INITIATING A GLOBAL DIALOGUE ON WATER REUSE

Sharing Perspectives from Around the World to Advance Water Reuse

October 2025

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Acknowledgements and Purpose

The WateReuse Association (WateReuse) and the International Desalination and Reuse Association (IDRA) would like to recognize the water reuse professionals from across the globe who contributed to the Global Dialogue panels and workshops and continue to advance water reuse for a resilient water future.

A special thank you to our Global Dialogue partners and sponsors on this important effort, who contributed unique perspectives and increased connections: the Alliance for Water Stewardship, the International Code Council, the North American Development Bank, Veolia, the World Bank, and the WateReuse Association's International Reuse Committee. Learn more about these organizations in Appendix A.

This white paper is intended for regulators, utilities/water agencies, consultants, technology providers, and citizens and was developed as part of the National Water Reuse Action Plan (WRAP) Action 11.5, *Facilitate a Global Dialogue on Water Reuse*. It summarizes key observations and lessons learned and suggests collaborative actions for continued progress identified through the Global Dialogue on Water Reuse. Interested parties from around the world are invited to engage and continue in this Global Dialogue to help advance water reuse as part of a water-secure future.

Statement from WateReuse
Bart Weiss, Board President
Bruno Pigott, Executive Director

The most innovative utilities in the U.S. established the WateReuse Association more than 30 years ago to share best practices for ensuring a sustainable future. In partnership with IDRA, we are pleased to expand these conversations across the world.

The Global Dialogue on Water Reuse has been a foundational step in creating a forum for water professionals and other stakeholders from across the world to come together for focused conversations exploring the critical challenges and vast opportunities around implementing water reuse as a water management tool.

With population growth, increasing business needs and a changing climate, the historic ways of meeting water resource demands are not working anymore! Like most natural finite resources, we can't afford to throw away our freshwater resources—we need to recycle them. This is true for all climates and regions of the U.S. and world, from Florida that receives over 50 inches of rainfall a year, to parts of California, Arizona and the middle east that struggle to receive more than 4 to 6 inches a year!

Although local conditions are as diverse as the world around us, we have learned that the sharing of unique approaches can spark new ideas and build networks of expertise that can drive the growth of reuse around the world. With enthusiastic support from our members and volunteers, especially the WateReuse International Committee, we look forward to building upon this white paper to facilitate continued international collaboration. To learn more, get involved and plan to attend the Annual WateReuse Symposium each March where the conversations will continue!

T Barton Weiss Bruno Pigott

Statement from IDRA
Jon Freedman, Board President
Shannon McCarthy, Secretary General

At IDRA, we believe that advancing water reuse is imperative for climate resilience and water security and a powerful opportunity for cross-sectoral collaboration, innovation, and shared leadership. The Global Dialogue on Water Reuse represents a meaningful step forward in bringing together diverse voices and perspectives from across regions and disciplines to accelerate collective action.

Our partnership with WateReuse on this initiative reflects our shared conviction that solutions must be grounded in local realities and global learnings. As an organization with international reach, we recognize the value of fostering dialogue across stakeholders, from utilities and regulators to technology providers and development institutions, and end users, to surface common challenges, scale best practices, and champion the circular use of water as a global good.

This white paper captures the momentum we've built through unity in mission and dialogue and offers a practical foundation for future collaboration. We invite all stakeholders to join us in creating a water-secure future where reuse is not the exception but the expectation.

We would like to sincerely thank Patricia Sinicropi, former Executive Director of the WateReuse Association, and Monika Merk, Technical Program Manager at WateReuse, for their leadership and vision in shaping this white paper. We would also like to thank Bobby Jacobsen and Emily Isaacs of ERG for their skillful coordination and drafting, as well as the dedicated members of the WateReuse and IDRA teams, whose contributions were instrumental throughout this process.

Jon Freedman Shannon McCarthy

1 Acknowledging the Need to Enhance International Collaboration on Water Reuse

The Global Dialogue on Water Reuse aims to explore water reuse drivers, challenges, and successes across countries; share lessons learned; create connections; and foster collaboration to advance water reuse internationally.

