International Association of Water Service Companies in the Danube River Catchment Area

IAWD

DANUBE WATER PROGRAM

Smart policies, strong utilities, sustainable services

ACHIEVING RESILIENCY IN WATER AND WASTEWATER UTILITIES IN THE DANUBE REGION

2019 DANUBE WATER CONFERENCE

Vienna, June 2019

Federal Ministry
Republic of Austria
Finance

RCDN Regional Capacity Development Network for Water and Sanitation Services

Copyright IAWD/Astrid Knie

This year's Danube Water Conference participants. More than 200 participants and speakers from 28 countries representing ministries, regulatory agencies, water utilities, water utility associations, municipal governments, municipal government associations, international finance institutions, academia, NGOs and others.

CONTENTS

I.CONFERENCE AGENDA

Monday May 20th	*08:00–15:00*	*Registration (conference venue, first floor)*		
	09:00–09:45	**Danube Water Conference: Opening Session**		
	09:45-10:30	**Keynote: Why do we need a resilient water sector?**		
	10:30-11:15	*Coffee break*		
	11:15-12:45	**Sector performance for resilient services**		
	12:45-14:00	*Lunch (DWC 2019 Group Photo prior to lunch)*		
	14:00-15:30	**Managing talent for resilient services**		
	15:30-16:15	*Coffee break*		
	16:15-17:45	**Cooperation as important tool to achieve resilient water and wastewater services**		
	18:30	**Business Reception and Conference Dinner** *(Venue: Campus Bräu)*		
Tuesday May 21st	*08:00-12:00*	*Registration (conference venue, first floor)*		
	08:30- 09:15	**Keynote: Evaluation and recast of EU water policies - status, challenges and lessons learned**		
	09:15-10:45	**How to achieve resilient wastewater treatment in the Danube region?**		
	10:45-11:15	*Coffee break*		
	11:15-12:45	**Financing for resilient water infrastructure projects**		
	12:45-14:00	*Lunch*		
	14:00-15:30	**Water security**		
	15:30-16:15	*Coffee break*		
	16:15-17:00	**DWC 2019 Closing Session: Key messages for resilient service provision and water security in the Danube region**		
	17:00-18:30	**Development Partners Meeting** (by invitation only) *(Prüfungszimmer 01-09)*		
	19:00	**Utility CEO Dinner** (by invitation only) *(Restaurant Ringsmuth)*		
Wednesday May 22nd	**08:30-10:30**	**IAWD Board Meeting** *(Prüfungszimmer 01-09)*	**Regulators Meeting** *(Kreativraum 03-23)*	**Danube Meeting** *(Kreativraum 03-27, starting at 09:00)*
	10:30-11:00	*Coffee break*		
	11:00-12:00	**IAWD General Assembly – for designated members only** *(Conference Room A)*		
	12:00-13:00	**IAWD General Assembly – open to all participants** *(Conference Room A)*		
	13:00-15:00	**D-LeaP Committee Council Meeting** *(Conference Room A)*	**YWP Workshop** *(Conference Room B)*	

II. THE ORGANIZERS

1. World Bank / IAWD Danube Water Program

The World Bank / IAWD Danube Water Program supports **smart policies, strong utilities and sustainable water and wastewater services** in the Danube region by partnering with regional, national and local stakeholder, promoting an informed policy dialogue around the sector's challenges and strengthening the technical and managerial capacity of the sector's utilities and institutions.

Why this Program?

Governments and water professionals in the Danube region face a double challenge of meeting their citizens' demand for universal, good quality, efficient, and financially sound or - in one word - sustainable water and wastewater services, while catching up to the environmental requirements of the European Union *acquis communautaire*. To address this double challenge, the World Bank and the International Association of Water Service Companies in the Danube River Catchment Area (IAWD) have partnered to launch the Danube Water Program, with a 13 million Euro, three-phased financing from the Government of Austria.

What has the Program achieved?

The Danube Water Program was formally launched in May 2013 in partnership with line ministries, regulators, waterworks associations, and local government representatives of a dozen countries in South-East Europe. Since the launch of the Program, knowledge exchanges among more than 700 sector professionals and policy makers in the region and beyond has taken place. In 2015 a State of the Sector report was produced and made available as a comprehensive assessment of the situation in the water sector of all countries of the Danube. This year, an updated 2018 version will be released within the frame of the conference. Three additional analytical pieces exploring status and trends in wastewater management, rural water supply and sanitation and agglomeration of utilities have been published. Capacity building programs benefiting over 170 utilities have been undertaken under the region wide Danube Learning Partnership (D-LeaP) involving cooperation with all the national water utility associations. Numerous local initiatives worth more than € 1,000,000 through competitive grants have been supported. DANUBIS.org, a platform for sharing information on water and wastewater services is being utilized as the main regional knowledge base.

What is coming now?

Under the Danube Water Program's third phase, the program will focus on the flagship activities developed in the previous phases. The key "legacy" initiatives include the continuation of the Danube Water Conference as the prime gathering of sector professionals in the region; the development and update of key regional analytical and advisory activities, the further development of the DANUBIS.org website into a lively platform of information exchange and benchmarking for the whole region; and the implementation of capacity building activities under the Danube Learning Partnership (D-LeaP), a sustainable learning partnership of national and regional water utility associations. In addition, DWP implementation experience of the past six years has evidenced the need to expand the scope of the program to include water security aspects to remain relevant for the region's countries' challenges.

www.iawd.at
www.worldbank.org/en/topic/water
www.danube-water-program.org

III.CONFERENCE RESULTS

The 2019 Danube Water Conference on "Achieving resiliency in water and wastewater utilities in the Danube region" was held on May 20-21, 2019 in Vienna, Austria. The Danube Water Conference, organized by IAWD and the World Bank with funding from the Austrian Government, is the Danube Water Program's flagship event, taking place in Vienna every May since 2013. This year's conference brought together more than 200 participants from national and local governments, regulatory agencies, water utilities, international financing institutions and professional associations as well as academia coming from 28 countries in the Danube region.

Figures 1 and 2 show this year's distribution of participants by institution typology and by country.

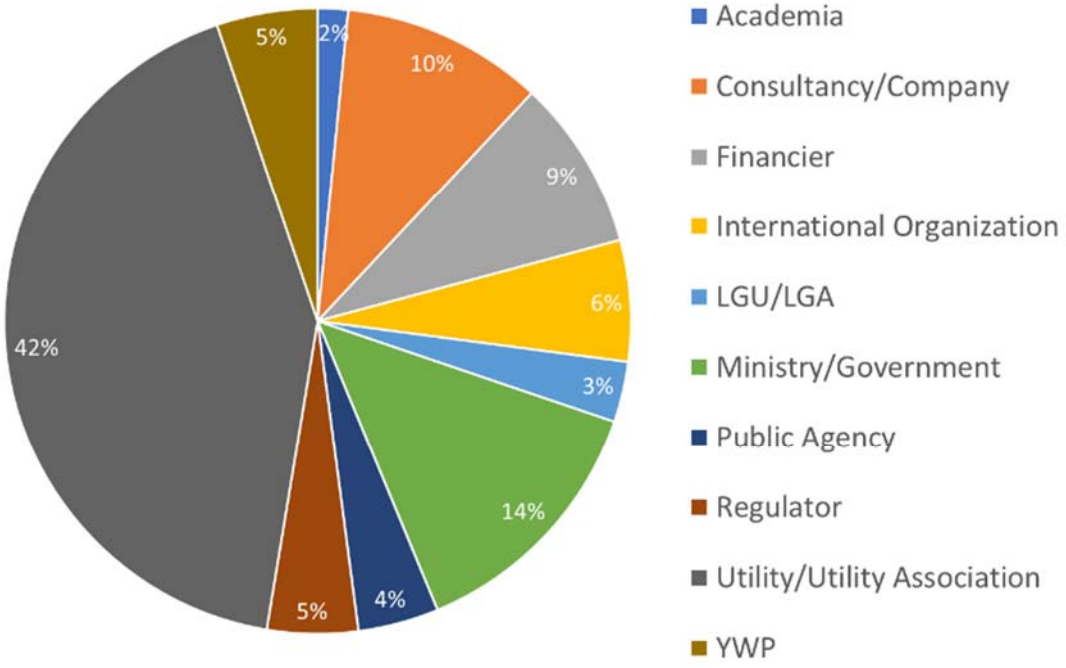


Figure 1 Distribution of 2019 DWC participants by institution typology.

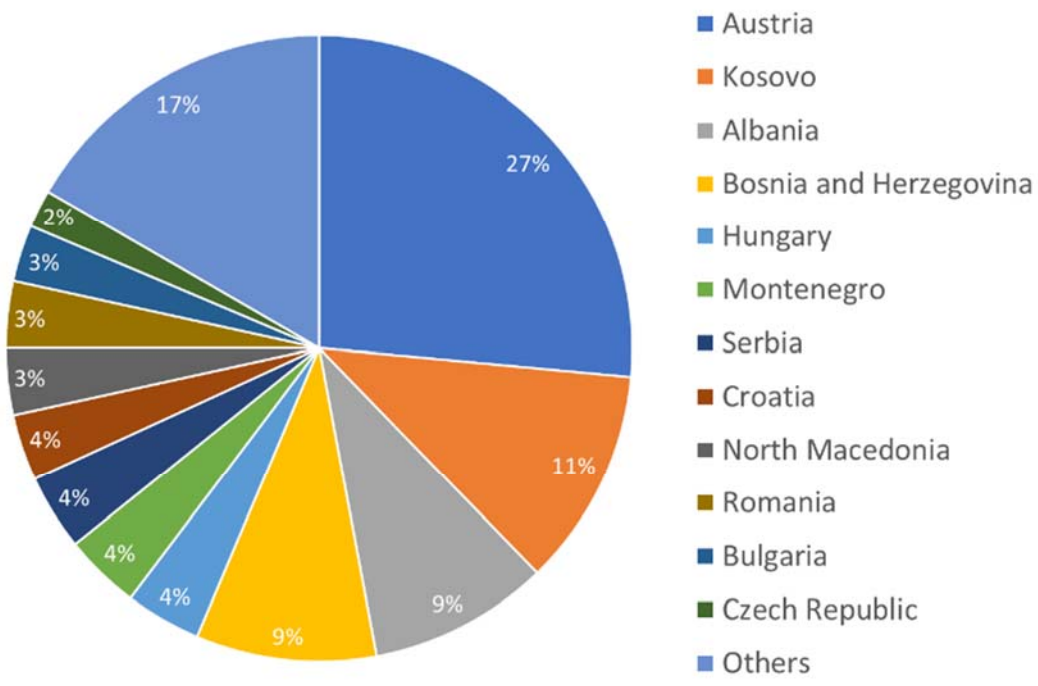


Figure 2 Distribution of 2019 DWC participants by country

Based on the feedback received in the evaluation forms of the last conference, in this year's conference the parallel sessions had been eliminated to avoid overlaps. To allow for interactive participation of the audience, the number of presentations were decreased, the number of panel discussions was increased and the online tool Pollev.com was used to engage participants. The sessions included several best practices and case studies presentations. An important element of the conference was the inclusion of Young Water Professionals (YWP) by implementing a chair/co-chair system as well as offering the YWP an opportunity to participate in a panel, moderate and rapporteur during the event. A new initiative of this year's conference was the presentation of companies (nine in total), which kindly supported the conference. The evaluation showed that in total 91% of the respondents have used the opportunity to interact with the conference supporters.

In total, two keynotes, 21 presentations and six panel discussions took place in ten sessions. This conference report comprehensively summarizes the content of each of the sessions (with contributions from the YWP).

Like previous years, the organizers requested feedback from the participants at the end of the conference. In total, 34 evaluation forms were received and analyzed.

In general, all sessions were highly rated by participants, with the highest being the session on "Financing for resilient water infrastructure projects" (4.24 out of 5 points). Participants believed that the presentations were informative and well prepared (4.34 out of 5 points) and that the topics were relevant to their organizations (4.29 out of 5 points). Slightly less highly rated was how conducive the sessions' methodology and structure were to participant's learning (4.06 out of 5 points) and how the panel discussions and Q&A were useful to create an active debate (3.98 out of 5 points).

Figures 3 and 4 show the ratings per session for each individual aspect that was evaluated.

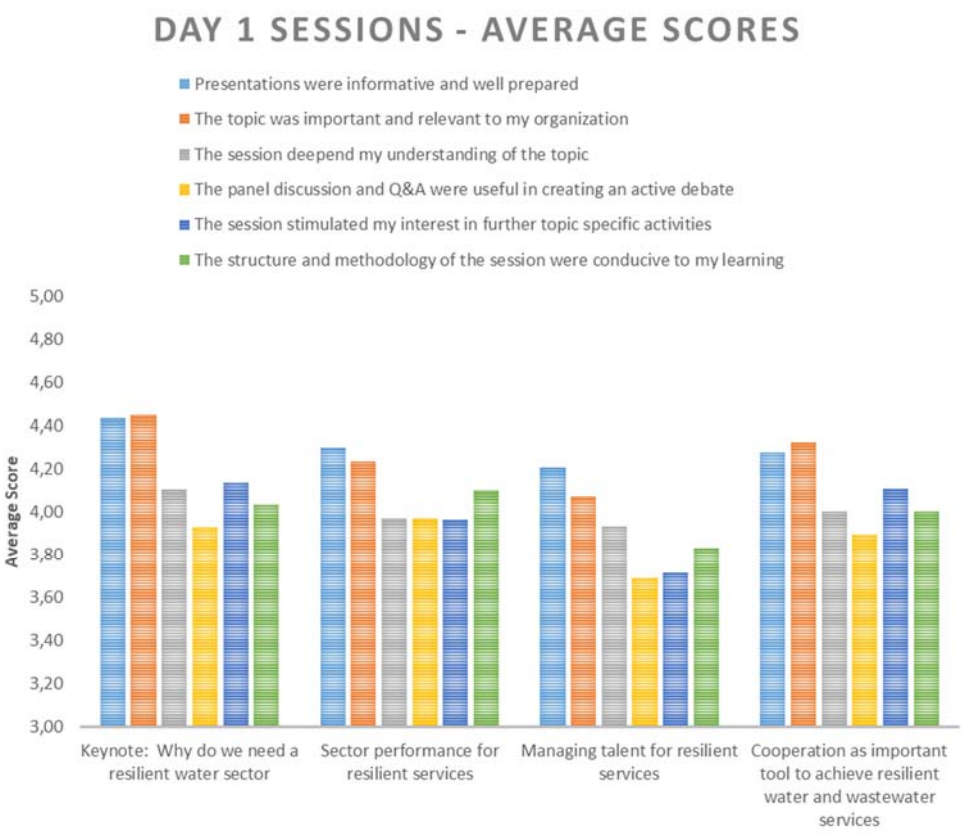


Figure 3 Average scores of the sessions on day 1 of the 2019 DWC.

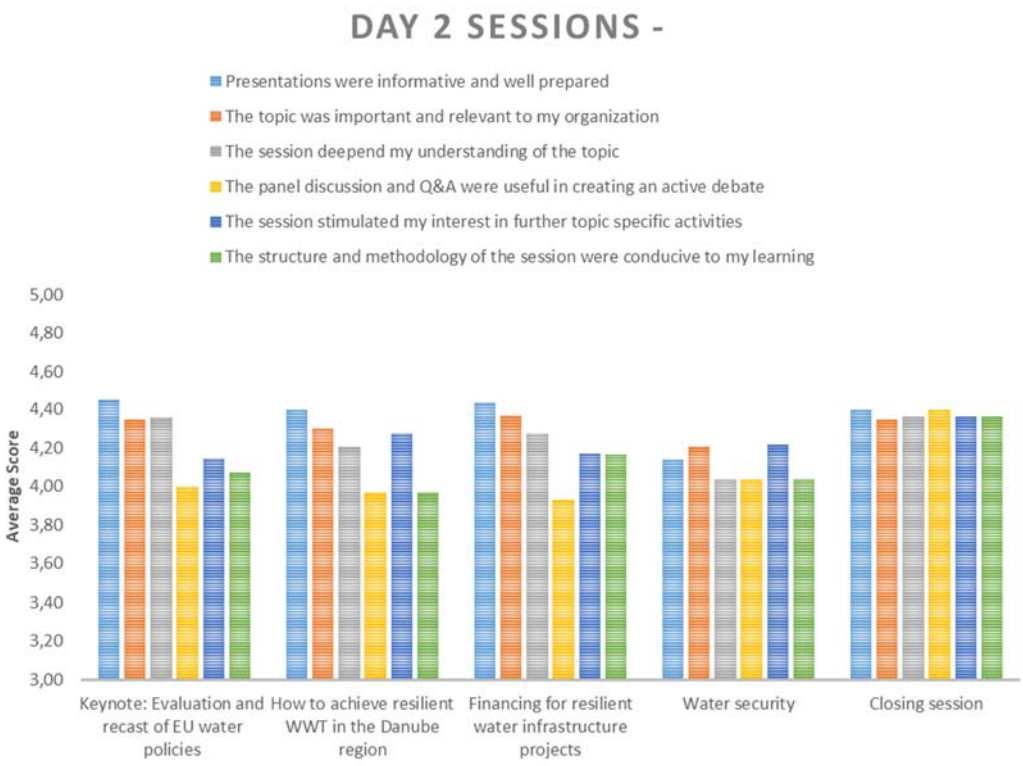


Figure 4 *Average scores of the sessions on day 1 of the 2019 DWC.*

In terms of logistics, all participants were satisfied with the quality of the registration process. In contrast to previous years, the organizers did not provide pre-booked hotel rooms, but only a list of hotels in the area. 87% of the respondents were satisfied with this decision and only 13% indicated they would like the organisers to book their room, even if higher room rates are involved.

In terms of the sustainability of the conference, there was an almost even distribution of people participating in the conference for the first time, for between two and three times and for more than three times as shown in Figure 5. In contrast to last year, the number of first time attendees has slightly increased (32% in 2019 to 41% in 2019).

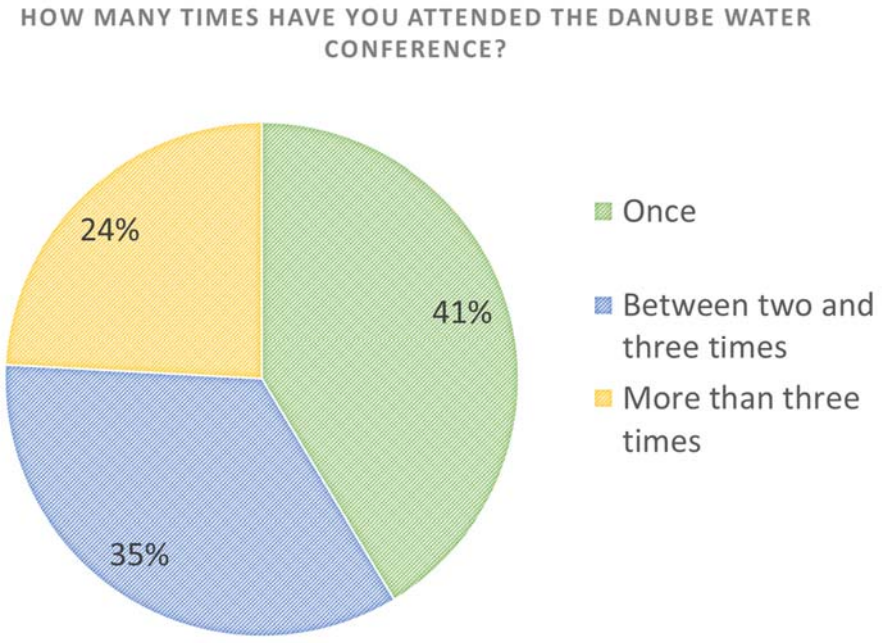


Figure 5 Average times that participants have joined a DWC

The majority (88%) of the respondents mentioned that they would be willing to cover all their participation costs again in a future conference, but only 36% would be willing to also pay a registration fee (see Figure 6).

