

NAVIGATING CHANGING WATERS: NEW WAYS TO OVERCOME EMERGING CHALLENGES OF THE WATER SECTOR IN THE DANUBE REGION

2023 DANUBE WATER CONFERENCE

Report, July 2023

I. AGENDA OUTLINE

Wednesday, 31 May Venue: Federal Academy of Science, Sonnwendgasse 13, 1100 Vienna, Austria	
15:30	<i>Start of Registration</i>
16:15 – 17:45	Setting the Scene: The sector’s challenges in a time of multiple crises <i>Format: Plenary Session</i>
18:00	Welcome Reception
Thursday, 1 June Venue: Federal Academy of Science, Sonnwendgasse 13, 1100 Vienna, Austria	
08:00	<i>DWC Registration</i>
09:00 – 10:30	Mission (im)possible: Keeping up sustainable service delivery in an economically turbulent environment <i>Format: Plenary Session</i>
10:30 – 11:15	<i>Coffee Break</i>
11:15 – 12:45	The wider perspective: Building a water secure sector in the face of the climate emergency <i>Format: Plenary Session</i>
12:45 – 14:00	<i>Lunch Break</i>
14:00 – 15:30	Hidden figures: Attract and retain a diverse and engaged workforce <i>Format: Plenary Session</i>
15:30 – 16:15	<i>Coffee Break</i>
16:15 – 17:45	Think outside the box: New ways to overcome emerging challenges in the water sector <i>Format: Roundtable Session</i>
19:00	Conference Dinner

Friday, 2 June Venue: Federal Academy of Science, Sonnwendgasse 13, 1100 Vienna, Austria	
09:00 – 10:00	Poster Breakfast <i>Format: Poster Session</i>
10:00 – 11:30	Communication & cooperation: Joining forces for a water secure Danube region <i>Format: Plenary Session</i>
11:30 – 12:00	Wrap-up and Good-bye: 2023 Danube Water Conference Closing <i>Format: Plenary Session</i>

II. THE ORGANIZERS

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 stakeholders, promoting an informed policy dialogue around the sector's challenges and strengthening the technical and managerial capacity of the sector's utilities and institutions.

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 in the frame of the Danube Water Program, with financing from the Government of Austria.

The Danube Water Program was formally launched in May 2013 in partnership with line ministries, regulators, waterworks associations, and local government representatives of more than a dozen countries in South-East Europe. Since the launch of the Program, knowledge exchanges among more than a thousand sector professionals and policy makers in the region and beyond has taken place. In 2015 a State of the Sector report was launched (SoS 2015), and updated in 2018 (SoS 2018), which are flagship products of the Danube Water Program, next to additional analytical pieces exploring status and trends in wastewater management, rural water supply and sanitation, agglomeration of utilities, and broader water security aspects. Capacity building programs benefiting over 487 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.

www.iawd.at

www.worldbank.org/en/topic/water

www.danube-water-program.org

Danube Water Conference and Danube Water Forum

The bi-annual Danube Water Conference (DWC) and Danube Water Forum (DWF) have become signature events for the Program and the Danube region and rotate on a yearly basis. While the DWC is hosted in Vienna (Austria), the DWF is organized in the region with the support of a strong local partner. Both events serve as an international platform convening sector professionals from the Danube region and beyond to discuss the latest challenges and opportunities in the Danube region water sector.

Context and objective

The Danube region's water sector is facing several challenges, including consequences of the recent global pandemic, energy and economic crises caused by Russia's war of aggression against Ukraine, and the ever-increasing effects of climate change. Water and wastewater utilities are operating in a dynamic environment where they must maintain high levels of service provision while dealing with rising energy costs and an aging workforce, all while investing in performance improvements.

The Danube Water Conference will focus on both existing and emerging obstacles of the region's water sector. Through sessions exploring best practice examples and interactive discussions aimed at identifying new solutions, the conference seeks to provide valuable insights and innovative strategies to help ensure that the water sector in the Danube region continues to deliver high-quality service provision amidst a constantly changing environment. The conference objective is to foster cooperation and knowledge exchange to tackle the emerging challenges faced by the Danube region's water sector.