As water scarcity issues grow across the world due to population growth, aging infrastructure, water pollution, drought, industrial needs, and other factors, countries and communities must rely on alternative sources to meet demands and ensure water security for their citizens. Effective water management is necessary in non-arid regions as well to support economic development and environmental sustainability efforts. Water reuse is a key tool that helps meet these demands by capturing a source of water (such as wastewater, stormwater, and graywater) and treating it and reusing it for different beneficial purposes such as landscaping, industrial cooling water, and even drinking. There is great opportunity to scale up water reuse globally: only an estimated 12 percent of municipal fresh water is recovered for reuse across all applications.[1] Encouragingly, water reuse approaches, technologies, and collaborations continue to evolve—though the levels of water reuse implementation and knowledge differ widely across communities, industries, and countries.

WateReuse and IDRA have actively pursued opportunities to advance water reuse domestically and internationally for over four decades. These two trade associations responded to the call to action set forth by the United Nations Sustainable Development Goals, particularly certain sub-goals under Goal 6, "Ensure access to water and sanitation for all" (see the table below). Following discussions at the 2023 United Nations Water Conference, WateReuse and IDRA recognized the need to foster international dialogue on water reuse among water professionals to advance its implementation and identify areas for potential collaboration.

Accordingly, WateReuse and IDRA have worked with various partners to provide forums for a purposeful, ongoing discussion of water reuse with international practitioners. This is the Global Dialogue on Water Reuse. It began at the UN 2023 Water Conference, where WateReuse and IDRA held a joint side event. The main Global Dialogue events in 2024 included panel sessions featuring international water leaders and interactive roundtable workshops at the **WateReuse Association's Annual Symposium in Denver, Colorado** (March 2024) and the **IDRA World Congress held in Abu Dhabi, United Arab Emirates** (December 2024). Each event had significant engagement, and participants represented 18 countries.

UN Sustainable Development Goals of Particular Interest to This Effort[2]

Improve water quality, wastewater treatment, and safe reuse

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

Expand water and sanitation support to developing countries

By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

[1] Khemka, R., & Eberhard, R. (2025). *Scaling water reuse: A tipping point for municipal and industrial use*. World Bank Group.
[2] United Nations. (n.d.). Goal 6: Clean water and sanitation. In *Global Goals—United Nations*.

2 Summary of the 2024 Global Dialogue Sessions

2.1 International Panel Sessions

More than 200 people attended the international panel sessions in Denver and Abu Dhabi to hear leaders from countries such as Australia, Egypt, France, Singapore, Spain, United Arab Emirates, and the United States discuss the status and future of water reuse implementation. Panelists shared experiences with water-intensive industry growth and persistent water scarcity that point to water reuse as a critical component of water supply portfolios.

Panelists highlighted the importance of communication and transparency for reuse projects, including encouraging visitor centers in operating plants to educate youth and sharing data to demonstrate finished water quality for industrial applications. A panelist with a financial perspective urged the water sector to identify how to mobilize funding sources to address water gaps. Panelists generally agreed that water treatment technologies for various types of reuse are not a barrier—technologies are advanced and effective, but at times cost-prohibitive, requiring innovative solutions like investment tax credits, public-private partnerships, or other mechanisms to increase general profitability for water reuse projects.

The spotlights below include some of the panelists' country-specific efforts and priorities for advancing reuse projects. See Appendix B for more information about the participants and organizers from these sessions.