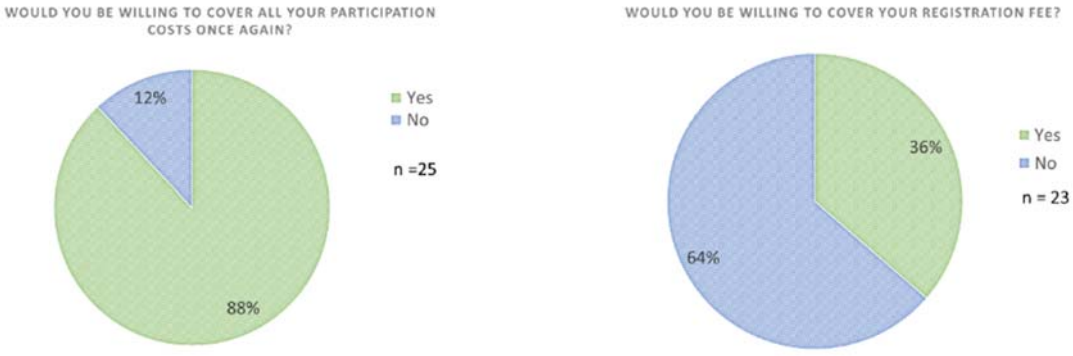


Figure 6 Willingness to cover all participation costs for future DWCs and indicative amount

The main cited benefit of the 2019 Danube Water Conference was networking and sharing of experiences across similar counterparts in different countries, learning more about the concept of resilience and about

new developments and initiatives in the region. In addition, participants liked the interactive nature of the Pollev.com tool. In terms of improvements, surveyed participants mentioned to work on the length of some presentations (shorten them) to provide more time for discussion, give more emphasis to innovations and case studies and if possible, to include a technical tour (e.g. the Vienna Wastewater Treatment Plant). In addition, 70% of the respondents would be willing to stay one extra day to join a technical tour.

Some feedback collected from participants via Pollev.com during the closing sessions:

"Investment in people"

"Any financing instrument should listen to bottom-up needs and accommodate funding mechanisms accordingly (intermediaries wanted in different levels - local, regional, state, macro-regional)"

"Water is an inter-sectorial topic and we need to exchange on various levels"

"Communication and collaboration between all water stakeholders is essential to meet the SDG targets"

Figure 7 Digitalization emerging as the most suggested topic for next year's conference

IV.MONDAY, MAY 20TH

1. Opening Plenary Session

Date: Monday, May 20th
Time: 09:00 to 09:45
Location: Conference Room A and B
Chairs: Ms. Patricia Lopez, World Bank and Mr. Philip Weller, IAWD

Context and objective

The opening session featured welcoming words from senior representatives of the various institutions organizing and supporting the 2019 Danube Water Conference. The formal opening included an overview of the event's structure and practical aspects and feedback from the audience on some of the most pressing issues relating this year's conference theme.

Session structure

Time		Content	Speaker
09:00	15'	**Introduction**	**Ms. Patricia Lopez**, Senior Infrastructure Finance Specialist, outgoing DWP Program Leader, World Bank, Spain and **Mr. Philip Weller**, Head of Technical Secretariat, IAWD, Austria
09:15	5'	**Welcome words** from the Austrian Ministry of Finance	**Ms. Elisabeth Gruber,** Director for International Financial Institutions, Austrian Federal Ministry of Finance, Austria
09:20	5'	**Welcome words** from IAWD	**Mr. Walter Kling,** President, IAWD, Austria
09:25	5'	**Welcome words** from the World Bank	**Ms. Linda Van Gelder,** Country Director for the Western Balkans, World Bank, Austria
09:30	15'	**Framing the debate** Link for voting: Pollev.com/2019dwc745	**Mr. Raimund Mair**, Senior Water Resource Management Specialist, incoming DWP Program Leader, World Bank, Austria
09:45		**End of session**	

Speakers' biographies

- **Ms. Elisabeth Gruber** is Director of the Department of International Financial Institutions at the Austrian Ministry of Finance in Vienna since 2017. Previously, she was Senior Advisor at the same department responsible for the World Bank Group portfolio and working on issues related to multilateral development finance. From 2008 to 2010 she served as Alternate Executive Director at the Inter-American Development Bank in Washington, DC. Prior to this, she was dealing with policy issues of the Asian and the Inter-American Development Bank and was responsible for multilateral debt relief at the Ministry of Finance in Vienna. Before joining the Ministry of Finance, she worked for nine years as University Assistant at the Department of Economic Development at the University of Economics in Vienna. She graduated in Business Administration and holds a Doctoral Degree in Development Economics from the University of Economics in Vienna. She also earned a Diploma of International Relations from the Johns Hopkins University in Bologna, Italy.
- **Mr. Walter Kling** works for the City of Vienna, at Vienna Waterworks. In 2011 he was appointed as Deputy Managing Director of Vienna Waterworks, a position which he still stays on. He serves as IAWD Secretary General since 1993 and currently also as IAWD president since 2017. Walter Kling joined the work of the Austrian Water Association and in 1993, when he was delegated to represent Vienna within IWSA. Since the launch of IWA in 2000, Walter Kling supported the development of the new association in the region of Eastern Europe by organizing several events. Maintaining an excellent network of contacts, he applied to organize the IWA – World Water Congress 2008 in Vienna. Starting from 2003, the Congress President Walter Kling served with great commitment to secure best circumstances for IWA, IAWD and the City of Vienna to run a successful conference. In September 2010 he was elected IWA – Vice-President, re-elected in Busan 2012 and served in this position until 2014. In 2010 he initiated the development of the Danube Water Program, which was launched jointly by the World Bank and IAWD in 2012.
- **Ms. Linda van Gelder** is the World Bank's Regional Director for Western Balkans, based in Vienna, Austria. Ms. Van Gelder has held the position since July, 2017 and is responsible for leading the dialogue on economic reform with the six countries of the Western Balkans, developing the World Bank's country strategies, managing the World Bank portfolio, coordinating with partners, and engaging in outreach on economic growth and poverty reduction in the Western Balkans. Prior to this position, Ms. Van Gelder was the Director of Strategy and Operations for Equitable Growth, Finance and Institutions Practice Group, covering the Macroeconomic and Fiscal Management, Finance and Markets, Trade and Competitiveness, Poverty and Equity, and Governance Global Practices. Ms. Van Gelder joined the World Bank in 1994. Her regional and country work has ranged across economic management, governance, and poverty reduction issues. She has also held several corporate positions, including leading the development of first World Bank Group strategy (2013) and as the Director for Operational Policy and Quality. Ms. Van Gelder has a PhD in Economics from Cornell University.
- **Ms. Patricia Lopez** is a senior infrastructure finance specialist with the World Bank's Water Global Practice and the Danube Water Program Leader on the Bank' side. At the Bank, she has worked in providing policy advice around financial and institutional issues to national, regional and local governments, utilities and WSS sector institutions and in preparing, negotiating and managing World Bank lending operations in the water and sanitation and flood management sector. Before joining the Bank, Ms. Lopez worked for different investment banks and consultancy firms advising governments, utilities and private companies in project and corporate finance operations. She has hands-on experience in the design of solutions for the provision of water and sanitation services and the financing of infrastructure, particularly with participation of the private sector and has worked in Latin America and the Caribbean, Europe and Eastern Europe. Patricia holds a M.Sc. in Economics and Business Sciences with a two-year specialization in Financing from Colegio Universitario de Estudios Financieros (C.U.N.E.F), Madrid, Spain.
- **Mr. Raimund Mair** joined the World Bank Group Water Global Practice in January 2019. In his position as Senior Water Resource Management Specialist he is involved in addressing aspects related to Water Security in the Europe and Central Asia region, as well as leading the 3rd Phase of the Danube Water Program. In his previous occupations at the European Commission and the International Commission for the Protection of the Danube River, he was working on the implementation of the EU Water Framework Directive and transboundary cooperation. Mr. Mair holds diplomas in Engineering from the

University of Natural Resources and Life Sciences, Vienna and Water Policy from Cranfield University, United Kingdom.

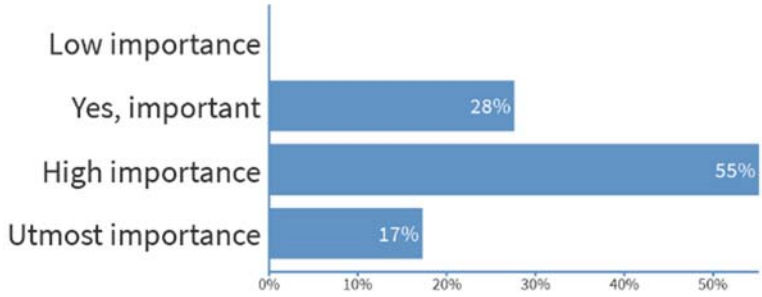
- **Mr. Philip Weller** has since July 2013 served as the Danube Water Program Coordinator for the International Association of Water Supply Companies in the Danube River Catchment Area (IAWD) administering and managing a joint project together with the World Bank aimed at improving and supporting the efficiency of Danube region water supply and wastewater companies. Mr. Weller previously served for 10 years as the Executive Secretary of the (ICPDR) International Commission for the Protection of the Danube River. Mr. Weller also worked for the World Widelife Fund for Nature (WWF) as Danube Carpathian Program Director and has also managed successful consulting businesses in both Canada and Austria and has done numerous assignments for governments and international organizations. Philip Weller is an environmental planner by training.

Session Summary

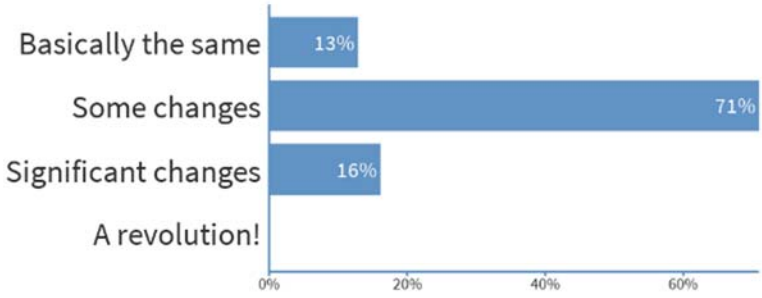
The opening session featured welcoming words from senior representatives of the various institutions organizing and supporting the 2019 Danube Water Conference. The formal opening included an overview of the event's structure and practical aspects and feedback from the audience on some of the most pressing issues relating this year's conference theme.

Framing the debate PollEv results

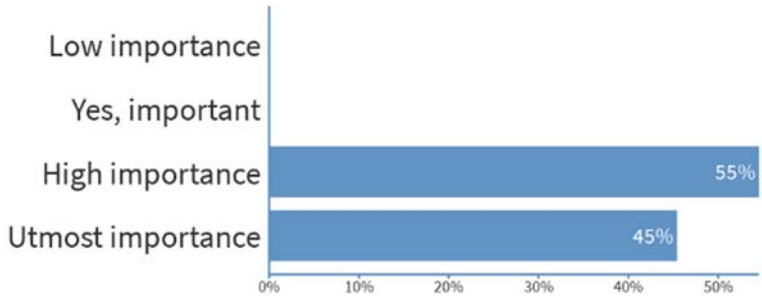
Do you think "achieving resilience" is an important topic?



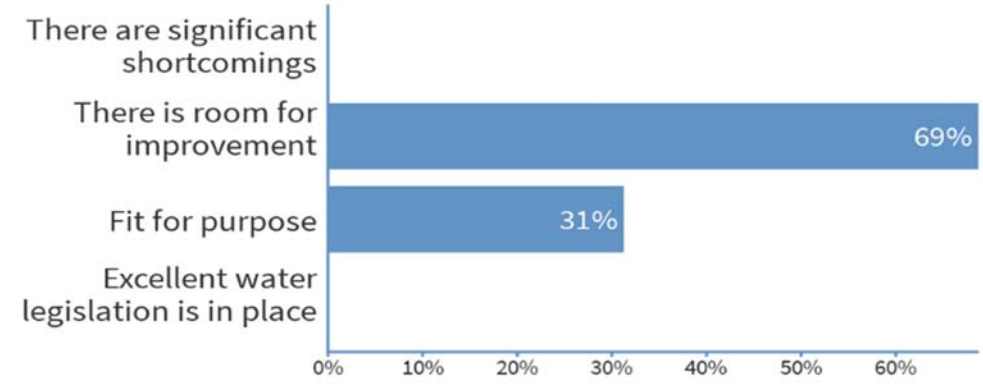
How much do you think the water services sector has changed during the last years?



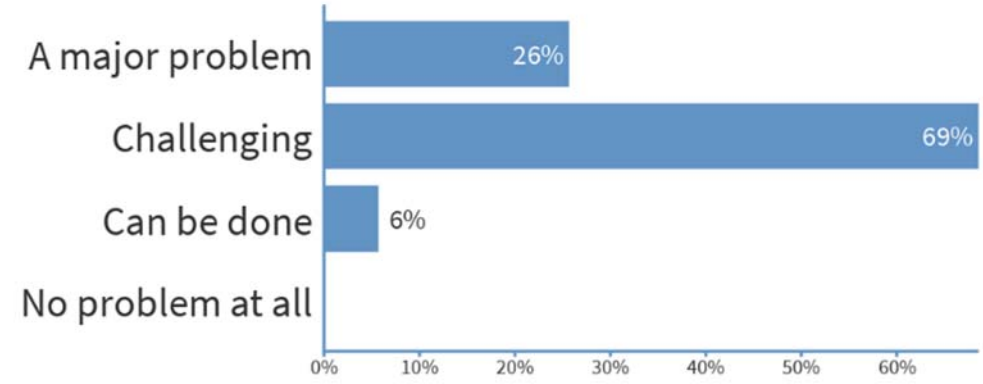
How do you rate the importance of a well-trained and diverse workforce for the sector?



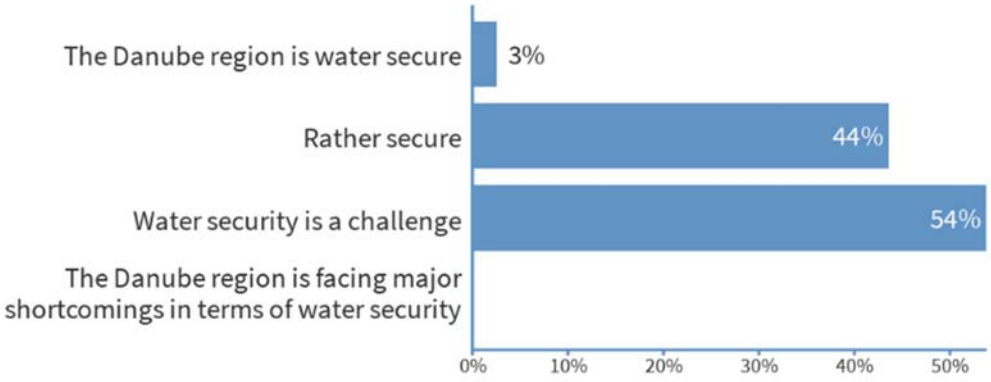
Do you think EU water legislation is fit for purpose?



How would you rate the challenge of financing the required water sector investments?



Do you think the Danube region is water secure for the people, the economy and the environment?



2. Keynote: Why do we need a resilient water sector?

Date: Monday, May 20th
Time: 09:45 to 10:30
Location: Conference Room A and B
Chair: Mr. Walter Kling, IAWD

Context and objective

Resiliency in water and wastewater utilities is becoming increasingly relevant globally and in the region in the context of inevitable climate change related shocks and the commitments made under the Sustainable Development Goals. The session involved an opening keynote presentation delivered by the CEO of the Global Water Partnership outlining the reasons for why a resilient water sector is needed and why an integrated approach to water management is required to achieve the SDGs on water. This was followed by a panel discussion with representatives from the International Commission for the Protection of the Danube River and of the Albanian Water Supply and Sewerage Association who provided their views on this topic from a water resources management and water and wastewater services perspective, respectively.

Session structure

Time		Content	Speaker
09:45	5'	**Introduction**	**Mr. Walter Kling**, President, IAWD, Austria
09:50	20'	**Why do we need a resilient water sector?** Click here for presentation	**Ms. Monika Weber-Fahr**, CEO and Executive Secretary, Global Water Partnership, Sweden
10:10	20'	**Panel Discussion** Link for questions: Pollev.com/2019dwc745	Moderated by **Mr. Walter Kling**, President, IAWD, Austria **Panelists:** - **Ms. Monika Weber-Fahr**, CEO and Executive Secretary, Global Water Partnership, Sweden - **Mr. Ivan Zavadsky**, Executive Secretary, ICPDR, Austria - **Ms. Elisabeta Poci**, Deputy Executive Director, Water Supply and Sewerage Association of Albania (SHUKALB), Albania
10:30		**End of session**	

Speakers' biographies

- **Ms. Monika Weber-Fahr** leads the Global Water Partnership (GWP), a globally operating action network that supports countries in managing their water resources equitably and sustainably. Spanning 13 regional teams with more than 60 country water partnerships and over 3,000 institutional Partners in 180+ countries, GWP-associated NGOs convene multi-stakeholder platforms within and beyond the water sector. Before joining GWP, Monika served as the COO at Sustainable Energy for All, an international multi-stakeholder partnership that promotes access to clean, affordable, and modern energy. For over 20 years, Monika has worked with the World Bank and the International Finance Corporation (IFC), most recently as Chief Knowledge Officer for the Independent Evaluation Group and as Director Knowledge, Learning and Results for the Sustainable Development Network in the World

Bank. At IFC, she built and lead the Global Business Line for Sustainable Business Advisory, working with IFC clients on identifying "people–planet–profit" opportunities. Monika holds a PhD in Business Economics, an MSc and in Economics, a Diploma in International Relations, and a Diploma in Corporate Governance.

