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Unlocking Innovation

A briefing on "Unlocking Innovation—Advancing the Water Industry through Policy-Making, Portfolio Planning and Project Delivery," a high-level workshop organized for the Water Leaders Summit at the 2012 Singapore International Water Week—February 2013

BACKGROUND

Innovation—how to foster it and apply it to address water issues shared by communities worldwide—was the focus of a leadership workshop at the 2012 Singapore International Water Week (SIWW). The Water Leaders Summit brought together nearly 100 water leaders from government, non-profit and commercial sectors from six continents. In an interactive workshop-style meeting, the participants discussed avenues for bringing innovation to the water industry.

The objective of the summit was to promote fresh ideas and approaches in water policy-making, resource portfolio planning and project delivery. As became clear during the discussions, these are not separate and independent activities. A key perspective that emerged was that the industry needs to advocate a holistic approach to today's water issues, which extend beyond political, geographic and socio-economic borders. Addressing these issues, the participants touched repeatedly on the same themes: the need for education, communication, collaboration, integration and investment. By working across traditional boundaries and lines of responsibility, and developing a more unified purpose and voice, the industry can bring groundbreaking solutions to communities that are facing complex infrastructure challenges in a rapidly changing world.

The paper delves into more detail on a range of best practices and emerging ideas that were shared by leaders throughout the event. Emerging concepts discussed in the pages to follow include the balancing of resilience with efficient planning, the benefits of viewing policy from a broader, regional perspective, and the introduction of opportunities that could be gained from "economies of scope."

Singapore International Water Week

SUMMIT

Origins of the Water Leaders Summit

The summit was organized collaboratively by SIWW and Black & Veatch, and it built on the success of a similar event jointly organized at SIWW 2011. One of the key findings from the 2011 event was how innovation should be explored in every aspect of the water industry, beyond technology and across policy formation, planning and execution. This insight formed the topic and theme of the 2012 event.

How the discussions were led

A group of nine distinguished chairpersons led the discussions, facilitated by Black & Veatch leaders. All participants had the opportunity to engage in the dialogue and share insights during three 20-minute roundtable discussions. Note takers included Black & Veatch and PUB professionals, as well as graduate students from the School of Public Policy at the National University of Singapore. The sessions were collaborative, the dialogue open. Chairpersons and facilitators included:

Margaret Catley-Carlson
Chair,
Suez Environment, Foresight Advisory Committee

Chew Men Leong
Chief Executive, PUB, Singapore's national water agency

Dr Peter Gleick
President & Co-Founder of the Pacific Institute

Ir Ma Lee Tak
Director of Water Supplies, The Government of the Hong Kong SAR

Peter Moore
Chief Operating Officer, Water Corporation

Colin Nicholson
General Manager, Sydney Water Corporation

Usha Rao-Monari
Global Head, Water and Waste, International Finance Corporation

Len Rodman
Chairman, President & CEO, Black & Veatch

BG (NS) Tay Lim Heng
CEO, Keppel Integrated Engineering

Dr Cecilia Tortajada
President, Third World Centre for Water Management, Mexico

Cindy Wallis-Lage
President, Black & Veatch's global water business

ISSUES

Population growth, urbanization and industrialization are putting enormous pressure on communities. The world population is projected to grow to approximately nine billion by 2050. In less than 10 years, almost five billion people—more than half of the world's population—will be living in urban areas. The middle class population—two billion strong today—is projected to increase to almost five billion people by 2030. Almost 40 percent of the world's population lives within 100 kilometers of a coast, where fresh water isn't always available. By 2025, nearly two billion people are projected to live in regions with absolute water scarcity. Factor in climate change impacts, food and energy security, demographic shifts, and financial stress. These challenges create policy, planning and project execution stresses that the global water industry must address collectively.

Water Policy-Making. Identifying innovative policies to deal with competing stakeholder interests and priorities; managing the risks of innovation within the industry; and assessing the role policy plays in deriving a suitable price that balances basic human rights to clean, accessible water with the realities of the cost of water.

Resource Portfolio Planning. Enabling innovation in water utilities' planning to improve resources management. Utilities are challenged to evolve beyond the role of service providers into progressive business entities that know how to maximize the potential of a valuable resource.