III. THE PARTICIPANTS

The 2023 Danube Water Conference on “Navigating Changing Waters: New Ways to Overcome Emerging Challenges of the Water Sector in the Danube Region” was held on 31 May – 2 June in Vienna, Austria. The Conference was organized by IAWD and the World Bank to continue a face-to-face exchange amongst the water community in the frame of the Danube Water Program, alternating with the now biennial Danube Water Forum held in the Region. Detailed information on the Danube Water Conference including session summaries, presentations, and recordings can be found on the [DWC Website](#).



Figure 1: Key facts and figures of the 2023 DWC



This year’s Conference brought together around 176 participants from national and local governments, regulatory agencies, water utilities, international financing institutions and professional associations as well as academia; coming from 24 different countries around the globe. The participation of Young Water Professionals was exceptionally high. Two anniversaries, 30 years of IAWD and 10 years of DWP, were celebrated on a Dinner Cruise Ship.

For the first time a call for submission of research posters was sent out prior to the Conference and the Poster Breakfast session was a full success with 9 Poster Presentations and endless opportunities to connect over coffee & croissants. Six sessions covered a variety of topics adding up to 19 presentations to address the multiple challenges ahead of the water sector. The roundtable discussions later provided room to share experiences.

Photos and **all session recordings** from the Conference can be accessed online on the 2023 [DWC Website](#), as well as a summarizing blog post here:

[A Proud Look Back, Bold Looks Forward – and an All-Time Record: This was the 2023 Danube Water Conference](#)

IV. SESSION OVERVIEW

Wednesday, May 31st

Setting the Scene: The sector's challenges in a time of multiple crises

This opening and keynote session featured welcoming words from senior representatives of the various institutions organizing, hosting, and supporting the 2023 Danube Water Conference and provided an overview of the event's structure. It was followed by a keynote speech and a panel discussion on the subject.

Read the [summary](#) online and check out the following presentation:



Introduction

Mr. Raimund Mair, Senior Water Resource Management Specialist, DWP Program Leader, World Bank, Austria



Introduction

Ms. Katerina Schilling, Head of Secretariat, IAWD, Austria



Welcome words

Ms. Verena Hagg, Deputy Director for International Financial Institutions, Austrian Ministry of Finance



Welcome words

Mr. Ramon Munoz-Raskin, Program Leader for Infrastructure and Sustainable Development, Western Balkans Region, World Bank, Austria



[Keynote "How to address the water sector's challenges in a time of multiple crisis?"](#) & Panelist

Mr. Gustavo Saltiel, Lead Water and Sanitation Specialist, World Bank, US



Moderator for the Panel Discussion on the Keynote

Ms. Monika Weber-Fahr, Senior Expert, Austria



Panelist

Mr. Christian Minelli, Head of Secretariat, WAREG, Italy



Panelist

Ms. Vesna Muslic, President, AQUASAN Network, Bosnia and Herzegovina



Panelist

Ylberine Baliu, YWP representative, Kosovo

Wednesday, May 31st

2023 DWC Welcome Reception

The Welcome Reception provided conference participants excellent networking opportunities among each other as well as with the exhibitors, a selected number of companies working in the water sector in the region, and further encouraged getting to know each other.



Thursday, June 1st

Mission (im)possible: Keeping up sustainable service delivery in an economically turbulent environment

Water and wastewater utilities are operating in a dynamic environment where they must maintain high levels of service provision while dealing with rising energy costs and an aging workforce, all while investing in performance improvements. This session explored best practice examples to ensure that the water sector in the Danube region continues to deliver high-quality service provision amidst a constantly changing environment.

Read the [summary](#) online and check out the following presentations:



Moderator

Radoslav Russev, CEO, Wadata, Bulgaria



Co-Moderator

Ms. Amela Basic, Engineer, AQUASAN Network, Bosnia and Herzegovina



[Financial sustainability of a utility in a changing environment](#)

Mr. Teodor Popa, CFO, Compania APA Brasov, Romania



[Adapting to the changing conditions: Leveraging AI in the Operation of Wastewater Treatment Facilities](#)

Ms. Erika Varga, Project Manager, Purecontrol, France



[Introduction of the "Utility of the Future Centre of Excellence"](#)

Mr. Camilo Lombana, Senior Water Supply and Sanitation Specialist, World Bank, US