- **Mr. Ivan Zavadsky** works in the Permanent Secretariat of the International Commission for Protection of the Danube River as the Executive Secretary to this Commission since August 2013. He worked for the Slovak Government in different senior management positions in the fields of environment and water management for more than 15 years. Since 2001 until 2007, he managed two UNDP/GEF regional projects in the Danube River Basin and Black Sea region assisting 17 countries in addressing the nutrient pollution and ecological rehabilitation of the Black Sea. Then he worked for the GEF Secretariat, responsible for complex regional projects on international waters and has led the development of the GEF IW Strategy for the 6th GEF cycle. He has a master's degree in water management and a post-gradual degree on water management economics from the Slovak Technical University in Bratislava.
- **Ms. Elisabeta Poci** has been working with the Water Supply and Sewerage Association of Albania (SHUKALB), for more than ten years. During her work for the Association, she has held different positions, and more recently, she assumed the position of Deputy Executive Director, which she has held for the past four years. Her major responsibility, among others includes the development of SHUKALB's Grants-based Projects Program. Ms. Poci is currently managing the Project "Sustainable Water Sector Capacity Development in Albania", a grant received by SHUKALB from USAID. The main objective of the Project is to develop an institutionalized, financially self-sustaining curriculum of training, which is designed to qualify candidates for test-based operator certification. Ms. Poci holds a bachelor's Degree in environmental engineering from the Polytechnic University of Tirana and a master's degree in Environmental and Water Resources Engineering from the University of Texas at Austin, USA, under a Fulbright Scholarship.
- **Mr. Walter Kling** works for the City of Vienna, at Vienna Waterworks. In 2011 he was appointed as Deputy Managing Director of Vienna Waterworks, a position which he still stays on. He serves as IAWD Secretary General since 1993 and currently also as IAWD president since 2017. Walter Kling joined the work of the Austrian Water Association and in 1993, when he was delegated to represent Vienna within IWSA. Since the launch of IWA in 2000, Walter Kling supported the development of the new association in the region of Eastern Europe by organizing several events. Maintaining an excellent network of contacts, he applied to organize the IWA – World Water Congress 2008 in Vienna. Starting from 2003, the Congress President Walter Kling served with great commitment to secure best circumstances for IWA, IAWD and the City of Vienna to run a successful conference. In September 2010 he was elected IWA – Vice-President, re-elected in Busan 2012 and served in this position until 2014. In 2010 he initiated the development of the Danube Water Program, which was launched jointly by the World Bank and IAWD in 2012.

Session Summary

Ms. Weber-Fahr covered the philosophy behind resilience and resilient systems in general but also in terms of water resource management and water utilities' operation. The presentation touched on five key ideas: Resilience, Risk, Building Resilience, Resilience in water sector and Leadership.

- **Resilience:** When talking about resilience, two definitions emerge: philosophically, the ability to "bounce back" and in business terms, to rapidly adapt and respond to business disruptions, safeguard people and assets, while maintaining continuous business operations. The latter here being an application of the former idea into practice. To illustrate this, several examples were shown concerning resilience (or lack thereof) in different conditions and scale. The rebuilding of Vienna's St. Stephen's Cathedral after WW2, Fukushima 2011, Black Friday at Vienna stock exchange 1873, Polluted water supply in Flint, and the most recent draught in Cape Town. Important points have been raised regarding these cases. Ranging from the importance of community involvement, through the perception of risk and ability to anticipate hazard to risks emerging from miscommunication, absence of integrity and company culture, and, of course, environmental hazards as a result of climate change.
- **Risk:** All of the above brings us to risk, and the way it is identified and managed. Ms. Weber-Fahr divided the risks for a utility into five categories: Operational, Financial, Environmental, Health &

Safety and Reputational. The risk is here specified as the probability of losses from the combination of hazard, exposure and vulnerabilities. The amount of risk depends on the scale of these factors and also the systemic nature of shock has a significant role in an actual event. According to the world economic forum, water crises are amongst the highest perceived risks in likelihood and severity. Clean water and sanitation also appear as a core part to „our system of living" in the GWP 2030 agenda.

- **Building Resilience:** "Investing in the future" is the keyword with which Ms. Weber-Fahr started this part of her presentation. The main takeaway from this is the need to transform Disaster management and response to risk management and prevention, in other words, to take a proactive stance and systemic stance to look at individual aspects of the system and find vulnerabilities not just for individual parts of the system but also influence through interactions of these to prevent domino effect. This is where integrated water resource management comes into play, as it takes an overarching look at all the sectors that use water and all the dimensions of managing water and preventing risk. This allows to develop joint strategies.

  What the water utility sector needs is the push toward resiliency strategy and ideally abundance strategy. Right now, most of the companies are at a stage of effectivity strategies, which includes mostly reactionary approaches to water scarcity. Some companies are moving towards resiliency strategy management acknowledging water scarcity and extreme water events as normal and creating resiliency strategies to deal with these risks. The ideal would then be the Abundance strategy which incorporates integrated watershed, food shed, and power shed strategies.

- **Resilience in the water sector:** Ms. Weber-Fahr raised three points regarding the resilience in water sector.
  - Cyber safety – utilities at high risk from cyber-attacks according to many analyses.
  - Integrity – 10-30% losses in investments due to corruption. Mitigate through creating a sense of accountability among your staff and real anti-corruption policies – building resilience
  - Water quantity and quality – eastern Europe is one of the hot-spots in the climate change prognosis – it will get hotter. The problem with droughts is their slow arrival, so many people do not react to the build-up. And when the first rain comes people forget about the problem. So, one of the bigger problems is not enough attention on many levels. Therefore, the first step to be taken towards resilience in case of droughts must be to get political attention.

- **Leadership:** Not just leadership to build resilience, but also resilient leadership! A good resilient leadership needs to have perspective, to make water matter to other people; it must be emotionally resilient to be able to make tough choices; it has to have connections to other stakeholders and last but not least; it has to by resilient physically to meet the demands of the job.

The final thought of Ms. Weber-Fahr's talk was that resilience is not just a technical question but also a matter of connection to others, and personal resolve and strength to take action.

The session continued with a **panel discussion** about resilience, moderated by Mr. Walter Kling (president of IAWD). After a brief introduction of the panellists, Mr. Kling raised the most prominent question of the panel talk from the standpoint of utility companies: "How should we start?" with building resilience. Should we start with crisis management or look at the Sustainable Development Goals on a political level?

Ms. Weber-Fahr replied mentioning two items, (i) Connection - get together with other experts and organizations in your country/region/city, work in cooperation and (ii) Information – Assessment - once you go through assessment of the system, you can start getting out of crisis management and into building strategy. Everyone can be a part of the strategy when water is concerned even the users (schools, religion organisation, etc.)

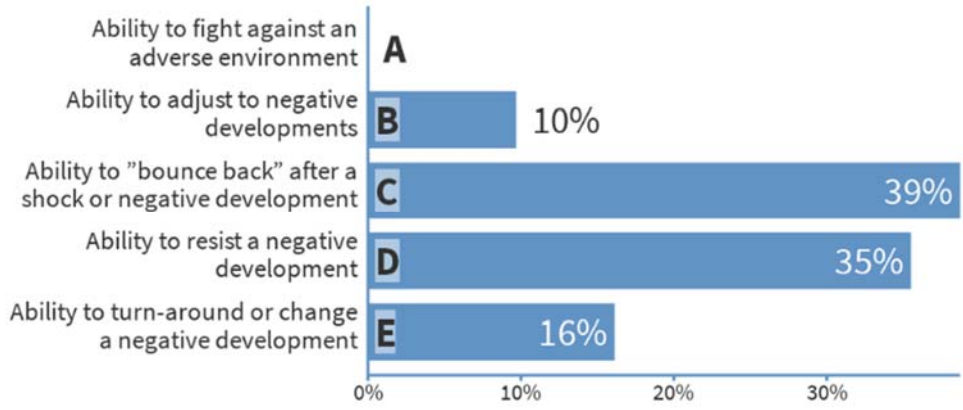
Mr. Zavadsky underlined that water scarcity is a globally recognized challenge. To adapt to climate change and the droughts and floods that come with it, tools are needed for better addressing the risks. He raised the question: "What do the changes mean for the entire basin? We need good data: geography, pedology, hydrology, hydraulics, climatology etc." From Mr. Zavadsky's point of view there is a need for strong institutions and clear implementable frameworks and to overcome the fragmentation of the water sector.

Ms. Poci underlined that in the Albanian water sector resilience is clearly a new word. She thinks there is a need to create more awareness on this complex and urgent topic and that it is time to start discussions on resilience with Albanian water utilities.

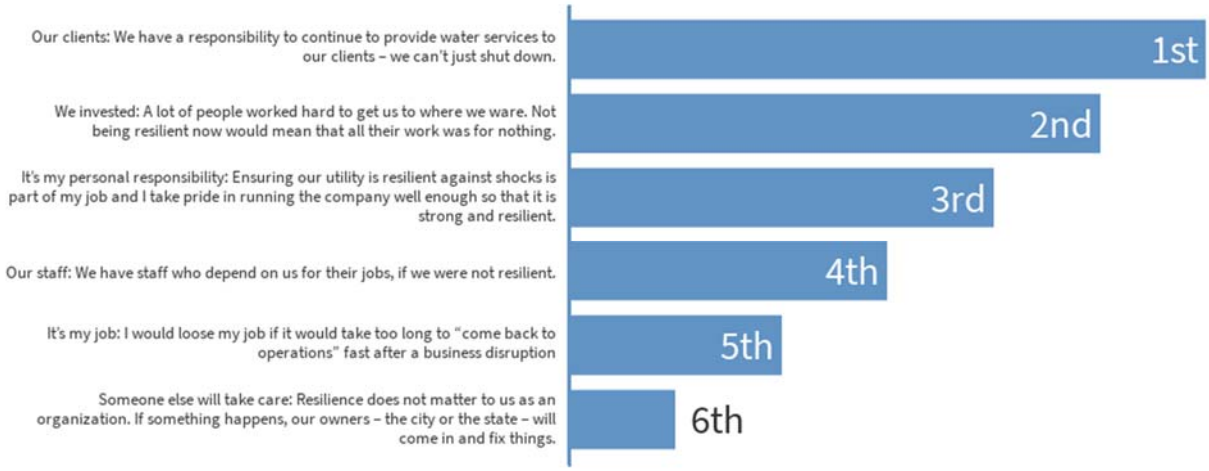
Contributed by Mr. Philip Päcklar (YWP Austria) and Mr. Michal Holubec (YWP Slovakia)

PollEv results

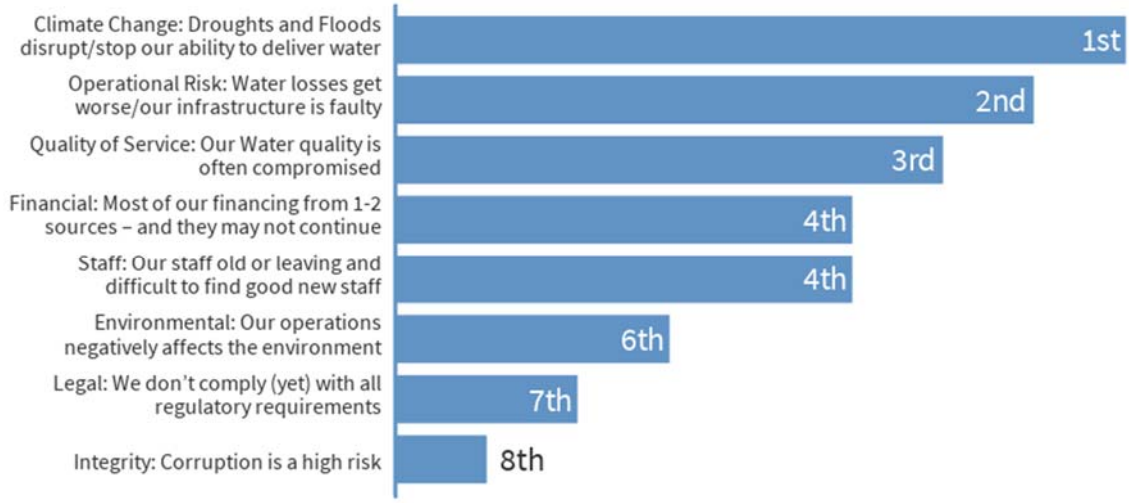
What does resilience mean?



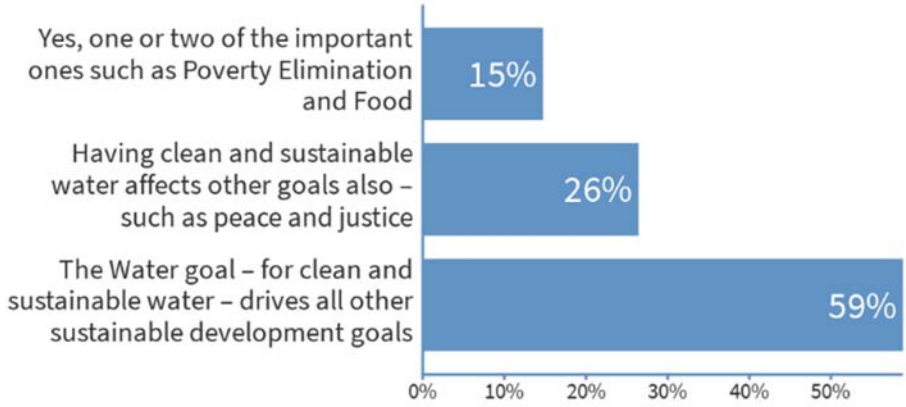
Why would it matter for your organization to be resilient? Please order by priority!



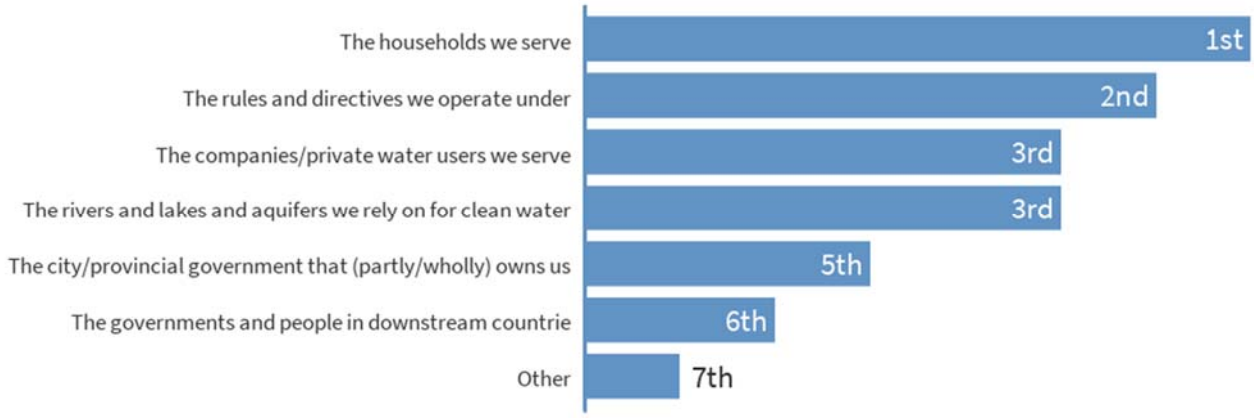
Please order by priority the risks you see as the greatest!



Does water affect the Sustainable Development Goals?



Please order by priority of what matters most to you when you take a decision – e.g. to allocate financial resources



3. Sector performance for resilient services

Date: Monday, May 20th
Time: 11:15 to 12:45
Location: Conference Room A and B
Chair: Mr. Jane Vrteski, ADKOM and Ms. Victoria Iskova, YWP

Context and objective

In 2015, the World Bank, under the umbrella of the Danube Water Program undertook a comprehensive review of the water and wastewater services in 16 countries of the Danube region. These 16 countries represent a great diversity of socio-economic, development, and geographic realities, which share a joint resource, the Danube, an intertwined history; and a common trajectory toward European integration. This regional report has now been updated with the latest available data for each of the originally participating countries.

The purpose of this session was to showcase the trends, progress and recommendations stemming from the updated review. This was followed by case studies of utilities from the region that have participated in capacity building activities under the Danube Learning Partnership (D-LeaP) and through that have achieved improvements in their efficiency and service quality delivery.

The session closed with a panel discussion reflecting on the previous presentations among representatives from ministry, regulator, water utility association and a local governments association.

Session structure

Time		Content	Speaker
11:15	5'	**Introduction**	**Mr. Jane Vrteski**, Advisor, ADKOM, North Macedonia and **Ms. Victoria Iskova**, YWP, Ukraine
11:20	15'	**Presentation of State of the Sector 2018 Update Report: Highlights, trends and recommendations in the water and wastewater sector development since 2015** Click here for presentation	**Ms. Patricia Lopez,** Senior Infrastructure Finance Specialist, World Bank, Spain
11:35	15'	**Q&A with full State of the Sector team** Link for Questions: Pollev.com/2019dwc745	Moderated by **Mr. Jane Vrteski**, Advisor, ADKOM, North Macedonia and **Ms. Victoria Iskova**, YWP, Ukraine
11:50	10'	**Utility Benchmarking as basis for resilient water services – the case of Subotica** Click here for presentation	**Mr. Petar Pizurica**, Executive Director of the Production Department, Vodovod i kanalizacija Subotica, Serbia
12:00	10'	**Resilient non-revenue water management – the case of KP Vodovod a.d. Gradiška** Click here for presentation	**Mr. Sandro Zenicanin**, Director, KP a.d. Vodovod Gradiška, BiH and **Ms. Ivana Torbica**, NRW Specialist, KP a.d. Vodovod Gradiška, BiH

12:10	35'	**Panel Discussion** Link for questions: Pollev.com/2019dwc745	Moderated by **Ms. Patricia Lopez,** Senior Infrastructure Financing Specialist, World Bank, Spain **Panelists:** - **Ms. Lindita Sotiri Troka,** Director of Development Programs on Water Supply and Sanitation, Ministry of Infrastructure and Energy, Albania - **Mr. Boran Ivanoski**, Program Officer, Network of Associations of Local Authorities of South-East Europe (NALAS), North Macedonia - **Mr. Gabor Kisvardai**, Head of Secretariat of the Vice Presidency of Public Services, Hungarian Energy and Public Utility Regulatory Authority, Hungary - **Mr. Jane Vrteski,** Advisor, ADKOM, North Macedonia
12:45		**End of session**	

Speakers' biographies

- **Ms. Patricia Lopez** is a senior infrastructure finance specialist with the World Bank's Water Global Practice and the Danube Water Program Leader on the Bank' side. At the Bank, she has worked in providing policy advice around financial and institutional issues to national, regional and local governments, utilities and WSS sector institutions and in preparing, negotiating and managing World Bank lending operations in the water and sanitation and flood management sector. Before joining the Bank, Ms. Lopez worked for different investment banks and consultancy firms advising governments, utilities and private companies in project and corporate finance operations. She has hands-on experience in the design of solutions for the provision of water and sanitation services and the financing of infrastructure, particularly with participation of the private sector and has worked in Latin America and the Caribbean, Europe and Eastern Europe. Patricia holds a M.Sc. in Economics and Business Sciences with a two-year specialization in Financing from *Colegio Universitario de Estudios Financieros* (C.U.N.E.F), Madrid, Spain.
- **Ms. Petar Pizurica** has graduated as mechanical engineer for the organization of production. Since 2006 he has worked in the water utility operations in various fields, such as wastewater treatment technician, Head of electrical and mechanical maintenance, Head of wastewater treatment plant, Technical Manager PUC "Waterworks and Sewerage" Subotica with a focus on activities such as energy efficiency, benchmarking and asset management.
- **Mr. Sandro Zenicanin** is graduated B.Sc. in Mechanical Engineering, employed at UC "Vodovod" joint-stock company Gradiska since 2008, when he completed a volunteer internship within the technical sector (maintenance, investment, development). Since 2009 he managed projects for the expansion and improvement of the water supply and drainage system. As the director of UC "Vodovod" joint-stock company Gradiska, he continuously cooperates with international institutions in the field of public water services where they jointly implement several projects (Benchmarking, SEEAM, D-LeaP, MEG and others.). Currently, he is working on the project of reconstruction of the water supply system at the city water supply (through the MEG project) and the establishment of telemetry on the entire city water supply system Gradiska (through the project WATSAN). In the area of sewage and wastewater treatment, he is currently cooperating with SECO and KfW in the preparation of the implementation of the rehabilitation project for the Gradiska sewage system, its extension to suburban settlements and the construction of a city wastewater treatment plant.