Global Dialogue Panelists

Thank you to the international water reuse experts who participated in panel discussions:

- **Ahmed Al Shamsi**, TAQA Water Solutions (United Arab Emirates)
- **Amal Talbi-Jordan**, World Bank
- **Anne Le Guennec**, Veolia (France)
- **Bernard Koh**, PUB Singapore's National Water Agency (Singapore)
- **Booky Oren**, Booky Oren Global Water Technologies (Israel)
- **Danielle Francis**, Water Services Association of Australia (Australia)
- **Hani Sewilam**, Ministry of Water Resources and Irrigation (Egypt)
- **Hon Ramón Fernández-Pacheco**, Andalusian Regional Government (Spain)
- **Hossein Ashktorab**, Valley Water (United States)
- **Mike Webster**, World Bank
- **Melissa Aquino**, Veralto Water (United States)
- **Naoll Mary**, International Finance Corporation (Angola)
- **Paul Sciuto**, Monterey One Water (United States)
- **Yvan Poussade**, Veolia (France)
- **Zohreh Movahed**, Watek Engineering (United States)

Global Dialogue 2024 panelists (left) and 2024 workshop participants (right).

Global Water Reuse Leader Spotlights

Yvan Poussade

FRANCE

VEOLIA

"While France has historically had abundant water resources, it now faces growing pressure on water supply security like many European neighbors. Building on 3 decades of international experience across 280 global water reuse sites, Veolia aims to accelerate the adoption of water reuse technologies and best practices, through our ambitious GreenUp strategic program, committed to regenerating or making available 1.5 billion cubic meters of freshwater resources by 2027.

The global dialogues provide an excellent platform for exchange and communication between international peers, allowing us to learn from both established and emerging water reuse programs worldwide. These forums are particularly valuable for understanding how different regions address common challenges like regulatory frameworks, public acceptance, and technological implementation. Through this collaborative knowledge-sharing, we can accelerate the adoption of best practices and innovative solutions to advance water reuse globally.

My top priorities for advancing water reuse are to support the development of consistent and relevant regulations across different regions, as well as to facilitate the development and adoption of advanced treatment technologies and best operational practices. These priorities will ensure safe and economical deployment of water reuse solutions, which are essential to achieve our GreenUp freshwater regeneration ambition."

Danielle Francis

AUSTRALIA

WATER SERVICES ASSOCIATION OF AUSTRALIA

"Australia is very dry, so water reuse is key for the future—to meet the challenges of urban growth, changing rainfall patterns and data centres. Water Services Association of Australia leads advocacy for reuse of all types, and we created the global potable reuse maps in partnership with WateReuse Association to help cities all over the world show their communities how popular water reuse is.

The global dialogues are an excellent opportunity to convene with people and places on the reuse journey, to share knowledge, insights and methodologies.

My top priorities for advancing reuse are ensuring communities understand that it's safe, reliable, sustainable and cost effective. I am also working on creating policy conditions to optimise reuse for data centres."

Naoll Mary

FRANCE

IFC

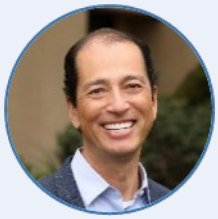
"Cities are already investing in desalination and reuse, but the potential is far greater. Globally, reuse capacity has tripled in the past 20 years and is growing nearly 7 percent annually—yet potable and industrial reuse still make up only 3 percent of municipal withdrawals. With the right policies, governance, and financing models, this share could rise to 25 percent by 2040.

The World Bank's new reports on Scaling Water Reuse and mainstreaming unconventional sources provide a strong foundation. One critical next step to implementation and scale is the definition of concrete roadmap where public and private collaboration is key. Collaboration with associations like IDRA are facilitating discussions of practical and innovative solutions to mobilize investment and accelerate adoption.

My top priorities for advancing reuse are to show communities that reuse is safe, reliable, and sustainable; support policy and finance reforms that unlock scale and develop practical support at project level; and build partnerships to integrate reuse into cities and industries. Water reuse is one of the most practical solutions we have for urban growth and climate adaptation.

WATER IS WHAT WE OWE EACH OTHER."

Paul Sciuto



UNITED STATES

Monterey One Water

"The diverse climates across the United States' 3.8 million square miles have led to region-specific challenges and objectives for water reuse. For example, in the arid southwest climate change is impacting traditional sources while in the southeast legislation prohibits ocean discharge. Monterey One Water is a public utility diversifying water supply along California's central coast through the production of non-potable reuse for agricultural irrigation and potable reuse for groundwater replenishment of a critical drinking water basin.