[Reforms and developments of the Portugal water sector](#)

Mr. Diogo Faria de Oliveira, President, Portugal Water Strategy, Portugal

Thursday, June 1st

The wider perspective: Building a water secure sector in the face of the climate emergency

Managing climate crisis impacts on the water cycle is challenging even for the most advanced countries in the world. Traditional development approaches must adapt to mitigate risks and leverage opportunities. Regional water security assessments are crucial for identifying concerns, guiding investments, and informing high-level dialogue. The Danube region has a funded initiative aiming to identify key challenges and develop recommendations through regional and country-level assessments. The session brought insights into ongoing water security diagnostics, examined climate crisis effects on the water services sector, addressed water scarcity and drought impacts, and explored the role of non-revenue water in climate adaptation.

Read the [summary](#) online and check out the following presentations:



Moderator

Mr. Raimund Mair, Senior Water Resource Management Specialist, DWP Program Leader, World Bank, Austria



Co-Moderator

Ms. Eszter Nagy, Assistant Professor, Budapest University of Technology and Economics, Hungary



[Water security diagnostics for the Danube Region](#)

Mr. Camilo Lombana, Senior Water Supply and Sanitation Specialist, World Bank, USA



[Water security diagnostics for the Danube Region](#)

Ms. Barbara Willaarts, Scientific Project Manager, Water Security Research Group, International Institute for Applied System Analysis, Austria



[Water security diagnostics for the Danube Region](#)

Mr. Flauers Shoshi, Deputy Director, National Agency for Water Supply and Sewerage and Waste Infrastructure (AKUM), Albania



Drought risk assessment for water utilities (for slides please contact olivia.becher@ouce.ox.ac.uk)
 Ms. Olivia Becher, Researcher, University of Oxford, UK



Croatia Water Loss Reduction Project
 Ms. Vesna Grizelj Simic, Deputy Director, Hidroprojekt-Ing d.o.o., Croatia

Hidden figures: Attract and retain a diverse and engaged workforce

Many water utilities are facing human resources shortfalls, but the challenge to retain experienced staff is equally significant. Many leave to take higher paid jobs in other sectors and the loss of skills and knowledge due to retirement without suitably qualified replacements is a serious issue faced by utilities worldwide. Simultaneously, the level of expertise required for operation and maintenance keeps increasing as water technologies become more complex and the industry turns to more automated processes. How is the water sector in the Danube region affected by brain drain and what actions are needed to ensure a workforce with the appropriate skills and experience? The objective of the session was to increase the understanding and knowledge around the workforce situation in the Danube region and to share best-practice examples how to manage the situation.

Read the [summary](#) online and & check out the following presentations:



Moderator
 Ms. Elisabeta Poci, Association Development Manager, IAWD, Austria



Co-Moderator
 Ms. Elsa Belba, Engineer, AKUM, Albania



The future of water jobs
 Mr. Josh Newton, Independent Consultant and Founder, US



[Equal Aqua - A Framework for Creating and Sustaining Diverse Water Institutions](#)
 Ms. Sarah Keener, Global Thematic Lead, Social Inclusion in Water Senior Social Development Specialist, World Bank, US



[Recognizing and addressing the workforce issues: the perspective of a water utility](#)
 Ms. Evis Gjebrea, Deputy General Director, Tirana Water and Wastewater Utility, Albania



[Engaging and empowering youth - the Young Water Professionals Chapter in Kosovo](#)
 Ms. Diellza Muriqi, Communications Officer Kosovo YWP, Kosovo

Thursday, June 1st

Think outside the box: New ways to overcome emerging challenges in the water sector – Roundtable Discussions

This Roundtable Session gave participants the opportunity to reflect upon and further discuss the topics of the day as well as brainstorm new ideas on what is needed to manage the current situation and to overcome ongoing and upcoming challenges.

Read the [summary](#) of the outcomes of the roundtables online:



Moderator
 Ms. Kathia Havens, Program Analyst, World Bank, Austria



Co-Moderator
 Ms. Ana Badhofer, Consultant, World Bank, Austria

Thursday, June 1st

Thursday, June 1st

Conference Dinner

Next to interesting presentations and professional networking, the Danube Water Conference also included opportunities for participants to enjoy themselves and socialize with fellow “water people” in a nice atmosphere.