- **Ms. Ivana Torbica** is working for the public utility "Vodovod" Gradiska as an engineer for recording of utility infrastructure, GIS and NRW. Since she joined the company in 2017, she has worked on several projects regarding Asset Management (water and sewerage), NRW reduction, Benchmarking and MEG project, with Aquasan Network in BiH. These projects were supported and funded by IAWD, GIZ, The World Bank, UNDP and Government of Switzerland. She has a bachelor's degree with Honors in Civil Engineering from the University of Novi Sad, Serbia.
- **Ms. Lindita Sotiri Troka** is Director of Development Programs in Water and Sanitation and Solid Waste at the Ministry of Infrastructure and Energy. She has served in different positions in the Government of Albania, leading the water reform, especially regarding the legal framework. She has graduated in law and has a master's degree in business law. She has experience in the water sector since 2009.
- **Mr. Boran Ivanoski** holds a master's degree in human resource management from the University in Skopje. He has more than 16 years of experience in public administration reform, inter-municipal cooperation, capacity building of local government in South-East Europe, solid waste and water management as well as disaster risk management at local level. He has worked with UNDP on Good Governance Programme, CARE International, International Rescue Committee, UNICEF etc.
- **Mr. Gabor Kisvardai** is a recognized water professional. He is a lawyer by profession and an expert in international relations. He also has a master's degree in public policy and management. When the newly established water regulator was set up in 2012 in Hungary, he participated in the review of water operators and issued the first operational licenses to the companies. It was his responsibility to help to establish the professional supervision of the water and wastewater sector in Hungary. Performing this important task, he built strategic cooperation with the representatives of water and wastewater sector, furthermore with other responsible agencies and institutions. He became an advisor for the vice-president in 2015 and later the head of secretariat of the office of the vice-president for public utilities. Most recently he is focused on international issues and the cooperation of water regulators. He is also conducting researches regarding the independence of regulatory agencies. He has been elected as one of the members of WAREG Secretariat in 2015.
- **Mr. Jane Vrteski** has more than 25 years of professional experience and more than 15 years of consulting experience in Macedonia and internationally. He has been engaged on the high-level positions in both public and private sector as well as in the donor community projects in the country and abroad. Mr. Vrteski possesses an extraordinary knowledge and experience in local government and development and water sector management, gained during his work being a Mayor, General Manager of Regional Water Utility, Team Leader, Project Manager, Management Consultant, Researcher, Evaluator and Trainer. His consulting work mainly focuses on local and regional development, utility management, stakeholder engagement, data content management and benchmarking, strategic management, developing business plans and strategies. It is worth mentioning his team leadership skills proven in the setup and development of the various institutions and associations. His extended experience in working with and managing of multidisciplinary and multicultural environments is extremely valuable. Mr. Vrteski is actively involved in the regional initiatives in the water sector lead by IAWD, ORF MMS, NALAS and other stakeholders.
- **Ms. Victoria Iskova** is Coordinator of IAWD's Utility Benchmarking Program in Ukraine, operated under D-LeaP and supported by the Danube Water Program and has a 4 years' experience on this position. Her responsibilities include project management, business planning, economic and financial analysis of Ukrainian water utilities activities and training water utilities' staff on EBC's methodology. During 2012-2014 she was working for the Commercial Bank Joint-Stock Company "Privatbank" in Ukraine, where she achieved the position of a Deputy Director of the Kiev Branch. Viktoria holds a master's degree in Finance.

Session Summary

The session on 'Sector performance for resilient services' showcased the trends, progress and recommendations stemming from the updated State of the Sector review. After a brief introduction by the session's chair Mr. Jane Vrteski, Advisor, ADKOM, North Macedonia and the co-chair Ms. Victoria Iskova, YWP, Ukraine the session started off with **Mr. David Michaud**, Practice Manager of the World Bank's Water Global Practice for Europe and Central Asia, highlighting the sectoral trends since 2015 and setting out the key recommendations identified as part of the updated review.

While there is variability in trends across the region, overall, the trends for access to services, utility performance and financing of services are positive; Access to services has increased, utility performance, measured through the Utility Performance Index (WUPI) and water sector maturity kept improving, and operational cost recovery is now at a good level. However, while EU member countries can mobilize more funding then non-EU countries, capital cost recovery and the previously identified investment gap remain a region wide challenge. In rural areas access to services also remains an issue. Furthermore, David Michaud pointed out that affordability of services is an increasing concern and that the capacity and skill of people working in the sector is one of the remaining key challenges in the region. To address these pressing issues, David Michaud concluded with several recommendations; These included the consideration of green and grey infrastructure solutions, circular economy thinking, sector wide skills improvements and using big data solutions in support of moving towards a wholistic water security approach.

The potential of improving the capacity and skills among the sector's workforce was demonstrated by the following two presentations on two utilities from the region which have participated in capacity building activities under the Danube Learning Partnership (D-LeaP) and have achieved improvements in their efficiency and service quality delivery:

- **Mr. Petar Pizurica**, Executive Director of the Production Department, Vodovod i kanalizacija Subotica, Serbia presented the utilities experience with utility benchmarking as basis for resilient water services. While over time several indicators have improved, benchmarking also enabled the utility to focus its efforts by highlighting the areas and indicators which were not doing so well and needed further investigation.
- **Mr. Sandro Zenicanin**, Director, KP a.d. Vodovod Gradiška, BiH and Ms. Ivana Torbica, NRW Specialist, KP a.d. Vodovod Gradiška, BiH showcased how resilient non-revenue water management in the case of Vodovod Gradiška has achieved NRW reductions of 10% and how the utility continues moving forward with developing a hydraulic network model and the planning for a SCADA system.

The session closed with a panel discussion reflecting on the previous presentations and highlighting how collaboration across the sector, improved capacity building, pressure from the consumers, and the role of EU accession as a driver altogether have led to the observed, overall positive, trends. At the same time the panel stressed the challenges faced by recent trends towards decentralization – it was noted that decentralization of responsibilities without decentralization of financing could pose a risk to recent sector improvements. Furthermore, the panel emphasized the need to invest into people to future-proof the sector considering challenges such as rapid technologic change, demographic change and climate change.

Contributed by Mr. Nikolaus Clemenz (YWP UK) and Mr. Lachezar Donchev (YWP Bulgaria)

4. Managing talent for resilient services

Date: Monday, May 20th
Time: 14:00 to 15:30
Location: Conference Room A and B
Chair: Ms. Elvira Broeks, World Bank and Ms. Katerina Schilling, IAWD

Context and objective

Achieving the Sustainable Development Goals on access to safe water and sanitation in a context of increasing impacts of climate change and other risks will require an efficient, well-trained and diverse workforce to support the resiliency of the sector. The water sector in countries of the Danube region face aging workforces while at the same time experiencing the emigration of younger skilled people. Addressing this challenge will depend on the sector's ability to attract skilled people, invest in their professional development through training, including women as integral part of utility management, etc., which among other are all ingredients for creating productive, effective and responsible working environments.

The session started with a presentation showcasing the importance of managing talent and implementing human resources measures (diversity, age, flexible work arrangements, performance objectives, training, etc.) for better utility management and performance. This was followed by a panel discussion which included representatives from leading utilities from the region (Brasov, Tirana and Pristina) who are implementing actions plans on gender and age diversity resulting from an EDGE assessment; from Aqua Publica Europea on their Water Erasmus program, as well as from the Bulgarian YWP chapter, who will share his experience with working in the utility sector.

The ideas coming out from the panel discussion and presentations paved the way for the last activity of the session which was an interactive discussion with the audience on how to structure a future Utility Management Training that responds to the needs of the regions' utilities.

Session structure

Time		Content	Speaker
14:00	5'	**Introduction**	**Ms. Elvira Broeks**, Water and Sanitation Analyst, World Bank, Austria and **Ms. Katerina Schilling**, Knowledge Manager and CB Coordinator, IAWD, Austria
14:05	20'	**Managing talent for creating productive, effective and responsible working environments** Click here for presentation	**Ms. Jasmine Boehm**, Change Management Advisor Engendering Utilities, USA
14:25	35'	**Panel Discussion** Click here for presentation Click here for a Water Knowledge Note Click here for full report and further information on EDGE assessment Link for questions: Pollev.com/2019dwc745	Moderated by **Ms. Susanna Smets,** Senior Water and Sanitation Specialist, World Bank, USA **Panelists:** - **Ms. Evis Gjebrea**, Deputy General Director, Tirana Water and Wastewater Utility, Albania - **Ms. Anita Krasniqi**, Coordinator of CEO's Office, Regional Water Company Pristina, Kosovo - **Mr. Teodor Popa**, CFO, APA Brasov, Romania

			- **Ms. Jovana Gojkovic**, Senior Officer, External Relations, Aqua Publica Europea, Belgium - **Mr. Lachezar Donchev**, YWP, Bulgaria
15:00	30'	**Plenary Discussion on Utility Management Training** Click here for presentation Link for questions: Pollev.com/2019dwc745	Facilitated by **Mr. Radoslav Russev**, IAWD Consultant on D-LeaP, Bulgaria
15:30		**End of session**	

Speakers' biographies

- **Ms. Jasmine Boehm** is a change management expert with more than 18 years of experience in Diversity & Inclusion, Sustainability and Social Innovation. She works for Tetra Tech - a worldwide consulting and engineering firm, contracted with USAID in Engendering Utilities. As a change management coach, she provides technical assistance for energy utilities in Africa, Asia, Eastern Europe, Latin America and the Middle East. Previously she worked as a manager in Austria's largest industrial company, OMV- a vertically integrated oil & gas corporation with operations in more than 20 countries worldwide. She was a manager in a social business and served as a consultant for corporations such as Shell and Microsoft. Jasmine holds an MBA Global Management from the University of Minnesota and the Vienna University of Economics and Business as well as a master's degree from the University of Vienna.
- **Ms. Susanna Smets** is a Senior Water Supply and Sanitation Specialist with the Global Water Practice of the World Bank. Susanna joined the World Bank in 2011, working on rural water sanitation in East Asia and Pacific. Currently, she is working in Eastern Europe and Asia, including Moldova, India and Kyrgyzstan. As part of the Danube Water Program, she was leading a regional study in seven countries in the Danube Region on rural water and sanitation services, as well as a multi-country study on sustainability of rural water services. She has over 15 years of professional experience in water supply, sanitation and water resources management. Prior to joining the World Bank, she worked in the Middle East, Asia and Europe for GiZ, DFID, the private sector and a Dutch water utility. She has a master's degree in water resources management from Wageningen University (NL) and a Master of Business Administration from the Open University (UK).
- **Ms. Evis Gjebrea** is currently holding the position of Deputy General Director at the Tirana Water & Wastewater Utility. Before joining the water utility, she worked at the Municipality of Tirana and was Member of the Supervisory Board of the Tirana Water Utility. Ms. Gjebrea has been full time Lecturer for 8 years at the European University of Tirana and now is teaching part time at same University as well as New York University of Tirana. She has a previous broad experience working with the Ministry of Finance at the Foreign Debt Department for 8 years and with the World Bank as a consultant in Washington D.C and Tirana. Through the years Ms. Gjebrea has shown great professional knowledge of the region being involved with projects implemented in Albania, Kosovo and Montenegro. In 2007, she was enrolled in a one-year Advanced Studies Program for Visiting Scholars at the George Washington University in Washington D.C through a scholarship funded by USAID and administered by Georgetown University East Central European Scholarship Program. Her research interest was focused on Public Administration and Policy.
- **Ms. Anita Krasniqi** is coordinator of the CEO at the Regional Water Company Pristina since 2008. In addition, she has been involved in different projects of RWC Pristina, including the Program Manager for the Annual Balkans Joint Conference of Kosovo and Albania in 2013. Currently, she is engaged as a Coordinator with the World Bank on EDGE Strategy Project, on Gender Assessment in the Regional Water Company Pristina. Ms. Krasniqi is a graduate from the English Faculty at the University of Pristina, and currently doing a master in the field.

- **Mr. Teodor Popa** is CFO at the Brasov Water Company in Romania since 2001, President of the Romanian Water Association (RWA) Specialist Group on Economics, Vice-president of the International Water Association (IWA) Specialist Group on Statistics and Economics and IWA Fellow since 2016. Mr. Popa has been involved since 1995 in projects financed by EU and other international donors, has participated in the Romanian water sector reform: the company regionalization and restructuring process: institutional transformation, tariff strategy and concession contact implementation. In addition, he is author of various papers presented across the globe and expert for European Bank for Reconstruction and Development (EBRD) and World Bank international projects regarding water sector reform, tariff policy, utility management and utilities aggregation etc. Mr. Popa holds MSc. Degrees in engineering (1991) and economics (1997).
- **Ms. Jovana Gojkovic** holds a master's degree in European relations and has worked with complementary European organisations. In charge of external relations at Aqua Publica Europea, she works closely with the members of the association, European public operators, and is responsible for representing their voice with external stakeholders in Brussels and beyond, and for supporting their cooperation projects to create a common understanding of the mission of European public services. In this role, she also coordinates the Water Erasmus initiative, helping members connect with each other and promoting the benefits of knowledge exchange for a strong water sector. A French and Serbian binational, she has lived in five countries and speaks four languages.
- **Mr. Lachezar Donchev** graduated from the University of Architecture, Civil Engineering and Geodesy in Sofia where he majored in Water Supply and Sewage with specialisation in water and wastewater treatment. He is now working for Water Supply and Sewerage Burgas, a utility company in Bulgaria. In his position, he is responsible for coordinating the work of the Emergency Laboratory Unit, where he is working on Hydraulic Modelling, Drawing of Plans, Data Loggers, Monthly Water Balance and Report, Business Planning and Business Report.
- **Mr. Radoslav Russev** holds an MBA from Warwick Business School and an ACCA diploma. For ten years Rado has been involved in expert and management roles in water operators in Bulgaria – Sofia and Dobrich Water. His experience has been focused on operations, commercial and change management in general including a mandate of a general manager for Dobrich Water. In 2014 and 2015 Rado joined the Bulgarian government in the roles of deputy minister and then as an advisor in steering the water reform in the country. Since then he has held multiple consulting roles in South-East Europe and Middle East for World Bank, EBRD and other institutions including IAWD within the process for structuring and roll-out of D-LeaP. Since 2016 Rado has been also active in founding and developing Hydrolia – a local operator of industrial water assets headquartered in Bulgaria.
- **Ms. Elvira Broeks** is a water and sanitation analyst with the World Bank's Global Water Practice where she is primarily supporting the implementation of the Danube Water Program. At the World Bank, she has also worked in water and wastewater investment projects in Latin America, providing analytical and operational support throughout the project cycle. Before joining the World Bank, Elvira worked as a consultant in capacity building for integrated water resources management at the National Water Authority of Peru and as an intern in water and sanitation with WaterAid in Tanzania. Elvira holds a B.Sc. in Environmental Sciences from University College Roosevelt in The Netherlands and an MSc in Water Science, Policy and Management from University of Oxford, UK.
- **Ms. Katerina Schilling** is Knowledge Manager and Capacity Building Coordinator of IAWD. She has earned a master's degree in Biology with a specialization in freshwater ecology from the University of Vienna and obtained her PhD within the framework of "The Vienna Doctoral Program on Water Resource Systems" awarded by the Vienna University of Technology, where she was employed more than ten years at the Institute for Water Quality, Resources and Waste Management as a Research Assistant. Her work focused on projects dealing with water quality and included lecturing in basic and advanced courses for operators of wastewater treatment plants. Since 2006 she has also been actively involved in the national and international activities of the International Water Association (IWA) and was appointed an IWA Fellow in 2016. She is co-founder of the Austrian Young Water Professionals Chapter and core member of the IWA Task Force on SDGs.

Session Summary

After a short introduction by the session chairs, **Ms. Boehm** started her presentation with a small exercise asking on the audience to stand and those who had daughters to remain standing. The number of people with daughters whom they would like to work in a power or gas utility remained standing and they were acknowledged as being brave, but the numbers were much smaller compared to all those who initially indicated they had daughters.

She stated she works in the Oil and Gas industry where there is shortage of females in the sector. She demonstrated that the standard education process is like a pipeline leakage where at the beginning there are equal male and females joining the technical field, but females drop out along the line mostly due to lack of role models or due to parental roles. For example, according to Eurostat, there are only 23% females in the technical field and only 10% in technical professions in Austria. In addition, there is a significant drop of females promoted in senior management with childcare duties cited as one of the main reasons for leaving the workplaces.

She presented a project by the USAID on engendering utilities where they worked with 17 utilities in 41 countries around the world. They provided support to make the utilities more attractive to young females and males who prefer to work in other professions or use the water sector to enter the job market and later move to "more attractive "sectors. The project emphasized on delivering gender equality in utilities through a best practices network. This involved an executive leadership course where employee lifecycle is highlighted as well as peer learning and is also a network platform. A customized change management coaching for utilities was also available where the team spent 1 week with utilities, identifying areas of intervention and within a period of 2 years, the utilities were required to make and report every 2nd week an improvement and intervention planning. A best practice framework for improving working conditions and employee lifecycle for utilities is available online.

Success stories – Engendering utilities was an empirical study of labor practices in a sample of utilities throughout the world as part of the USAID program. It was designed to improve labor market opportunities for women in the energy sector and better understand how improved gender outcomes can contribute to better business practices and improved operations in distribution utilities. It was launched in 2015 to 2018 work with 7 utilities: and 2 were highlighted;

- **EVN Macedonia:** main challenge was brain drain – where most people preferred to work in the civil service. They used engendering utilities to assess and make changes in the entire HR process, state of the art talent outreach program 20-20-20. (20 more female engineers by the year 2020). EVN Macedonia has a strong internship program that attracts an almost equal number of women and men. Approximately 44 % of the interns are women. This one-month paid internship is held during the summer for university students. EVN Macedonia has also created cooperation with several technical High Schools from all over the country wherein students from the final two years of study attend tailor-made internships during the school year or summer holiday. There is also cooperation with several Engineering Faculties both for summer internships and scholarship programs
- **EKEDC, Nigeria:** the challenge was low women participation in the workforce. Only 9% of all women are enrolled in tertiary or post-secondary education and, of those, only a very small number of women enroll in engineering at universities in Nigeria. Training programs at EKEDP do not appear to target women and only one woman attended their unpaid internship in 2014.

How to make water sector "more attractive" was raised pointing out the need for a diverse recruitment team as the employment pool as diverse and fair payment for the services. Young water professionals feel that the sector is too stressful, noting it is a high work intensive sector that sometime requires working round the clock and even on weekends compared to the compensation. Perceived boring jobs with low salaries, and uninspiring leadership were mentioned as some of the reasons that stops water utilities from attracting talent.

In the following **panel discussion**, **Ms. Evis Gjebrea, Ms. Anita Krasniqi** and **Mr. Teodor Popa** presented some highlights resulting from a study on gender balance in the workforce in three utilities (Tirana in Albania, Pristina in Kosovo and Brasov in Romania). The key findings during the assessment were that:

- In two of the utilities, Brasov and Pristina there was no female employee at the top management
- Employees exited at old age and succession planning was not comprehensive

- Women were more likely to make transition and more men were more likely to be promoted than women
- Women are more likely to be recruited at operational level
- The retention or transition by female junior managers to women in top management is not yet happening
- The female respondents were also more pessimistic about fair pay as there was a huge unexplained pay gap. About 75% were not paid according to their job title but interestingly, women were paid 10-12 %higher than men and did a focus group why women are more demanding than men.