Global dialogues are essential because they allow us to learn from each other's experiences, accelerate reuse adoption, and leverage collective data and knowledge. While our drivers may differ, our goals are deeply interconnected, and our varied perspectives and policies are resources for each other.

Advancing water reuse includes a collective need for existing projects to reliably perform, supported by clear data that demonstrates the safety, resilience, and sustainability of reuse. My top priority is ensuring our projects can serve as models or provide a roadmap for reuse—we must communicate the benefits effectively to create policy environments that enable scalable, trusted reuse solutions across sectors and the globe."

Monterey One Water's advanced water purification facility (top) and Santa Clara Valley Water District (bottom).

2.2 Interactive Workshop Sessions

Following each of the international panel sessions, WateReuse and IDRA hosted roundtable workshops to encourage discussion on key topic areas and foster connections among participants from different countries. During the workshops, moderators at each table guided discussions and notetakers captured global insights about water reuse drivers, challenges, successes, and opportunities for collaboration.

Discussions focused on four core topics: governance, regulations, and policy; technology; financing; and communications. Within each topic, participants explored types of water reuse applications and practices, such as using treated wastewater for agricultural and landscaping irrigation, aquifer and groundwater recharge, industrial reuse, onsite water reuse, and potable water reuse. After the conclusion of the roundtable discussions, moderators shared key takeaways from each table, and participants had the opportunity to fill out a questionnaire to share feedback and additional insights for future Global Dialogue events.

The following pages capture perspectives shared by Global Dialogue participants during the roundtable discussions, including key challenges, ideas to advance reuse, and examples of relevant resources.

Core Discussion Topics

Workshop discussions were oriented around these main topics and different types of reuse.

- **Governance, regulations, and policy.** National, regional, state, and local rules, policies, agencies, and systems that influence how water reuse is governed and managed. Includes international standards.
- **Technology.** Water treatment applications, practices, and equipment used. Includes environmental and geographic considerations for the choice of treatment methods.
- **Financing.** How water reuse programs and facilities are funded. Includes domestic and international investment and economic interest, from public- and private-sector financing.
- **Communications.** Approaches to communicating and exchanging information about reuse, domestically and internationally. Includes strategic public outreach partnerships and public perceptions about the different types of reuse.

Note that these perspectives have not been verified with the participants' organizations or countries; situations may have evolved since these discussions occurred. Note also that **water reuse terminology can vary substantially within and across countries for various reasons (e.g., political, cultural, social, religious).** To facilitate consistency, Appendix C includes water reuse terms defined collaboratively by planning partners for use in the second session.

Participants from Global Dialogue sessions in Denver (left) and Abu Dhabi (right).

2.2.1 Governance, Regulations, and Policy

National, regional, state, and local rules, policies, agencies, and systems that influence how water reuse is governed and managed. Includes international standards.

Status snapshot: Workshop discussions illustrated that some countries allow the reuse of reclaimed water only for agricultural applications, while others have regulations that allow advanced treatment for other non-potable uses or for drinking water supplies. Participants discussed many common challenges related to regulations and policy and noted that each country's governance structure and overall approach to water management has a significant impact on water reuse management.

Highlights of Key Challenges
• There is a lack of reuse regulations in many states and countries. • Enacting national or global water reuse requirements proves difficult due to differing needs and priorities within and across countries. • Significant time is needed for regulatory revisions. • There is often reluctance to pursue reuse due to potential reduced revenue for water providers. • There are uncertainties and inconsistencies related to pathogen log reduction values and the measurement points to demonstrate compliance.

Suggested actions to advance reuse:

- Develop a risk-based framework for pathogen reduction that is recognized globally as a benchmark for industry and other end-users.
- Use delegations from country to country to share information, strengthen professional networks, and advance reuse implementation.
- Adopt a "One Water" model and create water strategies at the sewershed scale.
- Continue conversations and engagement between different stakeholders, especially with government agencies from different countries sharing best practices.
- Forecast areas of likely water supply restrictions to identify opportunities for water reuse implementation, particularly for industrial reuse.
- Perform and share more life-cycle cost analyses for water reuse projects to help illustrate different approaches and the best solutions for reuse projects.
- Implement more project or building rating programs and awards for sustainable water reuse projects, including consideration of promoting dual plumbing within buildings, to enable more decentralized water reuse approaches.