Considering that two important anniversaries were celebrated, 10 years of the Danube Water Program and 30 years of IAWD, the Conference Dinner of the 2023 DWC was special: participants were invited to join a Danube River cruise. Starting at 7pm, the conference shifted its location onto the water to take a trip on the Danube River and canal, including drinks, dinner and wonderful views of the city of Vienna.

Friday, June 2nd

Poster Breakfast

For the first time, the Danube Water Program Team decided to open the Danube Water Conference to an even broader audience and encourage the submission of papers for presentation. This session was dedicated to the submissions for poster presentations including short pitches by the presenters and enough time to explore all posters, engage with presenters and network; all while enjoying coffee and breakfast together.



Moderator

Ms. Emilija Milunovic, Project Officer, IAWD, Austria



Co-Moderator

Ms. Antonia Püspök, Assistant, IAWD, Austria



[Nature based solutions for sustainable resilient cities](#)

Mr. George Radu, DHI, Romania



[River basin digital twins as a platform for IWRM and collaborative decision-making](#)

Mr. Jan Kwiatkowski, DHI, Denmark



[Water Recourses Management of the Danube with ISME-HYDRO](#)

Ms. Mariana Damova, Mozaika, Romania



[Green City Approach – Nature Based Solutions- Prishtina case](#)

Mr. Sokol Khafa, RWC Pristina, Kosovo



[The storm water drainage and treatment systems at the “Gazelle” bridge in Belgrade over the river Sava, Serbia – A case study](#)

Mr. Marko Lazic, PUC Belgrade Water and Sewerage, Serbia



[A Cost-Benefit Analysis of Four Leakage Reduction Methods in Peja, Kosovo: A Replicated Study](#)

Ms. Diellza Muriqi, YWP, Kosovo



[Analysis of hydrotechnical data for the sewerage system through GIS for the city of Prizren](#)

Mr. Abert Salltakaj, RWC Hidroregjioni Jugor, Kosovo



[Use Data to Improve your Performance: Join NewIBNET!](#)

Mr. Marco Antonio Aguero, Senior Water Supply and Sanitation Specialist, World Bank, US



[Contribution of ships to the faecal pollution of the Danube River: A novel approach for impact evaluation](#)

Ms. Sophia Steinbacher, Karl Landsteiner University, Austria

Communication & cooperation: Joining forces for a water secure Danube region

Water is life. It is as simple as that. In the face of the climate crisis, which threatens both the quality and quantity of water as a resource, the careful use of water and the functionality of water infrastructure is more important than ever. Yet, the value of water as a resource and the access to functional water services is often either not recognized or underestimated by the public. This session introduced various examples of how to communicate the importance of water and water services to the different stakeholders in the water sector, to create awareness, and join forces for a water secure Danube region.

Read the [summary](#) online and check out the following presentation:



Moderator

Ms. Jelena Janevska, Program Director, NALAS, North Macedonia



Co-Moderator

Mr. Jakub Sochor, Cochair, YWP chapter, Czech Republic



[Communication and Outreach in the Danube region – Activities of the ICPDR](#)

Ms. Helene Masliah-Gilkarov, Technical Expert, International Commission for the Protection of the Danube River (ICPDR), Austria



[Examples of Awareness Raising Campaigns to strengthen water and sanitation services](#)

Ms. Emilija Milunovic, Program Officer, IAWD, Austria



[Examples of Awareness Raising Campaigns to strengthen water and sanitation services](#)

Mr. Zvonko Naumoski, GIZ, North Macedonia



[Communicating with your Consumers – the example of Vienna Water](#)

Ms. Astrid Rompolt, Head of Public Relation and Communication Department, Vienna Water, Austria



[Communicating with and for your members – the example of Aqua Publica Europea](#)

Mr. Milo Fiasconaro, Executive Director, Aqua Publica Europea, Belgium



[The NewIBNET partnership: helping utilities take action on their performance](#)

Mr. Marco Antonio Aguero, Senior Water Supply and Sanitation Specialist, World Bank, US

Friday, June 2nd

V. SURVEY RESULTS

Like in previous years, the organizers requested feedback from the participants at the end of the conference via an online survey sent out via e-mail after the 2023 DWC.