Key findings after the assessment were:

- the survey showed there were more female respondents, but the females were more pessimistic about promotions except for Tirana
- women demanded more involvement in decision making in top management levels
- women were louder in requiring equal treatment and opportunities
- process to specify internal working processes and gender equality
- to formalize procedures to interview candidates by both male and females
- targets of gender compensation and action plan to implement
- developing Leadership mentoring program…personality test to identify strengths and skills
- MoU with the faculty of civil engineering …most talented students to work in the utility thus nurture talent

Ms. Jovana Gojkovic, Aqua Publica Europea highlighted some of the benefits of Water Erasmus which was launched in 2017 for capacity development benefits for young and females to create like-minded professionals and share experiences recognizing the need to train and retain staff that can last. It has allowed utilities make strategic decisions based and created a sense of belonging and set the basis for future engagement.

The main objectives are:

- To facilitate peer to peer exchange with utilities.
- To promote knowledge sharing
- Motivate staff through international exchange
- Some employees more skilled and are willing to share
- Help strengthen utilities to adapt to the future

She also highlighted the key points on how to systematic address issues of diversity to success:

- Commitment from top management which calls for long term planning
- Present a good business case about the company.
- Act as role model... walk the talk
- Decisions need not to be taken only in informal settings
- Emphasis to human assets in as much technology is changing
- Utility management training, capacity benchmarking initiative…structuring utility management

Mr. Lachezar Donchev, highlighted that joining the water sector as a young professional helped him to gain a lot of work experience in a short period, acquiring communication and leadership skills as well gaining a broad understanding of the running of the company. He noted that excellence comes with a reward which is a great motivation to stay although the pay is not equal the work expectation. He also highlighted the is need for diversity in the sector and recognition of talent.

Finally, **Mr. Radoslav Russev** led the last part of the session dealing with the Utility Management Training that is currently under development and will be offered under the Danube Learning Partnership.

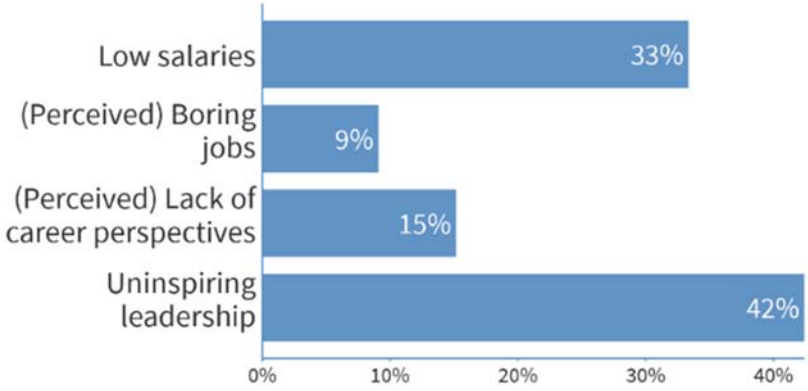
Mr. Russev started by asking the audience what was the single most important reason that stop water utilities to deploy technology actively…CULTURE which is what remains when everything that has been learned is gone. Culture may be categorized as people, management or operations. He added that the single most reason for failure among water utilities is lack of corporate culture.

He presented the structure of a planned 2-year Post graduate course on utility management training which will have three thematic coverages, technical, operational and organizational management. In that context, he conducted a pool and a few questions were posed to the audience. For example, about 73% of these pooled in the audience stated that the most effective way of gaining expertise is through a combination of formal and on the job training and assignments. Asked how much a manager would be willing to pay for a promising junior manager to attend a comprehensive 2-year diploma course in utility management program, it emerged that most mangers would be willing to invest about 75% of the total cost or about 10,000 euros. For those willing to attend, how much time they wished to devote to participate in a course as a mid-level manager was also posed and it varied with individuals. This information is very important in structuring a utility management course, the course content and coverage for on the job training of junior management. Lastly, on which skills most often needed but absent in mid to senior level experts and the responses from the pooled audience included expertise (a majority), luck, political connection, teamwork, business orientation, holistic view, soft skills, responsibility and engaging, leadership, economic knowledge, vision, learning skills, communication, disposition to listen.

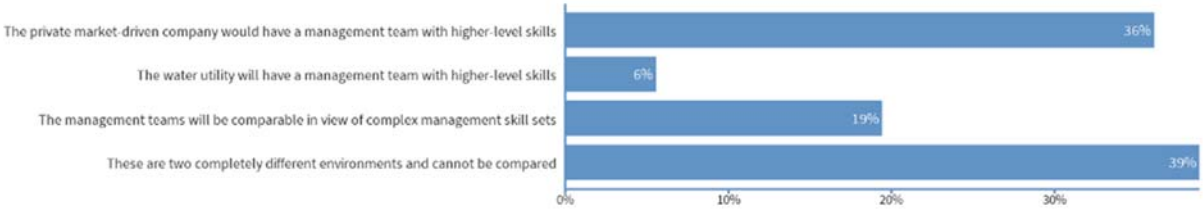
Contributed by Ms. Pauline Macharia (YWP Austria) and Mr. Ivan Jovic (YWP Croatia)

PollEv results

What stops water utilities from attracting talent?

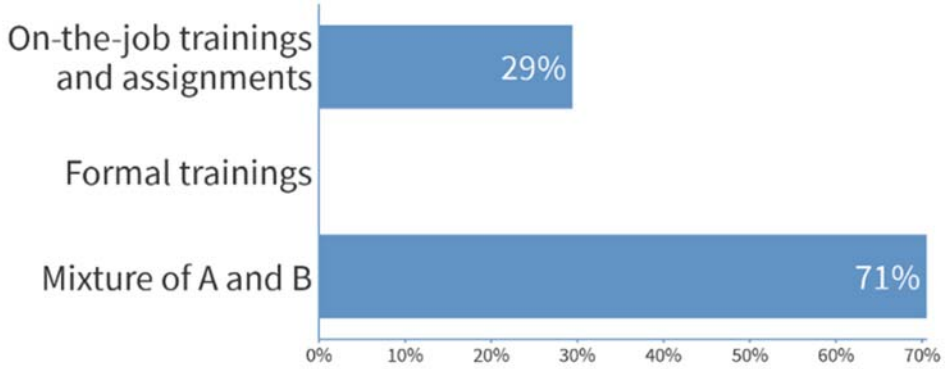


If you compare the complex management skills of the senior management team of a sizeable Eastern European water utility (10 million-euro turnover, 500 employees) to the management team of a similar-size company in a private competitive market in the same region, would you say that:



If you were (are) a CEO of a large water utility what would be the most desired skills and characteristics of your senior and mid-level managers?

What is the most effective and efficient way of gaining comprehensive management expertise?



5. Cooperation as important tool to achieve resilient water and wastewater services

Date: Monday, May 20th
Time: 16:15 to17:45
Location: Conference Room A and B
Chair: Ms. Elisabeta Poci, SHUKALB and Ms. Emese Madarasz, YWP

Context and objective

The intention of this session was to showcase how cooperation between utilities, universities, ministries, regulatory agencies, the private sector and municipalities are necessary to drive a resilient water sector. Academia has a role to play in targeting sector needs, to develop their research portfolio and networks and to also build know-how in the country and in the industry. Water utilities and municipalities should provide opportunities for interactive dialogue with academia and research application. In addition, the private sector can act as an important driver of innovation.

Session structure

Time		Content	Speaker
16:15	5'	**Introduction**	**Ms. Elisabeta Poci,** Deputy Executive Director, SHUKALB, Albania and **Ms. Emese Madarasz**, YWP, Hungary
16:20	15'	**Strengthening the relations between utilities and municipal governments – the case of Subotica, Bijeljina, Novi Sad and Szeged** Click here for presentation	**Mr. Gyoergy Sugar**, Director, JKP Vodovod i kanalizacija Subotica, Serbia
16:35	15'	**Cooperation between a utility and academia – the case of ebswien Hauptklaeranlage and TU Wien** Click here for presentation	**Mr. Gerald Wandl**, Head of Operations, ebswien Hauptklaeranlage, Austria and **Mr. Joerg Krampe**, Head of Research Unit for Water Quality Management, TU Wien, Austria
16:50	15'	**Waterservices 4.0 - Cooperations between Utilities, SMEs and Start ups** Click here for presentation	**Mr. Christian Hasenleithner**, Managing Director, Energie AG Oberoesterreich Wasser GmbH, Austria
17:05	15'	**Technology Transfer Water (TTW) Network – the case study of German/Ukrainian partnership** Click here for presentation	**Mr. Klaus Arzet**, Head of Unit, Bavarian Ministry of the Environment and Consumer Protection, Germany and **Ms. Victoria Iskova**, Coordinator, UBP Hub, Ukraine
17:20	25'	**Plenary Discussion** Link for questions: Pollev.com/2019dwc745	Moderated by **Ms. Elisabeta Poci**, Deputy Executive Director, SHUKALB, Albania and **Ms. Emese Madarasz**, YWP, Hungary
17:45		**End of session**	

Speakers' biographies

- **Mr. Gyoergy Sugar** has graduated as engineer of technology from the University in Szeged in the fields of water quality management, environmental protection chemistry, air protection, technological wastewater treatment, environmental analysis, waste management and hazardous waste management, soil protection, biotechnology for environmental protection, water technology and waste water treatment equipment. Since 2009 he works with the company PUC "Vodovod i kanalizacija" Subotica in the positions as Process Engineer, Chief Technologist at the Wastewater Treatment Plant, Technical Director and since 2016 as General Manager of the company.
- **Mr. Gerald Wandl** has obtained his master's degree in Civil Engineering and Water Management from the University of Natural Resources and Life Sciences in Vienna. In 1997 he joined the Vienna University of Technology, Institute for Water Quality, where he worked on several research projects in the field of wastewater treatment (including the extension of the Vienna Main Wastewater Treatment Plant) and finally graduated with a PhD. Since 2006 he works with the Vienna Main Wastewater Treatment Plant – ebswien Hauptklaeranlage – where he has been appointed Head of Operations in 2019.
- **Mr. Joerg Krampe** has a Dipl.-Ing. in civil engineering from the University of Hannover, and Ph.D. in Civil and Environmental Engineering at the University of Stuttgart. He is currently Professor for Water Quality at the Vienna University of Technology (TU Wien), and Head of the Institute for Water Quality, Resources and Waste Management. Mr. Krampe has 20 years of work experience of biological wastewater treatment, aeration technology, membrane technology and energy efficiency, and long experience in the providing training in Germany and Austria and presenting special short courses for Turkish, Algerian and Chinese WWTP operators.
- **Mr. Christian Hasenleithner** studied Civil Engineering at the Vienna University of Technology. After 10 years of working as a project engineer in hydro power plant construction, he switched to the sector of water supply and wastewater treatment in 1995. Mr. Hasenleithner developed the business segment "Water" at Energie AG Oberoesterreich, a mainly public entity, located in Linz and is General Manager of Energie AG Wasser GmbH, which is active in Austria, the Czech Republic and Slovenia. Eight companies of the group supply about 1 Mio. Inhabitants with drinking water and collect and clean wastewater for 750.000 inhabitants.
- **Mr. Klaus Arzet** has studied Natural Sciences at the University of Freiburg, Germany, degree with focus on Hydrology, Chemistry, Limnology and a Ph.D. in Freshwater Biology, Limnology, University of Innsbruck, Austria. He works for the Bavarian Ministry of the Environment and Consumer Protection in Munich, Germany, as head of the unit "National and international River Basin Management", Department of Water Management and Soil Protection. Since 1983 he has been involved in Water Management in different positions and Bavarian institutions, including the State Office of Water Management of Munich, the Regional Government of Upper Bavaria and the Bavarian Agency of Water Management. His current interests among others are River Basin Management, implementation of the European Water Framework Directive, related European Water Directives as well as national and international cooperation.
- **Ms. Viktoria Iskova** is Coordinator of IAWD's Utility Benchmarking Program in Ukraine, operated under D-LeaP and supported by the Danube Water Program and has a 4 years' experience on this position. Her responsibilities include project management, business planning, economic and financial analysis of Ukrainian water utilities activities and training water utilities' staff on EBC's methodology. During 2012-2014 she was working for the Commercial Bank Joint-Stock Company "Privatbank" in Ukraine, where she achieved the position of a Deputy Director of the Kiev Branch. Viktoria holds a master's degree in Finance.
- **Ms. Elisabeta Poci** has been working with the Water Supply and Sewerage Association of Albania (SHUKALB) for more than ten years. During her work for the Association, she has held different positions, and more recently, she assumed the position of Deputy Executive Director, which she has held for the past four years. Her major responsibility, among others includes the development of SHUKALB's Grants-based Projects Program. Ms. Poci is currently managing the Project "Sustainable Water Sector Capacity Development in Albania", a grant received by SHUKALB from USAID. The main objective of the Project is to develop an institutionalized, financially self-sustaining curriculum of training, which is designed to qualify candidates for test-based operator certification. Ms. Poci holds a bachelor's degree in environmental engineering from the Polytechnic University of Tirana and a

master's degree in Environmental and Water Resources Engineering from the University of Texas at Austin, USA, under a Fulbright Scholarship.

- **Ms. Emese Madarasz** is working as a research assistant and doing her PhD at Budapest University of Technology and Economics. She graduated as a civil engineer in 2016. Her research work and PhD focus on hydrodynamics of aerated units of wastewater treatment plants. She is also a founding member of the Hungarian Water Association's Young Water Professionals chapter which has been established in 2018.

Session Summary

In her opening remarks Ms. Poci highlights that resilience concerns everyone and a strong cooperation of all water stakeholders is needed to address this issue. Thus, the session highlights three types of successful cooperation between utilities and other institutions.

- Cooperation of academia and utilities, mainly in terms of research and technology advancement.
- Cooperation of the private sector and utilities. Private sector can act as a driver of innovation to solve more complex issue in the future.
- Cooperation of utilities with the central government

In his presentation "*Strengthening the relations between utilities and municipal governments- case of Subotica, Bijeljina, Novi Sad and Szeged"* **Mr. Sugar** introduced an agreement that was signed on February 28, 2019 between water companies and cities of Subotica, Novi Sad, Bijeljina and Szeged. Focus of this agreement was on partnership for utility water management improvement and exchange of knowledge, experience and good practices. He explained the basic principles, goals and structure of this partnership, under which the first working groups have already been established to take some first initiatives.

Mr. Sugar point out that in the core of this agreement is that water should be handled in a socially responsible and fair manner in order to preserve it for the present and future generations.

The presentation of **Mr. Wandl** *"Cooperation between a utility and academia –the case of ebswien Hauptklaeranlage and TU Wien"* focused on the prolonged cooperation that the ebswien Hauptklaeranlage utility have had in years with the academia. He explained that this collaboration started in 1965, when the utility contracted Prof v.d. Emde from the TU Wien, Institute for Water Quality to design the first wastewater treatment plant in Vienna and was continued under the Prof. Helmut Kroiss with the extension of the WWTP. Currently the utility together with the TU Wien implements a new project called EOS "Energy Optimization Sludge Treatment", which includes the renewal of the primary clarification and the construction of a new sludge treatment facility, aiming to increase the efficiency of the energy production from digested biogas. He concluded his presentation highlighting the benefits that both parts get from this long-term partnership. While ebswien Hauptklaeranlage utility gets access to largest technologies and developments, TU Wien has access to real life operation and challenges.

In his presentation *"Waterservices 4.0 – Cooperations between Utilities, SMEs, and Startups"* **Mr. Hasenleithner** talked about collaborative experiences his company Energie AG Oberoesterreich Wasser GmbH had with the private sector, e.g. on satellite leak detection. He pointed out that compared with the leak detection firm utility people were quite slow, as the experts were quite skeptical for new solutions and approaches and were only ready to change operational procedures and organizational structures, if proofed necessary.

A second cooperation with an IT startup resulted in the programming of an online system that monitors fire hydrants. The last collaboration explained in his presentation was the one with SME for smart mobile operation of the water system. They are using smart metering and new consumer information tool. In this partnership the CAPEX is the limiting factor.

Mr. Hasenleithner concluded his presentation with the following statements:

- CAPEX and human resources are the main challenges in implementing the water management 4.0.
- The usual speed of the water sector is way to slow
- Cooperations with partners outside the sector are fruitful

- Let's stay open but never uncritical
- Let's not forget countries without water management 1.0

Mr. Arzet started his presentation *"Technology Transfer Water (TTW) Network – the case study of German/Ukrainian partnership"* by stating that the largest obstacle in resolving Water Management problems are not lack of advanced technologies or financing by rather general institutional conditions, on the state and municipality level. He continued by explaining the federal principles of Germany and distribution of responsibilities for water. Mr. Arzet took real examples to explain the development of the water and wastewater sector in Germany through years. He made several comparisons of the state of water sector in mid 90s and recent years.

Mr. Arzet introduced the Technology Transfer Water Network (TTW), which was established in 1999 by the Bavarian State Ministry of Environment and Consumer Protection. TTW is designed to support international cooperation and exchange in the field of Water Management. Mr. Arzet explained the scope of TTW and stated that the major problem for them was to get in touch with institutions and responsible professionals to develop a continuous cooperation. Following Mr. Arzet's introduction, Ms. Iskova introduced the cooperation between the German Ministry and the National Water Association of Ukraine and presented some data from the project Benchmarking for Water Supply and Sanitation Utilities. She continued by explaining the two main capacity building activities they have developed until now as part of the cooperation with Bavarian State Ministry of the Environment and Consumer Protection. These activities are the Bavarian Autumn Seminar (September - October) as well as the Summer academy for young engineers (July - August).

The key messages of the subsequent **plenary discussion** were:

- Employee are usually not enough flexible and willing to try new methods and technologies, we as managers should set an example and be open toward change.
- Industry has an important role in the water utilities since the technology advancement makes the provision of water services more efficient and easier
- High investment cost is the main limitation that hampers the application of smart technologies in the water sector
- Cooperation are beneficial for both parties, even the most advanced partner has a lot to benefit from the experience of the less developed partner.
- To make a partnership effective and successful people need to commit to it
- Resilient water and wastewater services can only be achieved through collaboration and exchange

Contributed by Ms. Anisa Aliaj (YWP Albania) and Ms. Mladenka Novakovic (YWP Serbia)

6. Business Reception and Conference Dinner

Date: Monday, May 20th
Time: 18:30
Location: Campus Bräu, Wiedner Gürtel 1, 1100 Wien, https://www.campusbraeu.at/
(10 min walk from conference venue)

The Business Reception as well as the Conference Dinner will provide conference participants excellent networking opportunities among each other as well as with a selected number of companies working in the water sector in the region and further encourage the exchange of ideas.

Directions to Conference Dinner

V.TUESDAY, MAY 21ST

1. Keynote: Evaluation and recast of EU water policies – status, challenges and lessons learned

Date: Tuesday, May 21st
Time: 08:30 to 09:15
Location: Conference Room A and B
Chair: Mr. Philip Weller, IAWD

Context and objective

For most of the countries in the Danube region, as recent EU member states or candidate countries, meeting the requirements of the water-related *acquis communautaire* of the European Union constitutes a key driver for sector-related reforms and investments. Regarding water services, the Urban Wastewater Treatment Directive and the Drinking Water Directive, along with the Water Framework Directive, are the most important pieces of EU legislation.

The main objective of the Urban Wastewater Treatment Directive is to protect the environment from adverse effects of wastewater discharges from urban areas and certain industrial sectors. The currently ongoing evaluation of the Directive assesses the effectiveness, efficiency, coherence, relevance and EU added value of the Directive since its entry into force more than 25 years ago. It may identify areas where simplifications or improvements to the legislation or implementation are needed.