Relevant resources:

- United Nations System-Wide Strategy for Water and Sanitation *(UN)*
- Regulation (EU) 2020/741 on minimum requirements for water reuse *(Journal of the EU)*
- Risk-Based Framework for Developing Microbial Treatment Targets for Water Reuse *(U.S. EPA)*
- Guideline for Reuse of Treated Sewage in Reference to Item of Circular Economy *(CPCB)*
- Guidelines for the Safe Use and Reuse of Water in Food Production and Processing *(Codex International Food Standards)*

2.2.2 Technology

Water treatment applications, practices, and equipment used. Includes environmental and geographic considerations for the choice of treatment methods.

Status snapshot: Participants highlighted that technologies used to treat water for reuse are advanced and available, and therefore generally agreed that technology in itself is not a major barrier to water reuse across the world. They identified emerging contaminants, such as PFAS, as a challenge that requires continued technological focus. Participants shared that additional technological solutions may make water reuse more possible by doing the critical job of removing various types and high concentrations of emerging contaminants. Representatives from several countries highlighted the importance of technology pilots and demonstration projects to increase regulatory acceptance and advance public perception of water reuse.

Highlights of Key Challenges
• Monitoring for pathogens remains a major challenge. • Emerging contaminants, including PFAS, present a significant treatment challenge for some systems. • There is a need for additional lower-cost technology options that more communities can afford and operate. • There is a lack of availability of operators with knowledge of advanced treatment technologies. • Managing salinity in coastal zones where saltwater intrusion occurs can create major challenges in the selection of appropriate treatment technologies. Managing brine in inland zones can call for costly solutions, such as evaporation and crystallization.

Suggested actions to advance reuse:

- Continue to develop innovative, nature-based, low-cost treatment technologies (e.g., algae-based wastewater treatment) to enhance water reuse opportunities.
- Increase sharing of information from technology pilots and demonstration projects.
- Incentivize universities, independent laboratories, and other R&D facilities to develop new reuse technologies.
- Integrate automation and artificial intelligence into water system operations to help capture institutional knowledge, facilitate operator training, and reduce operational labor hours.

Relevant resources:

- Building Infrastructure Locally for Decentralized Water Systems *(NBRC, WateReuse, and U.S. EPA)*
- Potable Reuse and PFAS Q&A document *(U.S. EPA)*
- Potable Reuse: Guidance for Producing Safe Drinking Water *(WHO)*

2.2.3 Financing

How water reuse programs and facilities are funded. Includes domestic and international investment and economic interest, from public- and private-sector financing.

Status snapshot: Funding for water projects generally—and water reuse projects specifically—was raised as a major barrier to reuse worldwide. Several workshop participants stated that government support is critical. Many countries affirmed that reuse technologies are available, but not necessarily affordable. Participants described financial structures and incentives in developing countries relative to those with access to more financial resources. Some participants noted that decentralized water reuse approaches may be more viable in areas with high centralized reuse costs.

Highlights of Key Challenges
• Many countries face a lack of available capital with favorable terms for reuse projects. • Extensive grant/financing requirements prohibit some utilities from accessing and accepting funding. • Low water costs were noted as a disincentive for pursuing water reuse, as they could decrease revenue for existing water providers. • It can be difficult to demonstrate the economic value of a reuse project to local officials and the public. • Ongoing operation and maintenance costs for reuse projects are difficult to keep up with, even if capital can be obtained to build a reuse facility.

Suggested actions to advance reuse:

- Develop more incentives for water reuse, such as tax credits, financial support, or penalties for overuse of freshwater.
- Encourage sustainable water practices by creating markets/market value for water reuse credits.
- Explore partnerships between wealthy and less-advantaged countries (rather than loans/relationships of debt) to help deliver reuse technology.
- Find and share more examples that demonstrate the economic and social value of reuse.