Project Delivery. Encouraging business, technical and financial innovation in project delivery to secure continuous water supply and environmental protection for the future in an affordable manner amid varying risks for different stakeholders.

Water in all forms is an increasingly precious resource as the world undergoes rapid and monumental change. Pressure is mounting on the water industry to envision, plan for and deliver enhanced standards of water quality and services.

FINDINGS

The Water Leaders Summit was designed to look at the water industry and the provision of water services as a sequential journey, from policy-making to resource planning to project delivery. Each stage was intentionally designed to be informed by the other, with the discussions focused on unlocking innovation throughout the journey.

Overall, the message was: New solutions and approaches are required to effectively address the complex issues facing the water industry. The opportunity to unlock innovation exists not just in technological advances, but in the three tracks followed in this summit. It can be

achieved through a holistic approach that promotes education, communication, collaboration, integration and investment.

Key Recommendations

1. Educate the public regarding the true value of water
2. Connect diverse stakeholders through active collaboration
3. Drive integration and communication across the water industry's sectors

"The water industry needs to reframe its thinking and embrace innovation at all levels. To solve our cities' future water challenges, we need to be smarter about how we create policies and then plan and deliver infrastructure." **Cindy Wallis-Lage, President, Black & Veatch Water**

WATER POLICY BRIEFING

Objectives

- Identify innovative policies that deal with competing stakeholders' interests and priorities
- Manage risks of innovation within the industry
- Assess the role policy plays in deriving an understanding of the true value of water

Challenge

Ensure a secure and safe supply of water and adequate sanitation and drainage service, while arriving at a suitable price that balances the basic human right of access to clean water and the reality of the rising cost of water.

Approaches

Following are key points and approaches that emerged from the discussion

Consider integrated regional policymaking

Water policies are often considered from a national or local perspective. National policies can be broad and run the risk of being watered down. Sometimes they can say everything and as a result say nothing. Local policies, on the other hand, can be too narrow.

By reframing policies regionally, new ways can be found to manage and approach challenges and effectively target issues. Water availability and its corresponding issues are often regionalized, as natural water resource boundaries don't always coincide with local or national borders. From an

implementation perspective, it's possible to reach optimal solutions when challenges are viewed from a regional perspective.

Thinking regionally, or in practical terms beyond traditional administrative boundaries, can also have positive subsidiary effects by breaking down complexity. Numerous—sometimes more than 100—agencies in a given watershed may have some control over water, wastewater and drainage. This creates a complex situation that may prevent the implementation of good solutions. However, by viewing the challenge "regionally" and setting "regional policies", a combination of agencies could be empowered to collaborate and tackle the challenge together.

Establish collaborative, apolitical advisory panels

It is important for industry and policymakers to come together regularly to enable greater mutual understanding. The parties need an open platform for exchange that is consultative—one where real dialogue can take place in a structured manner.

Governments, particularly at a national level, should consider establishing an apolitical advisory panel consisting of neutral industry experts to encourage innovation, help ensure appropriate policy continuity and evolution following changes in political leadership, and avoid a focus on shorter-cycle issues.

The core idea is to engage industry in the policymaking process, as early as possible before the policy is formed and then subsequent to the policy being finalized for further feedback and consultation. Follow-up consultation is especially important when the legal framework changes. This can help reassure the industry and broader investment community.

As leaders change and new governments are formed, continuity and effective governance are needed to manage the communication of the policy among all stakeholders.

Adopt broad environmental policies

Broader environmental policies can have positive effects, whether direct or indirect, on kick-starting and driving innovation in the water industry.

A powerful example was articulated around the EU Landfill Directive 1999, which was framed around ways to mitigate pollution on the environment, including negative effects on surface and ground water. The directive had particular effects on driving innovation in wastewater treatment, given the high costs introduced if sending waste with content

above a certain threshold to landfill. Equipment had to be developed and brought to market that would improve screening and grit treatment, to reduce organic content of waste that would be sent to landfill, for example. In fact, the additional grit recovered became a resource itself in many instances, and adding more carbon back into the plant also benefited the biological treatment process.

Australia recently introduced a Carbon Tax that could play a positive role in encouraging new innovation in the water industry there. Water utilities themselves will have to pay tax on methane emissions. The effect of the carbon tax on innovation in the water industry could be realized once the cost of paying the tax is close to the cost of implementing more efficient technologies, such as capturing methane and repurposing the gas.