Furthermore, in 2018 the European Commission published a proposal for a revised Drinking Water Directive. The proposal responds to the European Citizens' Initiative, Right2Water, and builds on a fitness check which concluded that the 20-year old directive is fit for purpose but needs updating. The main elements of the proposal consist of updating the water quality standards, introducing a risk-based approach to the monitoring of water, improving and streamlining the information provided to consumers, harmonizing the standards for products in contact with drinking water, and imposing obligations to improve access to water. The proposal is currently under negotiation at EU level.

The session allowed to inform the conference participants about the latest state-of-play regarding these important developments. Representatives of the Austrian Federal Ministry for Sustainability and Tourism and of the Bulgarian Water Association provided their views on these subjects via impulse statements, helping to launch the discussion of the audience with the European Commission representative and amongst each other.

Session structure

Time		Content	Speaker
08:30	5'	**Introduction**	**Mr. Philip Weller**, Head of Technical Secretariat, IAWD, Austria
08:35	20'	**Evaluation and recast of EU water policies – status, challenges and lessons learned** Click here for presentation	**Mr. Michel Sponar**, Deputy Head of Unit, European Commission, DG ENV C2, Marine Environment and Water Industry, Belgium
08:55	20'	**Panel Discussion** Link for questions: Pollev.com/2019dwc745	Moderated by **Mr. Philip Weller**, Head of Technical Secretariat, IAWD, Austria

			Panelists: - **Mr. Michel Sponar**, Deputy Head of Unit, European Commission, DG ENV C2, Marine Environment and Water Industry, Belgium - **Ms. Heide Mueller-Rechberger**, Director, Directorate-General I - Environment and Water Management, Federal Ministry for Sustainability and Tourism, Austria - **Mr. Ivan Ivanov**, President, Bulgarian Water Association (BWA), Bulgaria
09:15		**End of Session**	

Speakers' biographies

- **Mr. Michel Sponar** is working since December 2015 as Deputy Head of Unit at the European Commission in the Directorate General Environment. He is co leading a team of 22 persons dealing with Marine Environment and clean Waters. He is involved in several files such as the Plastic Strategy, the revision of the Drinking Water Directive, the evaluation of the Urban Wastewater Directive but also the implementation of the Marine Strategy Framework Directive. In cooperation with OECD, he is leading a set of seminars in Member States on investments needs and financial strategies in the water sector. Before joining the water Unit, he was responsible for the preparation and adoption of the packages on Circular Economy with a focus on the review of the target of the Landfill, the Packaging and the Waste Framework Directives. From 2002 to 2007, he was Member of the team in charge of the preparation, adoption and follow up of the Thematic Strategy on Air Pollution. Between 1991 and 2002, he was Deputy Head of the Cabinet of the Minister for the Environment at the Brussels Region – in charge of municipal waste management, wastewater management, air and climate, environmental permitting and inspection. His background is Bio Engineer (Scientific education) with a complement in Business Management.
- **Ms. Heide Mueller-Rechberger** has studied civil engineering at Vienna University of Technology and has joined Austria's Federal Ministry for Sustainability and Tourism in 2011. She is head of the Directorate "Plant-related Water Management". Among tasks like supervising the safety of large dams and providing expert opinion to permitting authorities, her Directorate is responsible for the Austrian federal ordinances on wastewater emissions both of industry and of urban settlements. Heide is a member of the UWWTD expert group and has participated in the respective workshops and conferences on UWWTD evaluation. Before joining the Federal Ministry, for more than a decade Heide has followed a career of plant engineering and construction, both for wastewater treatment plants and seawater desalination plants.
- **Mr. Ivan Ivanov** is a chemical engineer by training. He is engaged in the water sector by 1999 and has worked 11 years in "Sofiyska voda" AD, where he held the posts of Chief Secretary and Procurator. Mr. Ivanov is a member of the Board of the European Federation of National Associations of Water Services (EUREAU), representative of the European Center of Employers and Enterprises providing Public Services (CEEP) in the Steering Committee of the European Innovation Partnership in the field of water (EIP Water) to the European Commission, a representative of the Association of Industrial Capital in Bulgaria (BICA) in the Monitoring Committee of the Operational Program "Environment 2007-2013" and the working group for preparation of the OPE 2014-2020 as well as Executive Director of "Industrial Cluster underground infrastructure" and Editor-in-Chief of "Bulaqua" magazine.
- **Mr. Philip Weller** has since July 2013 served as the Danube Water Program Coordinator for the International Association of Water Supply Companies in the Danube River Catchment Area (IAWD) administering and managing a joint project together with the World Bank aimed at improving and supporting the efficiency of Danube region water supply and waste water companies. Mr. Weller previously served for 10 years as the Executive Secretary of the (ICPDR) International Commission for the Protection of the Danube River. Mr. Weller also worked for the World Widelife Fund for Nature (WWF) as Danube Carpathian Program Director and has also managed successful consulting

businesses in both Canada and Austria and has done numerous assignments for governments and international organizations. Philip Weller is an environmental planner by training.

Session Summary

In his presentation, **Mr. Sponar** introduced the comprehensive EU legislation in the water area focusing on the recently adopted Drinking Water Directive and the Urban Wastewater Directive, which is currently under evaluation.

The objective of the Drinking Water Directive is the protection of human health from adverse effects of any contamination of water intended for human consumption. There are five main updates in the directive:

- updated parameters: 48 parameters based on WHO;
- increased transparency: information to consumers and reporting to COM;
- risk-based approach: proposal covers complete water supply chain;
- highest quality standards for materials in contact,
- access to the water: measures to ensure access to water for vulnerable and marginalized groups and to improve access to tap water

The objective of the Urban Wastewater Directive is the protection of the environment from the adverse effects of the discharges of untreated wastewater. For the evaluation of the directive, five evaluation criteria were allocated: Effectiveness, Efficiency, Coherence, Relevance and EU-added value.

The assessment of the state of compliance with the requirements of the directive in different member countries is different, some of them have shown positive progress, while others are still far from complying.

Mr. Sponar showed assessment of the costs and benefits related to the directive implementation for EU countries. Benefits are higher in comparison with costs. But he noted that if the costs can be precisely calculated based on costs of the collection and treatment, then the assessment of the benefits is more artistic and some of the benefits are difficult to assess and to be forecasted.

EU members have a different financing strategy of the combining transfer from public budget with revenues from water tariffs. The share of EU transfers in estimated total expenditures for WSS per country is also different (Estonia is a champion in this case). Whereas in some countries tariffs are nearly covering operating costs, affordability in some countries is at risk. Implementation of the directive requires additional costs which will increase the tariffs, although affordability is a precondition to ensure the long-term sustainability of the sector.

As the Directive was one of the first regulating pollutants releases (1991), there is a high level of coherence with subsequent legislation. The evaluation report will be published in autumn 2019.

The **panel discussion** highlighted that attempts to quantify emissions before and after the implementation of the Directive was challenging, because the Urban Wastewater Treatment Directive is not the only one that has created benefit for the environment. The JRC (Joint Research Centre) in Ispra and the Member states invested a lot of modelling work in order to produce reliable data. The evaluation is not only based on the results of the directive, but also considers emerging challenges, such as microplastics and pollutants of emerging concern.

Austria today has 80% Nitrogen removal and 90% Phosphorus removal and has been fully complying with UWWTD for a long time. A lot of effort was put into the WWTP operators' training and peer to peer coaching, as well-trained staff is the precondition for well-functioning WWTP. Additional topics were the reduction of stormwater and combined sewer overflow; the increase of energy efficiency, benchmarking and digitalization.

Attention was drawn to the Drinking Water Directive and the disconnection between the institutions and water utilities, which results in water utilities not being able to comply with the changes in the directive. It was also noted that increasing Opex and Capex in water sector will impact the prices for water services.

Contributed by Ms. Victoria Iskova (YWP Ukraine) and Mr. Lachezar Donchev (YWP Bulgaria)

2. How to achieve resilient wastewater treatment in the Danube region?

Date: Tuesday, May 21st
Time: 09:15 to 10:45
Location: Conference Room A and B
Chair: Mr. Stjepan Gabric, World Bank and Ms. Anisa Aliaj, YWP

Context and objective

Wastewater management in the Danube river basin and related activities to achieve compliance with the EU water directives (UWWTD and WFD) remain the most challenging aspect of water utility service provision in the Danube region, requiring very large investments, and triggering organizational changes aimed at improved performance and sustainable compliance.

The session looked at the wastewater management status in the region, with focus on alignment with relevant EU wastewater directives, and presented different solutions for resilient and sustainable wastewater treatment in EU operating framework.

Session structure

Time		Content	Speaker
09:15	15'	**Wastewater management in the Danube River Basin - a progressive but still unfinished business** Click here for presentation	**Mr. Ivan Zavadsky**, Executive Secretary, International Commission for the Protection of the Danube River (ICPDR), Austria
09:30	10'	**Wastewater management in Danube region, opportunities and challenges of EU accession** Click here for presentation	**Mr. Stjepan Gabric**, Senior Water Supply and Sanitation Specialist, World Bank, Croatia
09:40	15'	**Boosting Supply Security by Water Reclamation and Reuse** Click here for presentation	**Mr. Josef Lahnsteiner**, Director Technology, Research & Development, VA TECH WABAG Group, Austria
09:55	15'	**Decentralized wastewater solutions for rural areas – GWP experiences in the Danube region** Click here for presentation	**Ms. Darja Istenic**, GWP CEE Sustainable Sanitation task force representative, Slovenia
10:10	15'	**Sustainable design of wastewater infrastructure – the case study ARA Oberengadin** Click here for presentation	**Mr. Markus Mendler**, Chief Engineer, Hunziker Betatech AG, Switzerland
10:25	20'	**Plenary discussion** Link for questions: Pollev.com/2019dwc745	Moderated by **Mr. Stjepan Gabric,** Senior Water Supply and Sanitation Specialist, World Bank, Croatia and **Ms. Anisa Aliaj**, YWP, Albania
10:45		**End of session**	

Speakers' biographies

- **Mr. Ivan Zavadsky** works in the Permanent Secretariat of the International Commission for Protection of the Danube River as the Executive Secretary to this Commission since August 2013. He worked for the Slovak Government in different senior management positions in the fields of environment and water management for more than 15 years. Since 2001 until 2007, he managed two UNDP/GEF regional projects in the Danube River Basin and Black Sea region assisting 17 countries in addressing the nutrient pollution and ecological rehabilitation of the Black Sea. Then he worked for the GEF Secretariat, responsible for complex regional projects on international waters and has led the development of the GEF IW Strategy for the 6th GEF cycle. He has a master's degree in water management and a post-gradual degree on water management economics from the Slovak Technical University in Bratislava.
- **Mr. Josef Lahnsteiner** holds an MSc and a PhD in Biotechnology from the Vienna University of Natural Resources and Applied Life Sciences. For nearly thirty-five years, he has been involved in a wide range of water and used water as well as water reuse projects. Currently, Dr. Lahnsteiner is the Director Technology, Research & Development of the VA TECH WABAG Group. He has been a member of the Namibian Windhoek/Goreangab Direct Potable Water Reuse Research Committee since 2005 and Director of Board of the Windhoek/Ujams Industrial Water Reclamation Company since 2012. Mr. Lahnsteiner is also a member of the International Water Association (IWA) Water Reuse Specialist Group's Management Committee and his focus is on industrial and potable water reuse.
- **Ms. Darja Istenic** has a University diploma from biology and a PhD from Environment protection from University of Ljubljana. She is an assistant professor with 13 years of experience in research and development of natural water treatment systems, wastewater reuse and revitalization of water bodies. For 10 years she has worked in a private company where she was involved in numerous national and international projects in the field of development and implementation of natural wastewater treatment solutions. Today she works as a researcher and project manager at University of Ljubljana, Faculty for Health Sciences. She is author and co-author of several scientific articles and books and an active member of Global Water Partnership.
- **Mr. Markus Mendler** has a Dipl.-Ing. in Chemistry from the polytechnic of Winterthur and the ETH Zürich (Technical University of Zürich), and a Ph.D. in natural sciences at ETH Zürich (Biochemistry). He currently works as chief engineer for the engineering firm Hunziker-Betatech AG in Winterthur, Switzerland. Mr. Mendler has more than 20 years of experience in process engineering of wastewater treatment plants, with experience in most aspects und technologies of mechanical, biological wastewater, sludge and biogas treatment.
- **Mr. Stjepan Gabric** holds an MSc in wastewater engineering from IHE Delft, and BSc in water engineering from Civil Engineering Faculty in Zagreb. For nearly thirty years, out of which sixteen years in the World Bank, he has been involved in a design, implementation and planning of a wide range of water and wastewater projects, and analytical studies mainly in Eastern and South-Eastern Europe. He is core member of Danube Water Program World Bank team since 2014 and is currently involved in World Bank water operations in Belarus, Russian Federation and Western Balkan. He is also the main author of study on impact of UWWTD on wastewater management in Danube basin area.
- **Ms. Anisa Aliaj** holds a master's degree in water treatment from the Polytechnic University of Tirana and a bachelor's degree in environmental engineering from the same university. During the past 8 years she has developed a deep experience in the water sector in Albania, working in several technical and managerial positions. In 2014 she joined the staff of SHUKALB, holding at first the position of the Drinkadria Project Coordinator and later the position of Course Development Specialist for Wastewater Collection and Treatment in the project "Sustainable Water Sector Capacity Development". She has been an active member of the Albanian YWP Group since its establishment in 2011 and since 2013 she is part of the management board. Anisa is a talent of UNLEASH Innovation Lab 2017 and is passionate about the SDG 6 "Clean Water and Sanitation".

Session Summary

In his presentation, **Mr. Zavadsky** explained that the biggest challenge in wastewater management of Danube region is the heterogeneity of the Danube basin, which is reflected by the differences in hydrology, economy, and social development of Danube region countries and how they carry out wastewater

management. In this context, the role of ICPDR is to foster and strength corporation between countries to work together and to be platform for implementation of UWWTD. The main influencing factor for achieving the good ecological status of the Danube still is the discharge of untreated wastewater. The biggest pressures for the Danube are hazardous substances, nutrient and organic pollution. It is not only a problem handling this type of pollutants, but also the lack of data. Significant progress was achieved, and the situation improved (decrease in emissions BOD: 50%, TN: 30%, TP: 45%). In the future more enhanced technologies should be applied. Mr. Zavadsky indicated that UWWTD represents a basic measure and that in future a high number of wastewater treatment and sewer projects will be carried out. In addition, some investment will be needed for old EU member states for the proper maintenance and rehabilitation of existing infrastructure. The key massage is planning good wastewater management includes proper project design with good planning of investment and operation costs and affordability.

Mr. Gabric indicated in his talk that the UWWTD is key and basis for wastewater transformation in the Danube region. The main objective of the presented study was to show results of UWWTD implementation concerning environmental, economic, sustainability and affordability aspects for eight EU countries in Danube region. Mr. Gabric also indicates that lack of recent data was the main drawback.

All investigated countries except of Austria have failed to satisfy the directive requirements during the transition period. Since 2003, significant improvement in wastewater treatment has been achieved in all EU member states of the Danube region. The main problem of implementation delays of countries is unrealistic UWWTD implementation planning. Since all countries have improved current wastewater treatment, significant reduction in pollution load was recorded which improved water quality status. For full compliance of UWWTD a budget of Euro 60 billion was allocated, and Euro 44 billion have already been invested. Affordability of water services for the households is not expected to be an issue until 2040, if considering the highest 5% (3% for WW services) affordability threshold.

At the end of presentation of Mr. Gabric, gave several recommendations such as: improvement of the strategic planning of wastewater management and according to experience of EU member states of the Danube region, prioritization of investments, development of a financing strategy for sustainable wastewater management and ensuring service sustainability.

Mr. Lahnsteiner explained in his presentation that water reuse is mainly used in agriculture (39%) and in 15% industry and indicated that municipal used water remains an un-used resource. In 2015, approx. 1.1 billion m3/y of water were recycled. The current status of regulation of water reuse in the EU covers so far only agricultural irrigation. In Spain 41% of reused water was applied in agricultural irrigation and 31% for urban green areas. He also introduced various examples of water reuse, e.g. in Murcia, Belgium, China and Singapore. The key take-home messages of his presentation were that municipal secondary effluent is a drought-proof resource, large quantities of freshwater (from public supply) can be saved by water reuse and recycling, environmental impact can be reduced and water reuse and recycling are key factors for providing a sustainable development (economically, ecologically and socially).

Ms. Istenic addressed the decentralized wastewater treatment solutions in rural areas, as 30% of population lives in rural areas, but only 9% of these settlements are connected to WWTPs. Other problems are lack of knowledge, management, practice and money decision. UWWTD legislation does not include rural area water management, but WFD describes the needs of achieving good ecological status of waters.

When equipping small settlements with WWTP, the selection of technology is essential, and synergies need to be explored with agriculture in terms of application of treated wastewater residues. In the SANDANUBE project the main goal was to increase the capacity of stakeholders on sustainable WW management, to form connections between different institutions such as governmental institutions, NGOs, companies and research institutions. The study includes comparison of different scenarios for collection and treatment of wastewater in small settlements. They investigated the possibility of using different kinds of treatment and include different criteria such as investment costs, operational parameters and socio-economic aspects. The result was that decentralized approach has numerous advantages with application of wetlands. One conclusion was that the dialog between the scientific community and practitioners must be improved.

In his talk, **Mr. Mendler** explained the process of sustainable design of wastewater infrastructure based on the case study WWTP Oberengadin. In this case, three WWTPs originally built in the 1970s will be replaced by one regional WWTP Oberengadin in 2021. As a result, the residual water stretch of the river Inn, which used to be the receiving water for the WWTP discharge and is also used for electricity production, will not receive any effluent discharge under dry weather condition. In addition, the treatment process of the new

plant, a modular SBR technology, was chosen to fit the high seasonal variations of the inflow loads (due to tourism) and to guarantee that emission thresholds are kept under all circumstances. In treatment plant, modern planning tools are applied such as Wastewater Treatment Modelling, Computational Fluid Dynamics and Building Information Modeling (BIM). Results showed that nitrogen removal in the future plant was higher than 75% and power consumption was reduced by 15%.

Contributed by Ms. Mladenka Novakovic (YWP Serbia) and Mr. Michal Holubec (YWP Slovakia)

3. Financing for resilient water infrastructure projects

Date: Tuesday, May 21st
Time: 11:15 to 12:45
Location: Conference Room A and B
Chairs: Ms. Patricia Lopez, World Bank and Mr. Michal Holubec, YWP

Context and objective

This session provided an overview of funding needs in the sector resulting from different studies carried out in the region, such as the State of the Sector 2018 Update report and the OECD report on EU members sector financing needs.

It ealso highlighdt the need to increase the pool of total financing available for countries to meet the SDG on water and accelerate access to, and the delivery of quality services for citizens, and showcase innovative financing approaches to finance water investments (with specific emphasis on water and sanitation services).

Finally, it included the results of the utility survey on financing efficiency projects of water utilities launched by the World Bank team under the DWP.