Relevant resources:

- Scaling Water Reuse: A Tipping Point for Municipal and Industrial Use *(World Bank)*
- Wastewater Reuse Certificates as Tradeable Permits: A Handbook for Roll-Out *(World Bank)*
- The Economics of Water: Valuing the Hydrological Cycle as a Global Common Good *(GCEW)*
- Evaluating the Public Benefit of a Tax Credit for Water Reuse Projects *(Environmental Financial Advisory Board)*
- Triple Bottom Line Water Supply Planning at Your Fingertips: A Framework and Tool for Comprehensive Comparisons *(WateReuse and WRF)*
- Governance and Economics of Desalination and Reuse *(World Bank)*

2.2.4 Communications

Approaches to communicating and exchanging information about reuse, domestically and internationally. Includes strategic public outreach partnerships and public perceptions about the different types of reuse.

Status snapshot: Participant discussions highlighted how public perceptions can shape acceptance of reuse projects in different countries and localities. Participants from various countries noted that the public generally knows very little about their water systems, making education very challenging. Participants also emphasized the importance of understanding and engaging target audiences and key community leaders/officials. Some participants noted that public acceptance of potable reuse is much more a communications challenge than a technology challenge.

Highlights of Key Challenges
• The relatively low cost of water and the public's lack of general knowledge of water systems are barriers to implementation. • There is a lack of education on water recycling for government officials. • It is difficult to demonstrate the economic value of a reuse project to local officials and the public. • Effectively communicating the benefits and risks associated with water reuse can be challenging. • In some countries, there is a lack of (or unclear) communication about regulatory requirements for water reuse in the food industry.

Suggested actions to advance reuse:

- Educate the youth and engage experts to work with students. Include onsite classrooms in utilities.
- Build more understanding between industry and local communities on water demands and supply; this will help foster reuse implementation where it makes sense.
- Educate and engage medical doctors, schools of public health, volunteer organizations, and other community leaders as water reuse advocates. Tailor education to the targeted populations.
- Promote initiatives for sharing information on reuse between countries to foster communication at various levels.
- Engage the media to help cultivate relationships and public understanding of reuse to ensure that descriptions of reuse projects, including the benefits and risks, are appropriate and not misleading.

Relevant resources:

- Treated, Trusted, Tapped: The Future of Water Is Reuse *(World* Bank*)*
- Global Connections Map *(WSAA)*
- Water Reuse Communications Library *(WateReuse)*
- Case Studies That Demonstrate the Benefits of Water Reuse *(U.S. EPA)*

2.3 Lessons Learned and Potential Next Steps

Throughout the workshop sessions and subsequent discussions, participants showed interest and energy to engage with, learn from, and help each other in efforts to advance water reuse globally. While governance structures and politics differ across the globe, many participants spoke of the value of information and networking sessions, including Global Dialogue workshops.

WateReuse and IDRA believe that the workshop participants have tremendous expertise in areas that influence reuse implementation: governance, regulation (including building code standards), policy, technology, project design, financing, communications, collaboration, and more. It is important to collectively and intentionally leverage efforts to advance water reuse across the globe. Institutional capacity building, strong public-private partnerships, and cultivating support among elected officials are essential to driving the political will needed for change. Only with committed leadership and enabling policies can innovative water reuse and desalination solutions be scaled for lasting impact. Trade associations focused on water, health, and the environment have members throughout the world who occupy various roles in the water sector and other industries. With these extensive professional networks, trade associations can play a critical role in connecting water reuse professionals outside the main political processes.

To foster progress, WateReuse and IDRA suggest the following actions and ideas to advance water reuse globally and invite partners to engage in these efforts.

Continue the Global Dialogue on Water Reuse:

- Focus future Global Dialogue sessions on areas with the greatest potential for advancing water reuse internationally, such as decentralized water reuse or financing water reuse systems.
- Extend invitations to a diverse set of associations and practitioners—such as building developers, healthcare systems, the vocational workforce, and energy-intensive markets—to capture perspectives on the challenges and opportunities involved in implementing or advancing reuse across sectors.
- Explore a combination of in-person and virtual convenings to maximize participation.