Collaborate with industry to create opportunities

Industry has a positive effect in driving innovation. In Brazil, for example, a policy change enabled private enterprise to build and operate water recycling facilities for industrial applications. Many large cities throughout the country were experiencing rapid industrialization and population growth. As a result, municipalities were facing water supply challenges, and industry was challenged to meet its expanding water requirements. The change in policy introduced efficiencies that reduced the burden on drinking water supplies. It allowed private enterprise to provide industrial-grade recycled water to meet industry demand. It also allowed municipal entities to refocus on supplying drinking water to citizens, creating greater opportunities to tailor more specific services to the public in the future.

Communicate the holistic benefits of change, and educate on the value of water

Equal air time should be given to discussing both the cost and the value of water. An effective water and wastewater system produces more value than it costs. In other words, the macroeconomic value of the provision of efficient water and wastewater services can far outweigh the cost. Emphasizing this point in communications can influence attitudes and ease the adoption of more holistic and progressive policies.

Let's look at Australia, as an example. Extreme weather conditions that have plagued Australia this century pressured the country into developing new approaches to planning and securing future water resources. These responses had a drastic effect on the lives of Australians. In Brisbane, the spate of serious and unprecedented drought led to preparations for the mandatory implementation of indirect potable reuse of water by the local government. The people were also subjected to water restrictions and participated in conservation efforts. During the crisis, the public largely accepted policies implemented to safeguard future water supply, but many now look back and consider the opportunity to educate the public and obtain

long-term buy-in was circumvented. Thus, when it started to rain again and the crisis was over, the public no longer accepted the alternative water supply strategy and was quick to reverse the decision to implement indirect potable reuse. The Water Leaders Summit delegates agreed that creating a greater understanding of the value of precious resources is a key part of a successful business case. It is also critical to start the messages early.

The role of data is also vital. Before implementing a policy that requires behavioral change from the public, government needs to introduce public information campaigns that focus on the drivers of the old and new behaviors. These campaigns should give unfiltered and transparent data that demonstrate how behavior patterns (e.g. water consumption) differ from a policy's desired pattern of behavior. This data could be presented during the billing process or measured through innovations like smart metering.

Communication must be two-way. For that to happen, policymakers need to hear one common voice from the industry on the value of water.

Policymakers and the water industry as a whole must also influence educational bodies to formally prioritize education efforts around the value of water and related natural resources. These efforts need to be made a priority on governmental agendas and viewed throughout the lifespan of education from children through adult to encourage further ownership of water issues.

Education is vital now and in the future, where more implementation of decentralized solutions is expected. For example, the more decentralized systems get, the more the public needs to be involved and engaged in the planning and maintenance of these systems. Many delegates pointed to the education process in Singapore and the success of the NEWater program and its acceptance by the public. The education process was a critical component of a well-planned awareness and communication strategy in Singapore.

Holistic water policies can be accepted and implemented successfully in the right environment, through effective communication and education around a policy's broader benefits.

RESOURCE PORTFOLIO PLANNING BRIEFING

Objective

Discover best practices for enabling improved resource management by utilities

Challenge

Utilities are challenged today to evolve beyond the role of service providers into progressive business entities that focus on business cases that help maximize the potential of a valuable resource

Approaches

Engage consumers by spotlighting the plan's benefits, objectives

It is vital to make innovation an important and visible part of any resource portfolio plan. Even if the innovation is of a small scale, highlighting the innovation and highlighting its benefits can draw attention to the value of water and to the value and impact of the plan overall.

The reasons and objectives underlying plans need to be communicated with both existing and future city dwellers to create a greater long-term acceptance of the city's future resource planning. It is known that cities around the world are growing rapidly, often due to migration either from the shift of countryside to city or due to sudden growth through economic booms, and it is difficult for agencies and utilities to plan for the demands of the future.

Planners also need to embrace innovation to deliver the best service to the community and find ways to overcome the adoption of the innovation. Consistent communication around the holistic benefits of the alternative solution over the incumbent solution can often be successful, although cultural and sometimes religious opposition can occur.