Session structure

Time		Content	Speaker
11:15	5'	**Introduction**	**Ms. Patricia Lopez**, Senior Infrastructure Finance Specialist, World Bank, Spain and **Mr. Michal Holubec**, YWP, Slovakia
11:20	12'	**EU Member Sector financing needs** Click here for presentation	**Mr. Xavier Leflaive**, Water Team Leader, Environment Directorate, OECD, France
11:32	12'	**Financing water investments in the Danube region** Click here for presentation	**Mr. Marco Beros**, Lead Engineer Water Management Division, EIB, Luxembourg
11:44	11'	**Utility financing and credit worthiness and the FUEL Initiative** Click here for presentation	**Ms. Patricia Lopez**, Senior Infrastructure Finance Specialist, World Bank, Spain
11:55	15'	**Q&A** Link for questions: Pollev.com/2019dwc745	Session participants
12:10	35'	**Panel discussion** Link for questions: Pollev.com/2019dwc745	Moderated by **Ms. Patricia Lopez**, Senior Infrastructure Finance Specialist, World Bank, Spain **Panelists:** - **Mr. Denis Obarcanin**, Operations Officer, International Finance Corporation (IFC), Austria

			- **Mr. Marco Beros,** Lead Engineer Water Management Division, European Investment Bank, Luxembourg - **Mr. Cliff Hammer,** Regional Advisor Infrastructure and Environment, SECO, North Macedonia - **Ms. Venera Vlad,** Associate Director, Senior Banker, European Bank for Reconstruction and Development, Romania - **Ms. Ivana Stanisic**, Executive Director of water supply department, A.D. "Vodovod i kanalizacija" Bijeljina, Bosnia and Herzegovina
12:45		**End of session**	

Speakers' biographies

- **Mr. Xavier Leflaive** leads the Water Team in the OECD Environment Directorate. He promotes policies that contribute to water security and sustainable development. His work covers issues related to pricing and financing, innovation in water management and water services, the reform of water allocation regimes, or diffuse water pollution. He has facilitated water policy reforms, in Brazil, Ireland, Korea, the Netherlands, the Caucasus and Central Asia.
- **Mr. Marco Beros** is the Lead Engineer within the Water Management Division of the European Investment Bank's project Directorate, which follows the Bank's Water projects in all countries except from the Mediterranean area and Africa. He is currently in charge of operations in several EU countries (France, Belgium, Germany), in Eastern Europe (Belarus, Moldova and Ukraine), Asia (Uzbekistan, Mongolia) and the Pacific (Fiji). Mr. Beros studied civil engineering at Technical University Munich and at Ecole Nationale des Ponts et Chaussées in Paris. Prior to joining the EIB, Mr. Beros worked for more than 10 years at Veolia Water Paris' suburbs operational services that provide water supply for 4 million inhabitants within France's largest Public-Private-Partnership. He then joined SEURECA, Veolia Water's international consultancy where he worked in about 30 countries in Europe, Africa and Asia.
- **Mr. Denis Obarcanin** manages strategic partnerships with major cities such as Izmir, Antalya, Istanbul, Kiev and Lviv to support their urban transformations through comprehensive financing and advisory solutions that leverage the private sector. Focus includes public transport, solid waste, wastewater and smart city solutions. Mr. Obarcanin has more than 15 years of experience in the infrastructure sector across Europe, Central Asia, SE Asia and Australia. Before joining IFC, he held various positions in infrastructure related organizations. He has an MBA from the University of Melbourne and a B.E. from RMIT.
- **Mr. Cliff Hammer** is Regional Advisor to the Swiss Cooperation offices on projects related to infrastructure and environment in the Western Balkans. Prior to this role, Mr. Hammer managed the infrastructure portfolio of the Swiss State Secretariat for Economic Affairs (SECO) in Peru as well as contributions of SECO towards water and urban development programs of the Inter-American Development Bank (IDB) and IFC in Latin America. After graduating in earth sciences (ETH Zurich, Switzerland) and hydrogeology (University of Neuchâtel, Switzerland), Cliff worked as a water and environment consultant in Switzerland and abroad, including Albania, Bosnia and Herzegovina, Kosovo and North Macedonia.
- **Ms. Venera Vlad** is responsible for leading the infrastructure business in Romania and Poland at the European Bank for Reconstruction and Development, a portfolio of approximately EUR 1 billion of investments, including loans to local authorities, municipally owned utilities and companies as well as private sector financing. Prior to joining EBRD in 2008, Ms. Vlad worked at the Ministry of Environment

as Programming Director for EU Funds; in this capacity she designed and promoted the regionalization of water services in Romania, a key policy that enabled unprecedented sector reforms and facilitated large investments of about EUR 6 billion. She is a graduate of Engineering University and of Academy of Economic Studies in Bucharest. She also holds a master's degree in Public Administration.

- **Ms. Ivana Stanisic** studied civil engineering with a special focus on structures and hydrotechnics at the Faculty of Technical Sciences University of Novi Sad. Since October 2007 she is employed by the water supply and wastewater company Bijeljina – „A.D. Vodovod i kanalizacija Bijeljina ", where she held several positions such as technical manager, manager of the water supply network (responsible for leak detection, hydraulic modelling, GIS etc.). In March 2017, she has been appointed as Executive Director for the technical sector.
- **Ms. Patricia Lopez** is a senior infrastructure finance specialist with the World Bank's Water Global Practice and the Danube Water Program Leader on the Bank' side. At the Bank, she has worked in providing policy advice around financial and institutional issues to national, regional and local governments, utilities and WSS sector institutions and in preparing, negotiating and managing World Bank lending operations in the water and sanitation and flood management sector. Before joining the Bank, Ms. Lopez worked for different investment banks and consultancy firms advising governments, utilities and private companies in project and corporate finance operations. She has hands-on experience in the design of solutions for the provision of water and sanitation services and the financing of infrastructure, particularly with participation of the private sector and has worked in Latin America and the Caribbean, Europe and Eastern Europe. Patricia holds a M.Sc. in Economics and Business Sciences with a two-year specialization in Financing from *Colegio Universitario de Estudios Financieros* (C.U.N.E.F), Madrid, Spain.
- **Mr. Michal Holubec** is a lecturer and researcher at the Slovak University of Technology in Bratislava, faculty of civil engineering. He also holds the position of the chair of the Young Water Professionals chapter within the structures of Slovak National Committee of IWA. He was involved in several research projects regarding sewer systems, storm water and surface runoff in urbanized areas. He holds a PhD. in Water Resources Engineering.

Session Summary

Mr. Leflaive introduced the assessment of member states' investment needs and financing capacities for water supply and sanitation to 2050. For making assessment of the investment gap 10-11 EU members were visited. Pending issues are the compliance with the Water Framework Directive, climate change and contaminants of emerging concern.

The level of the expenditures and efforts which each country is putting into water supply and sanitation are very diverse among the EU members. Likely overestimation of supply-related expenditures (and corresponding underestimation of sanitation) can be observed in countries where wastewater-related charges are included in the water bill. In addition, the macroeconomic affordability was assessed by comparing the level of WSS expenditure per capita to the WSS expenditures in GDP (annual average 2011-2015). For example, Bulgaria is spending significant share of the GDP for WSS, but at the same time in this country compared the level of WSS expenditure per capita is not high in comparison to other countries.

EU members have different financing strategies to combine transfer from public budget with revenues from water tariffs and tariffs must increase to generate revenues for covering needs. The share of EU transfers in estimated total expenditures for WSS per country is also different. Despite that in some countries tariffs are nearly covering just operating costs, affordability in some countries is already an issue (e.g. Croatia). But the cheap water is not the best way to provide the water to the households, it more efficient to have the tariffs which reflect the true costs.

In his talk, **Mr. Beros** presented EIB, which is the largest international lender to the water sector worldwide with a total loan amount of EUR 36bn over the past 10 years, 90% of which for projects inside EU. Over the past 10 years, 300 major projects have been financed, 75% of which located within the EU.

The EIB's water sector lending orientates towards river basin approach (IWRM), sector development, adaptation to climate change, water efficiency, development of new water supply, wastewater and sanitation services and research and innovation. EIB cannot finance more than 50% of the project investment cost (on average, EIB lending represents 30% of the project investment cost).

Over the past 5 years, an average of EUR 2.8 billion p.a. was invested in the Danube region. EIB is providing technical assistance which is necessary step in the project preparation and its successful implementation. EIB is member of the European Financing Institutions Working Group on Adaptation to Climate Change (EUFIWACC) which issued a Guidance Note in 2016. EIB wants to demonstrate the climate impact (adaptation and/or mitigation) of all their water and wastewater projects.

Ms. Lopez noted in her speech that utilities have cash requirements including for capital investments to improve access and services quality. There are different sources of funding: tariffs, taxes, transfers. The difference between cash requirements and available funding is funding gap. Revenues from tariffs, taxes and transfers are not always enough to cover cost of WSS service and WSS utilities must increase cash generated from operations and access financing to achieve objectives. The financial sustainability and creditworthiness are important for closing the funding gap and for access to financing.

Ms. Lopez highlighted the following key measures of the boosting of operational efficiency: improving bill collection, reducing non-revenue water, boosting energy efficiency and improving staff productivity. Base on the data of 278 utilities in Danube region (IBNET) she showed that 13% of them are currently "financially viable" and 74% could be viable with efficiency gains, particularly reduction in NRW. However, Ms. Lopez noted that implementing efficiency measures sometimes also requires access to financing, particularly NRW reduction and improved energy efficiency. She concluded that (i) IFIs play an important role, but their resources are insufficient and not easily available to finance operational efficiency measures, (ii) commercial banks have enough resources, but many WSS utilities/projects cannot access them due to low creditworthiness, (iii) financial markets can work for utilities/projects in developed markets, but not so much for utilities in developing markets and (iv) private equity investors are characterized by the higher risk and higher cost of capital.

The rational behind the FUEL Study is to address NRW and EE efficiency measures as a potential to increase the financial viability for water utilities with a short pay-back period, which leads to the assumption that commercial capital could be mobilized to finance efficiency gains. The study aims to map this potential and lay out the possibilities and constraints for using blended or commercial finance for efficiency projects for utilities in the region.

Key messages from the **panel discussion**:

- Financing gaps in the region were highlighted as the biggest problem in financing water infrastructure projects.
- 'We are the price of our water' and thus careful consideration and consultation must be done during tariff increment to cover water and sewerage services provision especially in the poor rural areas, as it could result in lower consumption, dormant meters and low revenue generation.
- Capacity building in the water sector in the Balkans has been the focus of International Finance Corporation. This is in line with the realization that capacity is key in the success of the project cycle and cannot be substituted with consultancies which if done so can lead to brain drain in the water sector. Capacity building of the local experts builds and ensures sustainability in the local initiatives
- The Swiss State Secretariat for Economic affairs (SECO) emphasized the long-term partnerships with cities for finance transport and water sectors. In Ukraine for example, lack of local capacity in the sector as well as low levels of project preparation to attract financing were highlighted as the key challenges in financing water infrastructure.
- Lack of innovative financing in line with utilities needs require involvement of intermediaries like NGOs. The World Bank has several loan packages for water utilities depending on the minimum amount to be financed. In addition, utilities can also apply for technical assistance (TA) as well as EPTA (Expert Partners Technical Assistance) grants which are key for project preparation.
- No impact of Brexit on water financing is anticipated.

Contributed by Ms. Victoria Iskova (YWP Ukraine) and Ms. Pauline Macharia (YWP Austria)

4. Water security

Date: Tuesday, May 21st
Time: 14:00 to 15:30
Location: Conference Room A and B
Chair: Mr. Raimund Mair, World Bank and Mr. Oliver Maennicke, YWP

Context and objective

Water Security is about building a water secure future for the people, the economy and the environment in the light of global, regional and local changes. Water security can be defined as the overarching goal of water management, decomposed into three broad sets of outcomes: (i) management of water to harness its productive benefits and promote human well-being, livelihoods, and socio-economic development together with environmental sustainability, (ii) managing and delivering water related services (e.g. drinking water, irrigation) and (iii) management of water to protect societies, economies, and ecosystems from the destructive impacts of water such as water borne diseases, pollution, floods, droughts.

While water is a central issue in water security, it is increasingly clear that this goes beyond single sector single issue topics and it percolates into all parts of society and economy. It is not sufficient to allocate scarce resources and clean up pollution. It is about highlighting topics for policy dialogue and addressing impacts of sector policies and water management choices on longer-term development goals.

Water security has emerged as an important policy goal worldwide and for the Danube region. The session will allow for discussions under an extended scope to address the countries challenges in a broader water security context going beyond water services. The aim is to generate interest and gain feedback for this important component of the next phase of the Danube Water Program. Following a set of presentations, the audience will be invited to discuss with the presenters key water security issues in the Danube region.

Session structure

Time		Content	Speaker
14:00	12'	**Introducing the Water Security Concept** Click here for presentation	**Mr. Raimund Mair**, Senior Water Resource Management Specialist, World Bank, Austria
14:12	12'	**Outlook for a Water Security Diagnostic in Moldova** Click here for presentation	**Ms. Maria Prisacari,** Head of Regional Policies and International Cooperation Department, North Regional Development Agency, Moldova and **Mr. Andrian Delinschi,** Head of Integrated Water Resources Management, Ministry of Agriculture, Regional Development and Environment, Moldova
14:24	12'	**Basin-connected cities** Click here for presentation	**Ms. Katharine Cross**, Strategic Programmes Manager, International Water Association (IWA), Thailand
14:36	12'	**Transboundary water cooperation for integrated solutions in the Sava river basin** Click here for presentation	**Mr. Dragan Zeljko**, Secretary, International Sava River Basin Commission (ISRBC), Croatia

14:48	12'	**Reducing trade-offs and improving sustainability in the Sava and Drina Basins with a water-food-energy-ecosystems nexus approach** Click here for presentation	**Ms. Annuka Lipponen**, Environmental Affairs Officer, United Nations Economic Commission for Europe (UNECE), Switzerland
15:00	30'	**Plenary discussion** Link for questions: Pollev.com/2019dwc745	Moderated by **Mr. Raimund Mair**, Senior Water Resource Management Specialist, World Bank, Austria and **Mr. Oliver Maennicke**, YWP, Austria
15:30		**End of the session**	

Speakers' biographies

- **Mr. Raimund Mair** joined the World Bank Group Water Global Practice in January 2019. In his position as Senior Water Resource Management Specialist he is involved in addressing aspects related to Water Security in the Europe and Central Asia region, as well as leading the 3rd Phase of the Danube Water Program. In his previous occupations at the European Commission and the International Commission for the Protection of the Danube River, he was working on the implementation of the EU Water Framework Directive and transboundary cooperation. Mr. Mair holds diplomas in Engineering from the University of Natural Resources and Life Sciences, Vienna and Water Policy from Cranfield University, United Kingdom.
- **Mr. Andrian Delinschi** is the Head of the Department for Integrated Water Resources Management at the Ministry of Agriculture, Regional Development and Environment of Moldova. Prior to this he served as Deputy Minister at the Ministry of Environment, as well as Deputy Administrator at the State International Enterprise Acva Nord. He has also held academic positions at the Moldova State University. He's educational background is in geography and biology at the undergraduate level and he holds a PhD in Geology.
- **Ms. Maria Prisacari** is the Head of Regional Policies and International Cooperation Department within North Regional Development Agency, a public non-commercial organization, under the Ministry of Agriculture, Regional Development and Environment of the Republic of Moldova. Joining the Agency in April 2013, her main responsibilities are connected to both strategic planning, elaboration, monitoring and evaluation of regional development policies (regional local roads, solid waste management, energy efficiency, water and sanitation, business support and tourism) and to cooperation with international partners as well as attracting foreign funds for the implementation of the North Regional Development Strategy and regional sector programs in the above mentioned fields (including Water and sanitation sector). She is also involved in the implementation of the Danube Transnational Program and EU Strategy for the Danube Region. Ms. Prisacari holds a Master of Political science at Balti State University and is currently defending her PhD in administrative and political studies at the Academy of Public Administration Moldova.
- **Ms. Katharine Cross** manages IWA's strategic programmes including all projects and thought leadership initiatives. She has extensive experience (+15 years) in water resource management from global to local scale, with a background in engineering, development, governance and policy. She is the lead on IWA's Basins of the Future including development of the Action Agenda for Basin-Connected Cities which is a framework for urban stakeholders to be active water stewards in their basins. She previously worked for the International Union for Conservation of Nature (IUCN) as the Technical Coordinator for Water and Wetlands in Eastern and Southern Africa, and at the headquarters in Switzerland in the Global Water Programme. She has also worked as an environmental scientist for a consulting company in the oil and gas sector in Canada, and on technical projects in Bolivia and Ghana with Engineers Without Borders. Katharine has an academic background in environmental biology, environmental engineering as well as an MSc from the London School of Economics in Environment and Development.

- **Mr. Dragan Zeljko** is the Secretary of the International Sava River Basin Commission (Sava Commission) since April 1, 2017. He has an overall responsibility for planning, coordination and administration of the Sava Commission's work in accordance with the Framework Agreement on the Sava River Basin. Before his current position, Mr. Zeljko worked in the Secretariat of the Sava Commission as the Deputy Secretary for integrated river basin management and water planning, in charge for inter alia coordination of activities in river basin and flood risk management. Prior to joining the Sava Commission, Mr. Zeljko was the technical director in the Agency for Adriatic Sea Water Area in Mostar (Bosnia & Herzegovina).
- **Ms. Annuka Lipponen** has been working as an Environmental Affairs Officer in the secretariat of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes at UNECE in Switzerland since 2009. Her main duties focus on the assessment of transboundary waters, including coordinating assessments of intersectoral links, trade-offs and benefits (water-food-energy-ecosystems nexus). She has also worked as a programme specialist at the United Nations Educational, Scientific and Cultural Organization (UNESCO; 2003-2009), first in the Division of Water Sciences in France, and then as the responsible officer for UNESCO's natural sciences programmes in Central Asia based in Kazakhstan. Previously, Ms. Lipponen had carried out groundwater-related research at the Finnish Environment Institute.
- **Mr. Oliver Maennicke** is a Vienna-based independent advisor on water stewardship, corporate water risk since early 2018. Prior, he worked for 6 years as Water Stewardship Specialist and Corporate Partnership Manager for WWF International based in Switzerland and in Australia. He has extensively worked with various sectors, private and public organizations on water stewardship and risks approaches for operations, supply chains and investment portfolios. He is a member of the Alliance for Water Stewardship, Secretary of the IWA specialist group for Sustainability in the Water Sector, IWA Task Group member for Sustainable Use of Water by Industry, committee member of the YWP Austria Chapter and Organizing/Program Committee Member of the IWA-IDB Innovation Conference on Sustainable Use of Water: Cities, Industry and Agriculture (Guayaquil, Ecuador, 30. Sept - 3 Oct. 2019). Also, he has worked as Water Quality Analyst for the water supplier of the Australian Capital Territory and as groundwater modelling engineer for industrial contamination. He holds a diploma in engineering for Water Resources Management from Dresden University of Technology, Germany with research experience in Australia and Japan.

Session Summary

Mr. Mair started his presentation on the water security concept by introducing the importance of water for different sectors, e.g. agriculture, the economy, ecology and mentioned three main factors. He highlighted that water is essential for the planet, life and the economy, but the pressure and extremes increase due to factors such as climate change, population growth, urbanization and consumption patterns as well as pollution. By 2030, the demand for water is expected to exceed the water supply by 40%.

He also reported on the costs of ''water insecurity'', which include (i) inadequate water supply and sanitation with impacts on public health and related to economic environmental losses, (ii) floods, which causes the loss of lives, damage to property and infrastructure and economic loss, (iii) droughts and water scarcity related to economic loss and (iv) ecosystem degradation and pollution with widespread impacts.