Develop a detailed plan for creating an online toolkit to facilitate international information sharing:

- Convene a group of global water reuse experts (e.g., the Global Reuse Planning Subgroup) and thoroughly plan the development of an online toolkit that is comprehensive, accessible, and user-friendly. The intention would be to have a repository of case studies, reports, operations and maintenance guides, and templates spanning a variety of regions, reuse applications, and topical interests/needs.

Plan and hold delegation and matchmaking events:

- Create cross-sector opportunities to advance water reuse solutions that address the global water crisis, which could benefit economies, ecosystems, and societies collectively.
- Recognize that least developed countries, land-locked nations, and small island developing states often face disproportionate challenges in managing water resources effectively.
- Encourage development of international “profiles in reuse” that summarize the status of, drivers of, challenges to, and priorities for water reuse in specific countries, regions, or industries.
- Organize a curated delegation and matchmaking event between developing countries and large-scale global reuse manufacturers and operators, one that will advance all parties’ interests and build on the One Water management approach.

Appendix A. Global Dialogue Planning Partners

WateReuse and IDRA would like to recognize the water reuse professionals from across the globe who contributed to the Global Dialogue panels and workshops and continue to advance water reuse for a resilient water future.

The **WateReuse Association** is the United States' only trade association solely dedicated to advancing laws, policy, funding, and public acceptance of recycled water. WateReuse represents a coalition of utilities that recycle water, businesses that support the development of recycled water projects, and consumers of recycled water. WateReuse engages globally through international partnerships, participating in major international conferences, hosting water reuse international delegations, and facilitating an ongoing International Reuse Committee to exchange knowledge and create new connections.

The **International Desalination and Water Reuse Association** (IDRA) is a global nonprofit that unites the private and public sectors in science, engineering, government, and academia to advance water sustainability. With UN consultative status and partnerships, including FAO's WASAG and UNFCCC, IDRA drives innovation, research, and capacity building. By promoting desalination and reuse in integrated water resources management, IDRA helps build a more resilient, sustainable water future worldwide.

Veolia is a global leader in water reuse, treating wastewater and returning it to the water cycle for municipal, industrial, and agricultural uses. Veolia's comprehensive water reuse programs and technologies provide communities across the world with environmental security in a time of unstable water supplies and increasing drought. Access to quality water is a major challenge for cities and industries alike, and Veolia helps them maximize water resources while adhering to strict environmental standards.

The **International Code Council** is the leading global source of model codes and standards and building safety solutions that include product evaluation, accreditation, technology, training, and certification. The Code Council helps ensure safe, affordable, and sustainable communities and buildings. The Code Council, in partnership with the National Blue Ribbon Commission for Onsite Water Systems, established a Water Reuse Working Group to explore opportunities to protect public health and better support jurisdictions seeking to advance reuse.

The **North American Development Bank** provides financing to support the development and implementation of environmental infrastructure projects, as well as technical and other assistance for projects and actions that help preserve, protect, and enhance the environment of the border region to advance the well-being of the people of the United States and Mexico. This includes, but is not limited to, water and wastewater treatment, solid waste management, and renewable energy.

The **Alliance for Water Stewardship** is a global, multi-stakeholder membership alliance and international standard for responsible water use. AWS convenes and catalyzes action on water stewardship, uniting over 200 members from business, civil society, and the public sector.

The **World Bank's** mission is to end extreme poverty and boost shared prosperity on a livable planet. The World Bank recognizes the potential for water reuse to reduce water scarcity, pollution, and emissions. As such, the World Bank's 2030 Water Resources Group is making water reuse a priority, working to accelerate reuse through collaboration and by strengthening the economic case for its implementation.