Figure 2 shows this year’s distribution of participants by institution typology.

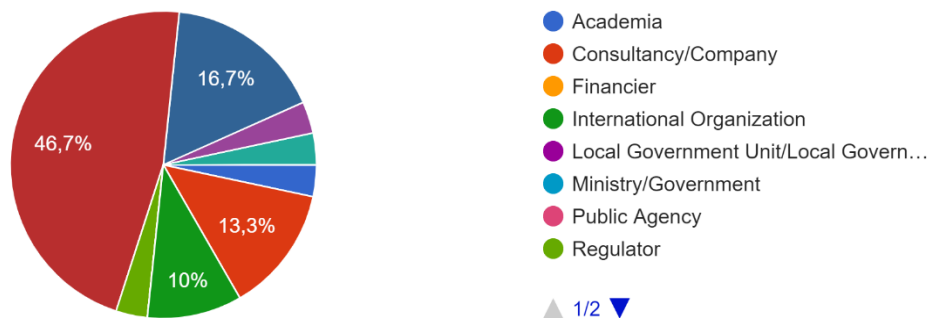


Figure 2: Distribution of 2023 DWC participants by institution typology based on the survey results.

Figure 4 asked participants if and which DWP activities they have been part of. It shows the level of continued interest and on-going engagement with DWP knowledge sharing and capacity building events/workshops. However, the event did draw in new participants as well, with 26,7% of survey respondents answering this was their first DWP event.

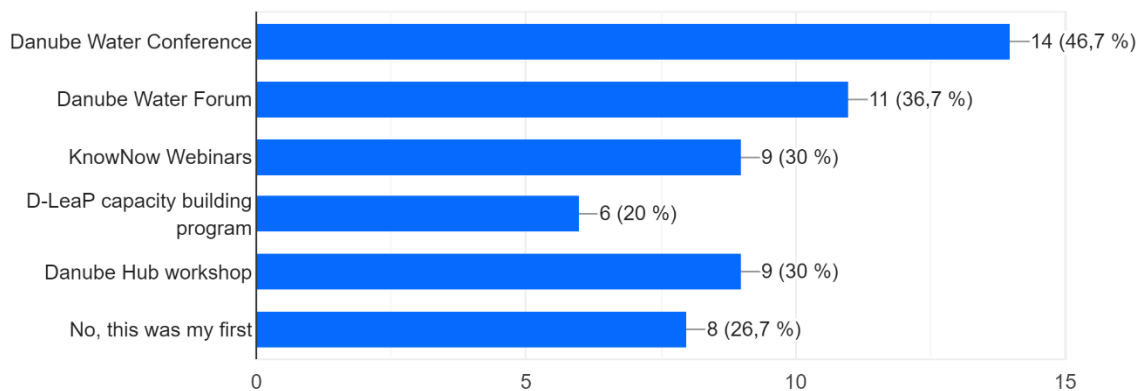


Figure 3 Previous engagement with DWP Workshops and Events

Figure 5 asked which sessions participants attended. It shows that almost all sessions were equally well attended with the exception of the wrap-up and good-bye block.

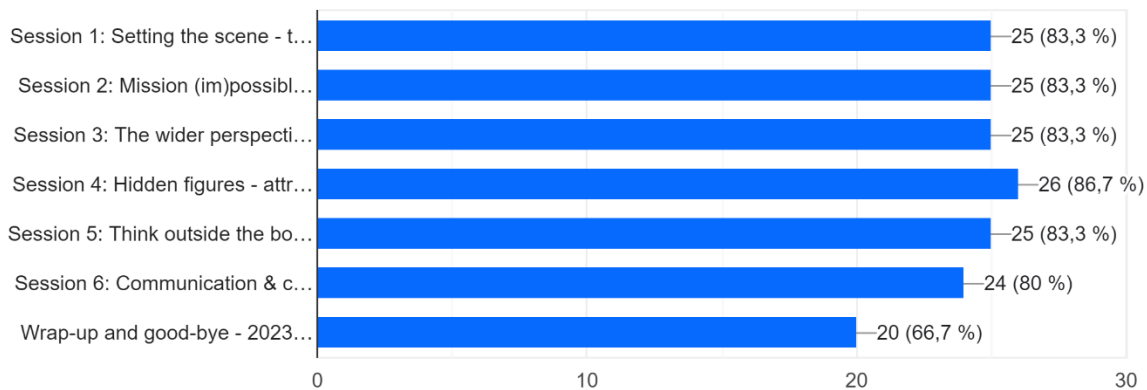


Figure 4: Session Attendance

Here, participants were asked which sessions were the favorites. The favorite session, as shown below was the Round Table session followed by sessions 3 and 4, “The wider perspective” and “Hidden figures”.

