularity. The solution reveals its highest level of efficiency when used to read a multi-utility infrastructure; it also ensures new economic efficiency when used to read an individual medium.

Your benefits:

- secure 256-bit encrypted SSL connection
- simple integration into existing IT processes
- intuitive and flexible operation
- includes system updates, upgrades and regular backups
- no further customer investment in infrastructure and maintenance
- IT data-centre (in Germany) certified in accordance with ISO/IEC 27001 and ISO 9001
- automatic, regular data backups
- no local software installation necessary

IZAR@NET 2 – install efficient processes locally.

If you do not wish to use the Diehl Metering software online “as a service”, you can install our solution on your own servers and PCs: with the relaunch of our IZAR@NET 2 software, we also offer local on-site installation.

Do you wish to experience the software “live”?
 Make an appointment with your consultant at Diehl Metering!

Features at a glance

Software as a Service.

Direct access to the software. From anywhere at anytime and with any operating system.

Dashboard.

The dashboard displays important information at a glance – graphs, reports and alarms.

Map view.

Plan walk-by or drive-by reading routes with the help of an interactive map.

Graphic presentation.

Graphic analyses of meter details, all measurement values and consumption processes.

Interfaces.

Simple connection (import and export) to third-party systems such as billing software via data exchange or REST API.

Analyses.

Analyses help to reduce energy losses, correctly dimension pipes and locate leaks.



ТЕHНОСКОП



DIEHL
Metering



VAG +GF+



HOBAS®

hawle

VIKING JOHNSON

CSA

BUSCH
Test Pressure



GENEBRE



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industry assistance



VALMAN
VALVE MANUFACTURING



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VALMAN d.o.o.



VALMAN
VALVE MANUFACTURING



A long, curved tunnel with a teal and yellow color scheme. The walls and ceiling are teal, while the floor is yellow. Light trails are visible on the walls and ceiling, suggesting motion. At the end of the tunnel, a cityscape is visible. The text "WILO BRINGS THE FUTURE." is overlaid in white.

WILO BRINGS THE FUTURE.

wilo

**ELECTRICAL SUBSTATIONS,
MINSKENERGO, MINSK,
BELARUS**

We designed a turn-key solution in collaboration with Kolektor Etra, Sipro inženiring, ABB and Siemens.

**P.A.T.H. BY STARCK WITH
RIKO**

Real Engineering, Elea iC, Domal, EVJ Elektroprom and Senčila Bled helped us turn expectations into reality.

**HYDRO POWER PLANT
BREŽICE, SLOVENIA**

We worked together with Nivo Eko, Žarn Krško, Metalno Senovo, Montavar Projekt and other companies on the development of this complex power plant.

**MANUFACTURING LINE FOR
THE MACHINING OF RAILWAY
PARTS »BOLSTER«,
TVZS, TIKHVIN, RUSSIAN
FEDERATION**

Along with Sas Zadar we triumphantly entered the Russian railway market.

**RIKO BRINGS TOGETHER COMPANIES TO ENABLE BOLD
ENTRY INTO SOME OF THE MOST DEMANDING MARKETS.**

We connect outstanding companies, their technological expertise, solutions and products, thus attaining refined excellence through new, common achievements. Our success is always comprehensive - we support art, culture and all that enriches life in Riko's surroundings.



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EPTISA SEE's Timeline

- 2005 Regional Office "Southeast Europe" Belgrade (SER)
- 2011 Subsidiary Office "Eptisa Southeast Europe d.o.o." Belgrade (SER)
- 2012 Subsidiary Office "Adria d.o.o." Zagreb (CRO)
- 2013 Country Office "Macedonia" Skopje (MK)
- 2013 Country Office "Bosnia and Herzegovina" Sarajevo (BIH)
- 2014 Country Office "Montenegro" Podgorica (MNE)
- 2017 Multi-Country Office "Illyria" Tirana (AL)



* EPTISA takes a neutral position vis-à-vis the political issues within the region of the Western Balkans. The designation for Kosovo is without prejudice to the positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.



DESIGN, SUPERVISION, REVISION AND CONSULTANCY IN CONSTRUCTION

WE DELIVER A COMPLETE ENGINEERING SOLUTIONS
IN 10 FIELDS FOR 60+ EXPERTISE

HYDROTECHNICAL ENGINEERING

- Water Resources Management
- Wastewater systems
- Water supply systems
- Drinking water treatment plants
- Wastewater treatment plants
- Irrigation systems
- Regulation and stabilization of river beds
- Flood management technical solutions



GEOTECHNICAL ENGINEERING

- Monitoring of groundwater
- Hydrogeological investigations for determining groundwater reserves
- Hydrogeological investigations for preservation of groundwater regime and quality
- Hydro-chemical investigations and groundwater surveys
- Performance of exploitation wells for water supply of individual and industrial facilities, settlements and cities
- Cleaning of new-performed and existing wells by airlifting



ENVIRONMENT

- Environmental impact assessments
- Environmental Management Plan
- Waste Management Plan
- Ecological elaborates
- Strategic environmental assessment
- Preparation of IPPC requirements for A and B license
- Application of "clean technologies" in the industry
- Measures and technologies for energy efficiency and application of renewable energy sources



Geotechnical Engineering



Geotechnical Design and Structures



Hydrotechnical Engineering



Roads and Railways



Energy



Mining



Environment



Architecture, Urban Planning and Energy Efficiency



Geodesy



Laboratory



Supervision



Health and Safety at Work



Certification





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