The vision remains a Water Secure World for All, as an implementation arm of all water related SDGs and the global climate commitments., which will be delivered through three inter-related pillars, (i) sustaining water resources, (ii) delivering services and (iii) building resilience. To manage water security information on respective data, infrastructure sustain water resources, deliver services, mitigate risk and the support of institutions are required.

Within the third phase of the Danube Water Program the goal is to build a Danube Water Security Platform by extending the scope towards water security.

The presentation of **Ms. Prisacari** was focused on the "Water security diagnostic and future outlook in Republic of Moldova", which includes the optimization of water benefits for people, the environment, and the economy. The objective is to inform decision-makers about possible water development pathways and provide evidence in three areas, (i) to identify key water security challenges, (ii) to follow guide policy reforms, (iii) to help prioritize investment decisions and trade-offs.

Moldova is highly dependent on surface water resources from transboundary Prut and Nistru rivers with 90% of renewable water resource coming from surface water and 10% from groundwater. The total annual renewable water resources (> 3,000 m3/cap/yr) is not within physical scarcity, but storage capacity is limited (728 m3/cap) and climate change and upstream development of water use may increase water stress.

The diagnostic will address the following questions:

- Is there water available and an economic justification to expand and modernize irrigation services, required for high-value agriculture?
- What are the risks associated with changing surface water availability for urban, agriculture and environmental water uses?
- Are there competing water demands among municipal and other uses? How to expand services given limited fiscal space and budgets?

Ms. Prisacari reported that preliminary results show that water endowments are not the major constraints - except for some basins – and infrastructure and governance are equally important for water security.

Ms. Cross started her presentation with words of the former Secretary General of the UN Ban Ki-moon, who stated that the battle for sustainability will be won or lost in cities. She outlined that by 2050, 70% of the population will live in urban areas, another 2.5 billion will live in cities. Thus, the rapid pace and scale of urbanization challenges the delivery of water and sanitation services and environmental protection. In this context, the uncoordinated use of water & land resources leads to negative impacts on cities and watersheds, which highlights the need for more sustainable urban planning and public services, and at the same time, linkages between urban and rural areas will need to be strengthened by building on their existing economic, social and environmental ties.

The IWA Principles for Water Wise Cities provides a framework to encourage resilient planning and design for more liveable cities in the face of pressures such as climate change and population growth. There are 4 levels of action which correspond to different scales, (i) regenerative water services which focus in water reuse, water supply and waste water sanitation, (ii) water sensitive urban design, (iii) basin-connected cities to create the connection with the watershed and (iv) building water-wise communities.

The IWA Action Agenda for Basin Connected Cities was developed to influence and activate utilities, cities and their industries to become water stewards working with basin stakeholders. This is seen as critical to encourage urban leaders to champion protection and management of water resources upstream and downstream by connecting with basin and catchment organisations. The Agenda provides a framework to achieve Basin-Connected cities (stemming from the Principles) especially in regard to securing water resources, protecting water quality, and preparing for extreme events. It also provides a starting point to address the questions:

- How can we achieve water security and build climate resilience within our watersheds in the coming decades?
- What actions by cities (urban stakeholders) need to be taken today to achieve sustainable management of basins into the future?

The Action Agenda is linking to integrated water resources management by essentially looking at water management from catchment to consumer but through an urban lens. The Agenda outlines the rationale for urban stakeholders to lead the way in realizing their role as water stewards and the different pathways and activities towards achieving sustainable water management. This includes the *Drivers for Action* such as extreme events, declining water quality, and water availability; followed by the *Pathways to Action* through assessment, planning and implementation; and the *Foundations for Action* from developing a vision to building capacity to improving governance.

Next steps include the upscaling of the framework, e.g. by creating a handbook of cases and best practices, showcasing basin stories, working with the signatories of the Principles for Water Wise Cities to integrate the Action Agenda Framework into their urban water planning, and translation of Action Agenda led by partners and members (ongoing in Chinese, Spanish, French and Portuguese).

Mr. Zeljko introduced in his presentation the International Sava River Basin Commission with its key objective to enable the sustainable development of the region through transboundary water cooperation

by establishing an international regime of navigation, sustainable water management and sustainable management of hazards.

The main tool in use is the Sava River Basin Management Plan, which is based on commonly agreed Significant Water Management Issues (SWMI) for the whole basin, such as pollution (organic, nutrients, hazardous substances), hydro-morphological alterations and groundwater quality & quantity. Other issues of concern are quantity and quality aspects of sediments, invasive alien species and the water demand management

He reported that the main challenges are (i) the differences between the countries (i.e. EU membership, languages), (ii) the different priorities, (iii) the broad scope of work and (iv) the continuous commitment and support to joint processes. An integrated (whole basin, scope of work, all societal sectors) approach aligned with the international regulations and standards, which is pragmatic and practical, educative (capacity building, awareness raising), participatory and complementary with the processes on the Danube and national levels is needed to achieve sound RBM.

Ms. Lipponen highlighted that the Nexus assessment approach is taking into account the synergies on national political and economic level involving resource management planning and energy planning. Water security strongly links to other resource securities such as energy and food and to achieve sustainability in water sector joint action is needed between these three parts. The Nexus approach helps answering specific questions such as:

- How can we meet common development needs (food, water, energy) in a sustainable manner without compromising the availability of natural resource ecosystems?
- What kind of technologies and combination of them is the best to help?
- What are the policies going to make it feasible and economically viable and thereby help reduce future tensions?
- What happens if we do nothing?
- What are the possible implications of climate change on the Nexus system and what are future challenges will we face?

The nexus is an area of work in the programme of work under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention), adopted by the Parties, since 2013.

First, the nexus approach was used for the Sava river basin and later transferred to the Drina. Seven river basins were involved and cooperated and finally as a synthesis, they published the consolidated methodology for nexus assessment in transboundary basins and a summary in 2018. Countries and partners who took part in the program were: Bosnia and Herzegovina, Serbia and Montenegro, key partner was International Sava River Basin Commission, support and coordination UNECE, Ministry for Environment, Land and Sea, Italy, Consultants were: KTH Royal Institute of Technology, Sweden; UN University Institute for Integrated Management of Material Fluxes and of Resources, CEU Central European University, Hungary.

Identified issues on Drina were flow regulation, wastewater management, governance. After that suggested solutions were also identified in each basin by literature review and nexus dialogue (workshops and consultation) are grouped under 5 categories or 5 Is: (Institution, Information, Instrument, Infrastructure and International coordination and cooperation) and in the process they are reviewed by officials and local experts.

Ms. Lipponen concluded that the Water Convention's nexus approach is non-prescriptive, inclusive and indicative and provides a good basis for the identification of cooperation opportunities. It could be further oriented towards: (i) restoring cooperation; (ii) reviewing the scope of cooperation (new opportunities etc.); (iii) quantifying interlinkages for setting priorities or for determining whether measures are required (adequate data, fit-for-purpose support tools…); or (iv) assessing the appropriateness and effects of a certain policy. She also stated that water and energy utilities play a key role in adopting technologies and management approaches.

In the plenary discussion the panellists mostly highlighted cooperative approaches such as transboundary activities as instrument to tackle water security. **Ms. Lipponen** said that cultural difference, the established

ways of doing things by the governments could also hinder the cooperation. **Mr. Zeljko** added the different priorities of the countries and different membership, a different approach, targets of the water sectors and lack of human resource can also harm the transboundary and national cooperation. **Ms. Cross** said that the governance has a key role but lack the capacity. New innovative partnerships are key to support those cities which try to interact with the catchment. **Ms Prisacari** thought the main challenges are the lack of infrastructure at the rural areas, an aging population and stated that small countries were vulnerable in terms of external economic shocks and environmental impacts.

Contributed by Ms. Emese Madarasz (YWP Hungary) and Mr. Albert Salltakaj (YWP Kosovo)

5. Closing Plenary Session: Key messages for resilient service provision and water security in the Danube region

Date: Tuesday, May 21st
Time: 16:15 to 17:00
Location: Conference Room A and B
Chair: Mr. David Michaud, World Bank

Context and Objective

This session aims at highlighting some of the main messages and ideas coming from the discussions throughout the conference, and at reflecting on the main points and key ideas from the various sessions, to identify the future paths for the sector to strengthen the institutional capacities for resilient service provision and water security in the Danube Region.

The session will build on the discussions during the Conference as well as the results of the group discussions. It will consist of a panel of senior stakeholders from the region and beyond, representing a diversity of institutions and realities, as well as reflections and interventions from the audience.

Session Structure

Time		Content	Speaker
16:15	15'	**Introduction and interaction with the audience** **What have we learned?** Link for voting: Pollev.com/2019dwc745	**Mr. David Michaud,** Practice Manager of Water Global Practice for Europe and Central Asia, World Bank, USA
16:30	25'	**Summary of key Conference messages/ideas** **Closing Panel** Link for questions: Pollev.com/2019dwc745	Moderated by **Mr. David Michaud**, Practice Manager of Water Global Practice for Europe and Central Asia, World Bank, USA **Panelists:** - **Ms. Vesna Muslic**, President, AQUASAN Network in B&H, Bosnia and Herzegovina - **Mr. Boran Ivanoski**, Program Officer, Network of Associations of Local Authorities of South-East Europe (NALAS), North Macedonia - **Mr. Mitja Bricelj**, State Secretary, Ministry for Environment and Spatial Planning, Slovenia
16:55	5'	**Closing of the Conference**	**Mr. Raimund Mair**, Senior Water Resource Management Specialist, World Bank, Austria and **Mr. Philip Weller**, Head of Technical Secretariat, IAWD, Austria
17:00		**End of session/conference**	

Speakers' biographies

- **Ms. Vesna Muslic** is the President of the Association for Water and Environmental Protection Sector "Aquasan Network in BiH". She graduated from the Faculty of Mathematics and Natural Sciences at the University of Sarajevo, Department for Mathematics, and has continued to advance her knowledge and skills through various certified courses. Ms. Muslic works on developing and implementing non-revenue water projects and measures aimed at improving performance of water utilities in this domain as well as developing individual, organizational and institutional capacities of water utilities and local governance units. Before joining Aquasan Network in BiH, Ms. Muslic worked with the Organization for Security and Co-operation in Europe (OSCE).
- **Mr. Boran Ivanoski** holds a master's degree in human resource management from the University in Skopje. He has more than 16 years of experience in public administration reform, inter-municipal cooperation, capacity building of local government in South-East Europe, solid waste and water management as well as disaster risk management at local level. He has worked with UNDP on Good Governance Programme, CARE International, International Rescue Committee, UNICEF etc.
- **Mr. Mitja Bricelj**, Ph.D. is a geographer. His focus lies on regional approach in water resource management. He is a member of the Ministry for Environment Republic of Slovenia, co-founding member of the International Sava River Basin Commission, coordinator of the Coastal Area Management Program Slovenia (UNEP/MAP 2004-2007), President of the Bureau of Barcelona Convention (2005-2008) and Slovenian Head of Delegation for the International Commission for Protection of the Danube River/ICPDR (2010). Since 2014, he is coordinator of the Environmental Pillar of the European Strategy for the Adriatic Ionian region/EU SAIR. He is also an author of three independent publications and numerous articles as well as former president of the Geographic Society of Slovenia.
- **Mr. Raimund Mair** joined the World Bank Group Water Global Practice in January 2019. In his position as Senior Water Resource Management Specialist he is involved in addressing aspects related to Water Security in the Europe and Central Asia region, as well as leading the 3rd Phase of the Danube Water Program. In his previous occupations at the European Commission and the International Commission for the Protection of the Danube River, he was working on the implementation of the EU Water Framework Directive and transboundary cooperation. Mr. Mair holds diplomas in Engineering from the University of Natural Resources and Life Sciences, Vienna and Water Policy from Cranfield University, United Kingdom.
- **Mr. Philip Weller** has since July 2013 served as the Danube Water Program Coordinator for the International Association of Water Service Companies in the Danube River Catchment Area (IAWD) administering and managing a joint project together with the World Bank aimed at improving and supporting the efficiency of Danube region water supply and wastewater companies. Mr. Weller previously served for 10 years as the Executive Secretary of the (ICPDR) International Commission for the Protection of the Danube River. Mr. Weller also worked for the World Widelife Fund for Nature (WWF) as Danube Carpathian Program Director and has also managed successful consulting businesses in both Canada and Austria and has done numerous assignments for governments and international organizations. Philip Weller is an environmental planner by training.
- **Mr. David Michaud** is the Practice Manager for Water in Europe and Central Asia at the World Bank's Water Global Practice. At the World Bank, Mr. Michaud has worked mostly in Europe and Latin America, gradually moving the focus of his activities from infrastructure and project development to utility efficiency and sector reform programs. He also led analytical work and policy advice to national governments on issues, such as sector financing, utility governance and sector performance monitoring. Prior to joining the Bank, Mr. Michaud worked as a water engineer and project manager in the private and non-profit sectors. He has a M.Sc. in Environmental and Sanitary Engineering from the Ecole Polytechnique Federale de Lausanne in Switzerland and a M.Sc. in Engineering and Management from the Massachusetts Institute of Technology.

Session Summary:

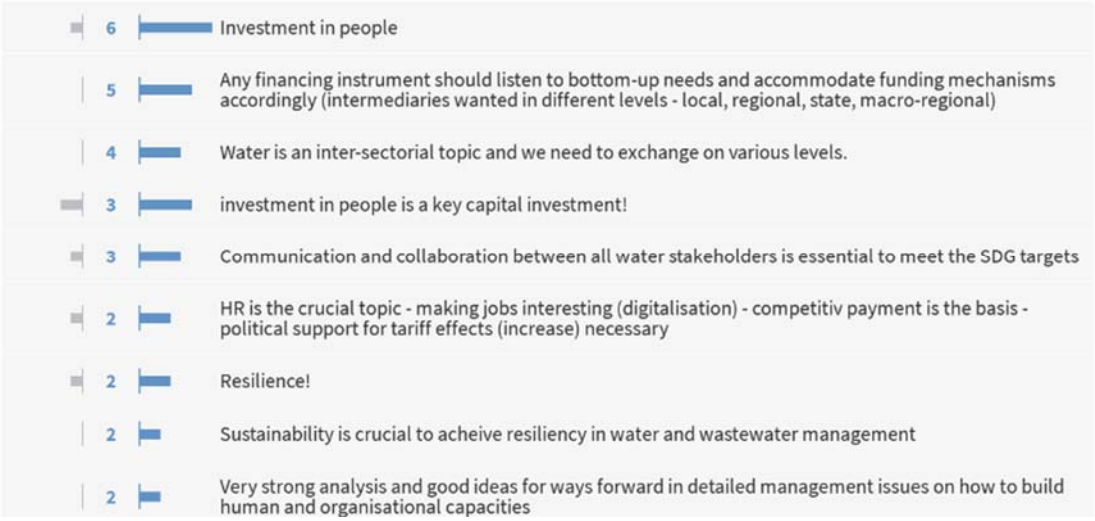
Mr. Michaud introduced the panellists of the closing session and asked them to identify their take-home messages from the conference. **Mr. Ivanoski** highlighted a couple of key items:

- Human resource management has a major role in human capacity investment (diversity management) and it should focus on aging and gender diversity
- Solutions in the wastewater treatment especially in rural areas is a priority in the future. He mentioned there was a lot of discussions about the principles of utilities transparency of resilient services on the public side.
- Communication is key. Data collection is very useful and gives information about the quality and efficiency of utility service. A dialogue is needed between stakeholders and the local governments and public utilities.
- Partnerships, e.g. between academia, private sector, and government are essential to increase the efficiency of cooperation in the national context. He mentioned the importance of cross border cooperation with sharing the best practices and knowledge in the water sector.

Ms. Muslic stated that capacity development is the top priority to achieve sustainability and finally resilience. Fast progress could be reach if utilities invest in human capacity, as it brings new methodologies, practice, knowledge, it enables to build own resources. Training and education programs help to keep motivate the people and make the water sector more attractive to young people.

Mr. Bricelj stated that the social and natural characteristics of the basins and the nature of the public services should be considered. He highlighted that the local, national and transboundary cooperation are essential. He mentioned that basin characteristics can help to make sustainable water use and integrated water resource management which is somehow neglected. Natural based solutions combined with conventional solutions can bridge the gap between low populated regions and cities. It's necessary to consider the fast changes in demography.

Finally, the audience could post the key take-home messages via Pollev.com



Contributed by Ms. Emese Madarasz (YWP Hungary) and Mr. Albert Salltakaj (YWP Kosovo)

VI. BUSINESS MEETINGS (TUESDAY, MAY 21ST TO WEDNESDAY, MAY 22ND)

Development Partners Meeting

Note: This meeting is by invitation only.

Date: *Tuesday, May 21st*
Time: *17:00 to 18:30*
Location: *Prüfungszimmer 01-09, first floor*
Chair: *Patricia Lopez and Raimund Mair, World Bank*

Utility CEO Dinner

Note: This dinner is by invitation only.

Date: *Tuesday, May 21st*
Time: *19:00*
Location: *Restaurant Ringsmuth, Johannitergasse 1, 1100 Wien*

IAWD Board Meeting

Note: This meeting is by invitation only.

Date: *Wednesday, May 22nd*
Time: *08:30 to 10:30*
Location: *Prüfungszimmer 01-09, first floor*
Chair: *Walter Kling, IAWD*

Danube Meeting

Note: This meeting is by invitation only

Date: *Wednesday, May 22nd*
Time: *09:00 to 10:30*
Location: *Kreativraum 03-27, third floor*
Chair: *Katharine Cross, IWA*

Regulators Meeting

Note: This meeting is by invitation only.

Date: *Wednesday, May 22nd*
Time: *08:30 to 10:30*
Location: *Kreativraum 03-23, third floor*
Chair: *Stjepan Gabric, World Bank*

IAWD General Assembly

Note: This meeting is divided into two parts. Part 1 is dedicated to IAWD association business topics, for which only designated IAWD Members can participate. Part 2, starting at 12:00, is dedicated to the IAWD Members Forum, which is open to all participants of the DWC 2019.

Date: *Wednesday, May 22nd*
Time: *11:00 to 13:00*
Location: *Conference Room A, first floor*
Chair: *Walter Kling, IAWD*

D-LeaP Committee Council Meeting

Note: This meeting is divided into two parts. Part 1 is dedicated to the D-LeaP Members Forum, which is open to all participants of the DWC 2019. Part 2, starting at 14:30, is dedicated to the formal business of the D-LeaP Committee Council, for which only designated association members can participate.

Date: *Wednesday, May 22nd*
Time: *13:00 to 15:00*
Location: *Conference Room A, first floor*
Chair: *Sandi Zulic, AQUASAN Network and Elisabeta Poci, SHUKALB*

Young Water Professionals Danube Regional Workshop

Note: This meeting is by invitation only.

Date: *Wednesday, May 22nd*
Time: *13:00 to 15:00*
Location: *Conference Room B, first floor*
Chair: *Katerina Schilling, IAWD*

VII.CONFERENCE SUPPORTERS

The organization of the 2019 Danube Water Conference has been made possible through institutional support from:

Federal Ministry
Republic of Austria
Finance

Additional support has been received from the following companies:

Premium supporter

SIEMENS
Ingenuity for life

Conference Supporters

DIEHL Metering

ENERGIE AG Bohemia
Wir denken an morgen

s::can
Intelligent. Optical. Online.

hammerer.system.beratung

RISANAMENTO AMBIENTALE FRISOLI
Aumento Volumetrie in Discariche

TIROLER ROHRE GmbH

HYDROPHIL

hawle