Appendix B. Moderators, Notetakers, Participants, and Organizers

IDRA, WateReuse, and the planning committee would like to thank the moderators and notetakers for their support and contributions to this effort. Combined session notes from Denver and Abu Dhabi are available upon request, on a case-by-case basis. Note that these notes/perspectives have not been verified with the organizations or countries from which the participants shared their perspectives; situations may have evolved since these discussions occurred. To request a set of notes, please contact Monika Merk, mmerk@watereuse.org, or Karen Zilinek, kzilinek@idrawater.org.

B.1 Session 1 and 2 Workshop Moderators and Notetakers

Moderators		
Adrian Sym Alliance for Water Stewardship (A4WS)	**Devesh Sharma** Aquatech	**Melanie Holmer** Jacobs
Anthony Pimentel Black & Veatch	**Eric Rosenblum** Envirospectives	**Natalie DeRoock** Tucson Water
Austa Parker Jacobs	**Guillaume Clairet** H20 Innovation	**Paul Sciuto** Monterey One Water
Bart Weiss Hillsborough Co.	**Jon Freedman** Veralto	**Sara Katz** Katz & Associates, LLC
Brent Eidson Katz & Associates, LLC	**Marshall Davert** Stantec	**Silvio Olivia** IDRA
Chris Holmes Boston Consulting Group (BCG)	**Matt Sigler** International Code Council (ICC)	**Veronica Garcia Molina** DuPont
Notetakers		
Abdelrahman Akram Fouda Khalifa University	**Delal Esseddin Almomani** Khalifa University	**Prakriti Sardana** University of Colorado
Alex Cross WateReuse	**Emily Isaacs** ERG	**Raegan Swartz** Burns & McDonnell
Andrew Toth Burns & McDonnell	**Farah Abuhantash** Khalifa University	**Rawan AbuAlwan** Khalifa University
Anjali Goyal Khalifa University	**Katie Spahr** Denver Water	**Shannon Spurlock** Pacific Institute
Aya Fadl Aboukhater Khalifa University	**Mahira Bashri** Khalifa University	**Yasmina Kamal Gomaa Alseksek** Khalifa University
Balsam Swaidan Khalifa University	**Minhas Sana** Khalifa University	

B.2 Participating Countries

- **Session 1**: Australia, Brazil, Canada, France, India, Israel, Japan, Mexico, Singapore, United Arab Emirates, United States
- **Session 2**: Australia, Canada, Egypt, India, Israel, Italy, Lebanon, Netherlands, Scotland, Singapore, Switzerland, United Arab Emirates, United Kingdom, United States

B.3 Planning Committee

- **Hossein Ashktorab**, Valley Water, International WateReuse Committee Chair
- **Zohreh Movahed**, Watek Engineering, International WateReuse Committee Co-Chair
- **Monika Merk**, WateReuse Association, WateReuse International Committee Staff Support
- **Karen Zilinek**, International Desalination and Reuse Association
- **Bobby Jacobsen**, ERG
- **Emily Isaacs**, ERG

Appendix C. Definitions

The planning committee collaboratively developed these definitions for different water reuse types, which were used in roundtable discussions during the Global Dialogue sessions.

Agricultural and landscaping irrigation reuse: Using recycled water in agricultural settings for food crops or non-food crops, and for landscaping irrigation in other settings. Sources of water may include agricultural product processing facilities, irrigation tailwater, and treated effluent from municipal wastewater treatment facilities.

Aquifer and groundwater recharge: Replenishing groundwater in deeper soil layers and in stored aquifers for beneficial purposes. Sources of water may include treated effluent from municipal wastewater treatment facilities or captured stormwater runoff.

Industrial reuse: Using water more than once for an intended purpose in an industrial setting. Water may originate within the industrial facility or be supplied through a public-private partnership by which municipalities provide industrial facilities with treated recycled water.

Onsite water reuse: Collecting, treating, and reusing alternative water sources within a building or across multiple buildings (for non-potable or potable use). Alternative water sources may include graywater, blackwater, rainwater, stormwater, and foundation drainage.

Potable reuse: Producing recycled water people can drink using advanced treated municipal wastewater as an alternative source of water. May include indirect or direct potable reuse approaches. Also referred to as purified recycled water.