What was identified as critical for the planning process was the need to bring the community and their customers together along with the planning process. This was necessary in getting the community to share the problem and also assist in developing and owning the solutions, be it demand management, the need for differential service standards (even in the short term), the value of water, the need for the service to be paid for, and the like. In Samoa, this engagement process was important in helping the communities get behind the implementation of its extensive wastewater program, understanding its fundamental impact on and benefit to its number one economic sector, tourism.

A barrier to implementing a holistic and integrated resource portfolio plan is lack of support at the political and financial level, even though such approaches have been technically and academically accepted. Therefore, given the influence of these stakeholders in the final delivery of the plan, effort needs to be made to communicate the benefits and return on investment. For example, a delegate from a non-profit agency described how communication of the benefits of an integrated approach in Stockholm, Sweden was maximized. Part of the planning involved channeling the energy recovered from the wastewater treatment into the city's public bus service. This became a powerful and effective public and

political symbol of success. It helped create an opportunity for further adoption of technical innovation and integrated resource planning.

Harmonize efficiency and resiliency in the plan

Best practice resource portfolio planning needs to focus on the resiliency and efficiency of the plan. When it comes to planning water resources and sanitation the industry must ask challenging questions. Such as, how do you account for "unplanned" and "unplannable" events? Planners and the public need to change their current way of thinking about the service level and supply opportunities, as well as funding requirements and availability.

Utilities must be able to supply water and sanitation regardless of changing circumstances, such as climatic shifts or population growth. Efficiency is usually measured as a cost, and resiliency is measured as the ability to deliver services under stress; e.g., supplying water during climate change.

A number of participants pointed out that the most efficient systems are not necessarily the most resilient; in fact, they are unlikely to be resilient at all. The most obtuse example of an efficient water network would be to only rely on one very large source of treated water, gaining benefits from economies of scale in its treatment and management and conveyance. Such systems are inherently risky, and water portfolio planning needs to accommodate more metrics beyond the financial bottom line.

Finding a balance is difficult. There's not one universal approach and the planning goals differ between communities.

Coping with unexpected or unmanageable population growth

The population of cities throughout the world is facing unprecedented levels of growth. According to the United Nations, the population living in urban areas is projected to increase from 3.6 billion in 2011 to 6.3 billion in 2050.

This creates significant challenges for water resource planning, calling for, at minimum, greater higher-level collaboration between city planners and utility providers. Often "settlement expansion" is faster than the planned for city expansion, creating strains on the finite water resources, distribution network and budgeted finances. The same issue exists with sanitation planning and provision.

Water resources and networks together with sanitation planning and management are integral to a city's development. As, example, in the late 1970s, a master plan was drawn up for a mid-sized Nigerian city. The city was, and still is, serviced by two impounding reservoirs. The original plan identified the importance of preserving forested areas surrounding the two reservoirs and its negative impact on water catchment if the area was

developed. Thirty years of pressure from urban population growth and today the forested areas are gone, creating a major siltation problem at the two reservoirs. Regular and costly desilting is required to maintain the service reservoirs against a backdrop of rising demand.

To cope with one aspect of population growth in developing cities, delegates encouraged more on-the-ground knowledge-sharing within the industry to help water utilities manage existing assets. One delegate pointed to global development agency programs that support and encourage such collaboration, citing an example through an ADB program of an Australian utility that seconded experts at an Indonesian utility to help derive more value from its current network.

Delegates also highlighted the "necessity for flexibility" in any good long-term water servicing plan. Rather than investing in one major change to a portfolio, small incremental changes in a mixed portfolio of water and wastewater assets was viewed as a more flexible and favorable practice to cope with unexpected changes in demand.

Integrate a business case approach

Understanding the needs and demands of the end user is critical if more advanced forms of resource portfolio planning are to be realized on a large scale.

According to numerous delegates, a business mindset is shifting focus in the wastewater sector to resource recovery, particularly at individual utility levels. This includes a greater understanding about the economic benefits of water reuse, nutrient recovery and energy recovery.

However, an important step remains to be taken. The challenge is to help municipalities better understand the viability of this approach and create demand for not only sustainable water but also sustainable energy. One delegate highlighted the opportunity in China, where the next five-year planning cycle will invest billions of yuan in improving wastewater treatment. What is less certain is whether the Chinese water industry will take advantage of resource recovery opportunities when investing in its next generation of treatment facilities.