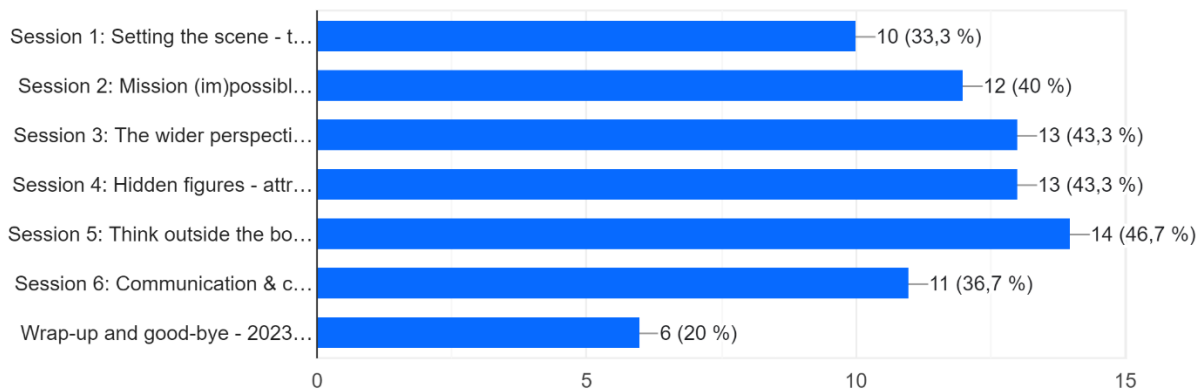


Figure 5: Session Rating

In a follow-up question, participants were asked for the first time, which session was the most relevant to their work. The results show that sessions 4 and 6 about workforce and communications were rated the most relevant. Only slightly ahead of session 2 on Utility management practices and session 3.

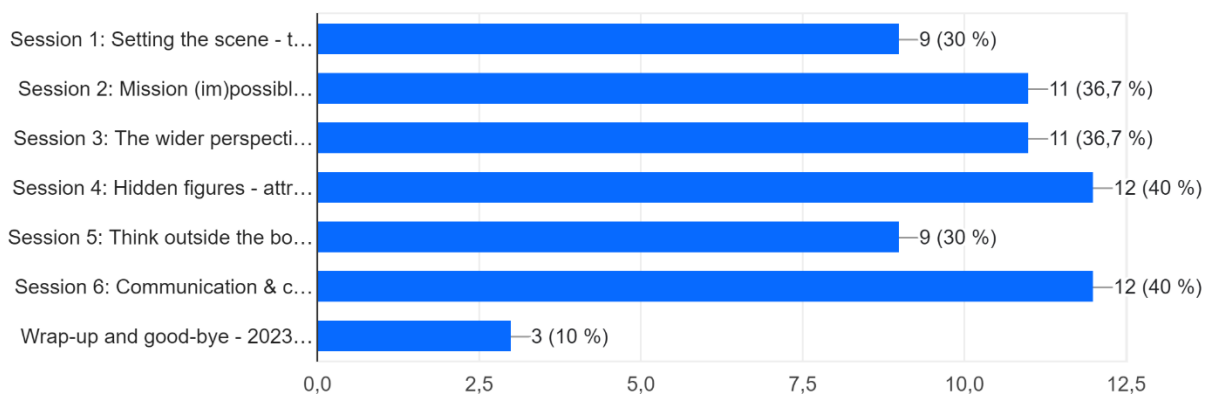


Figure 6: Session Work Relevance

Participants would like to see the following topics addressed in the future:

- ▶ Drought/Flood preparation, intersectional fields (eg. cooling water from the Danube, or irrigation)
- ▶ Examples on water-related education and/or cooperation examples between industry, practitioners, and academia.
- ▶ Circular economy
- ▶ Technology innovations in the fields of water supply - examples of good practice
- ▶ Renewable energy
- ▶ Overall sector innovation
- ▶ Sludge management
- ▶ Peer-to-peer non-profit water operators' partnerships
- ▶ Water quality & regulations
- ▶ Leveraging private sector participation in WSS services (not only what we know as a full PPP) but there are different levels/modalities of private participation
- ▶ Operation management and implementation of digitalization in the water sector

This was the additional feedback on the content of the sessions:

- ▶ Very interesting topics, an additional more technical session would be appreciated
- ▶ Providing the list of participants (name, bio, and picture included) was great, it was easier to trace whom I met.
- ▶ Very useful and current topics, professional and dedicated presenters, a meaningful and well-organized program, all participants are very interested. For me, very, very valuable experience and knowledge, considering that I come from a small environment and a small public water supply company
- ▶ Well organized sessions with great moderators and panelists
- ▶ I liked the utility workshop, prior to the conference itself, was very informative and provided me a perspective of the challenges and gains of utilities that are part of the Danube region. Thank you so much for inviting us!
- ▶ Partly the topics only superficially treated, deeper topics with experience and numbers is required

The survey also addressed the formats of the forum, like which of the social events were attended the most and the specific format features of the sessions.

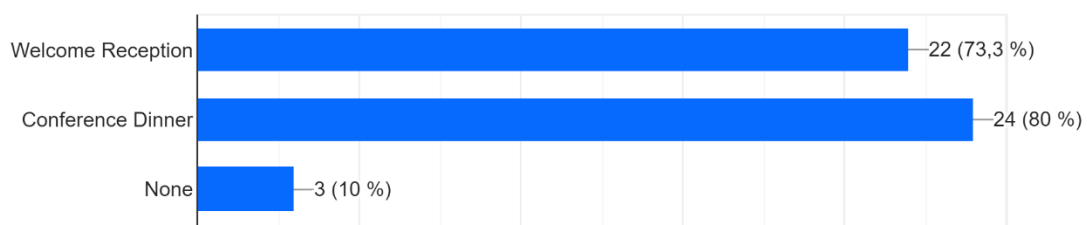


Figure 7: Social Events Attendance

Figure 9 shows answers to the question of preferred format features during the conference. Obviously networking and possibilities to ask questions during sessions directly were highly appreciated.

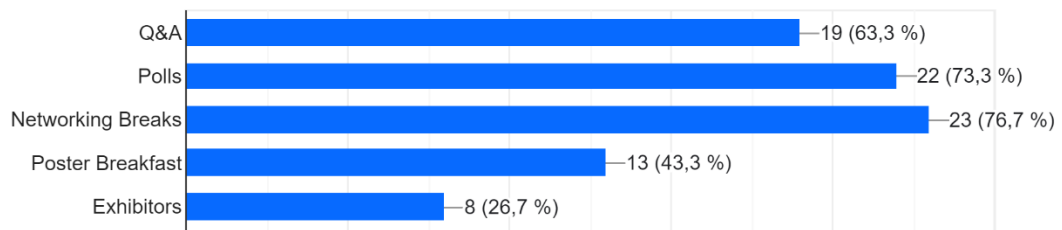


Figure 8: Preferred Format Features

Regarding the length of the sessions the results show great overall satisfaction, but the need for more time for discussion, as well as some votes for a better stimulation of the discussions:

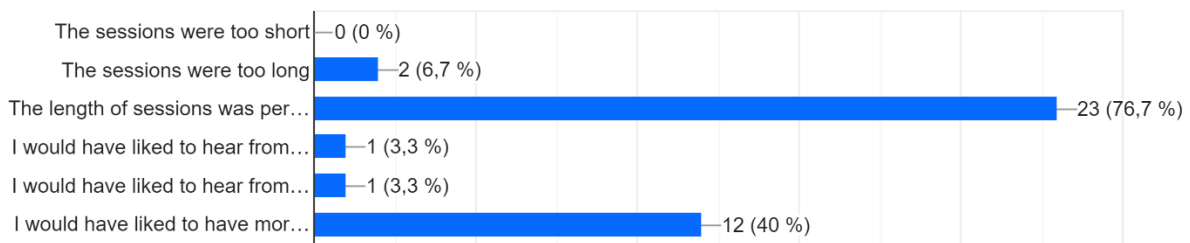


Figure 9: Session Duration

Additional feedback with respect to the Danube Water Conference format, logistics and communications predominantly positive:

- ▶ Congratulation for the organization! Great conference
- ▶ The roundtable part was too long and not appropriate at the end of the day
- ▶ Everything was perfect
- ▶ All necessary information about the event was timely and accurately presented
- ▶ Very Well organized, excellent event
- ▶ Nice venue and dinner
- ▶ The logistics was very good. However, rules, penalties, incentives should be in place to maintain the level of audience. It was gradually decreasing over the days, and the last day/panel, the audience was significantly less.
- ▶ Great socializing on the Danube cruise
- ▶ Great organisation of interesting and meaningful event
- ▶ Very good communication efforts, before, during and after the conference, keeping everyone informed on the objectives, discussions results and next steps.

The following key benefits were indicated by participants:

- ▶ Networking
- ▶ Up-to-date information on both problems and planned/existing solutions.

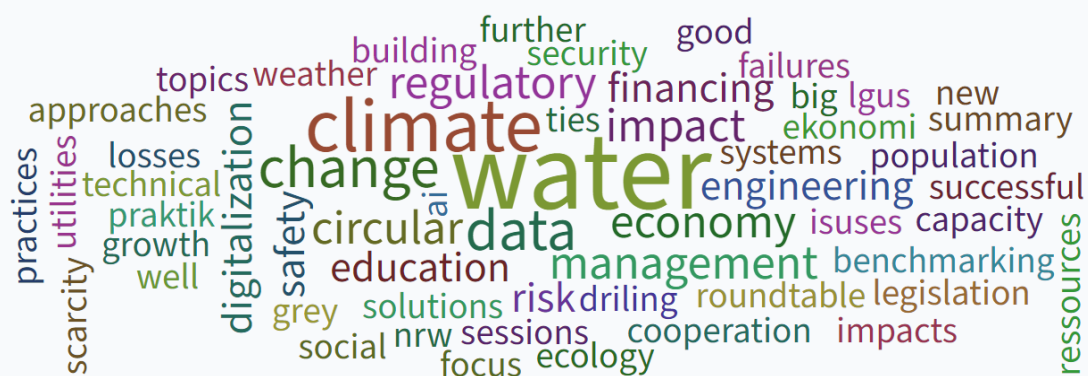
- ▶ Getting to know the region's challenges better, gaining an insight into solutions and processes
- ▶ Learning about IBNET new platform
- ▶ Meeting great participants and exchanging about the possibility of cooperation in the future
- ▶ Gathering and sharing of information
- ▶ Knowledge enrichment, networking, co-moderation experience
- ▶ Possibility to learn more about the whole sector
- ▶ Exchanging experiences that will help us improve water sector in our country.
- ▶ Insight into facilities and challenges within the water sector outside of academia, highlight that costs are dominating hence. Money is essential for development.
- ▶ Meet with utilities from the region
- ▶ Contacts with the delegates

Participants would like to see the following issues improved:

- ▶ Q&A sessions
- ▶ Panelists keeping their time, sometimes skipping the general introduction at the beginning of their presentations and going straight to the point, spending more time on the actual question/topic
- ▶ More dancing
- ▶ Longer duration of the conference by 1 day which would allow a little more activity outside the conference room
- ▶ No remarks
- ▶ Not too long presentations
- ▶ Less presentations and more discussions
- ▶ More interactions
- ▶ Air-conditioning
- ▶ Visit to Vienna WWTP should have been organized
- ▶ Everything was perfect just more social activities

Last, but not least, participants made suggestions about topics they would like to discuss at future events:

What topic would you like to see addressed at future events?



VI. CONFERENCE SUPPORTERS

The organization of the 2023 Danube Water Conference has been made possible through institutional support from:

 Federal Ministry
Republic of Austria
Finance

 Federal Ministry
Republic of Austria
Agriculture, Forestry, Regions
and Water Management

We thank our exhibitors for providing additional support:


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Special thanks go to Vienna Water for supporting the Conference Dinner

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