Collaboration creates economy-of-scope opportunities

The idea of "economies of scope" was introduced and explored. Participants defined scope as the need to look holistically at the touch points of water with energy, food, and industry. The scope must include local market and community needs, as well as the financial impacts, when assessing resource recovery opportunities. Greater integration of planning both within the water sector (e.g. drinking water and wastewater) and with other related sectors (e.g. agriculture, energy and water) can create potential economies of scope. Developing a full business case was seen as an essential part of creating successful and synergistic solutions.

The water industry needs to communicate expectations with regard to: demand on existing resources; the ability of agencies to expand their networks to meet the rapid growth; and the value of water, in general. There needs to be improved education of resource planning goals.

PROJECT DELIVERY

Objective

Look at how water infrastructure and other projects are managed and delivered

Challenge

Securing continuous water supply (or acceptable drainage and sanitation services) for the future amidst varying risks for different stakeholders

Approaches

Adopt integrated delivery models

When adopting integrated delivery models, the right commercial model must be in place to fund water projects successfully. Projects must be structured toward that success by ensuring the risk and delivery responsibilities are fair.

There were many examples of integrated delivery models discussed that have emerged worldwide to provide government policy makers and resource planners a roadmap of how innovative delivery is becoming the normal practice to implement government policy. These innovative delivery practices, which may include private sector financing and transfer of risk to the private sector, are becoming more common across municipal, agricultural and the industrial market sectors.

The delivery approach dovetails in with the resource planning process and starts with planning and establishing the framework that allows both the public and private sector to provide innovative delivery approaches to meet the goals of the policy vision. Many factors were discussed, including the core services that the public sector will keep in its control, stakeholder outreach around community benefits, financing options available, and risk allocation between parties. These all affect how the public entity interfaces with the private sector to determine the mix of the delivery models that the public entity may deploy to deliver the program successfully.

Good examples were cited of integrated delivery models that provide technical and commercial innovation, including risk allocation transfer and management for new and existing infrastructure, where private sector funding in some cases was used as part of the delivery solution. The examples include: alliancing, design-build, design-build-operate,

design-build finance, design-build-finance-operate, design-build-own-operate (transfer) for new infrastructure. Two models that deliver upgrades and asset management optimization for existing assets are energy performance contracting and public private partnership. A concession was another good example of a public private partnerships used by several utilities. The energy performance contracts and public private partnerships have the capability to bring full or partial financing options to the program or individual projects in the program. The financing innovation for the existing assets models is where the cost of financing is off-set by optimizing the existing operation and maintenance practices through financing technical innovation that lowers ongoing operational and maintenance costs.

In Indonesia, the government acknowledges shortfalls and difficulties in supporting and financing the development of certain infrastructure projects as a large amount of risk is transferred to the private sector. This has a subsidiary effect within the market. If too much risk is transferred to the private sector, financial bodies are more reluctant to fund water projects.

When too much risk falls on one party, more advanced enterprise risk models are needed. These frameworks, such as the World Bank's recently established Indonesian Infrastructure Guarantee Fund (IGF), can help governments more fairly divide risk between the public and private sector. The IGF facilitates public-private partnership deals on vetted infrastructure projects by providing Government of Indonesia guarantees to mitigate risk to private sector. Such backing has no upper limit set by the World Bank, and the risk can be recovered via the tariff system or other innovative approaches.

More complex financial matrices, such as this framework, can help provide the optimal conditions to attract the right kind of private sector financial involvement.

Streamline decision-making with integrated, empowered teams

The delivery of major water projects often meets road blocks that can be a result of the decision-making process' structure.

Empowered and specially established program management units can help streamline government decision-making processes on major challenging projects, where previous perceived red tape or interdepartmental challenges would arise, or simply to execute a complex project more efficiently.

When responsibility is fragmented or the capability is missing to pull together all elements of the project, decisions can't be made effectively. For example, with 5,000 municipalities in Brazil, implementation agencies often don't have the specialized depth of experience and institutional knowledge to deliver large-scale, major water and

sanitation projects. But by using specially empowered program management units, like those in developing countries of China and Vietnam, major projects are able to be delivered more successfully. With a single point of high-level responsibility, these special program management units pull together in the same direction, and they're able to coordinate and make appropriate decisions, empowered with the right level of authority.

Foster collaboration on large, complex projects

Large-scale projects can be complex. Therefore, often the best approach is to phase resource needs and deliverables into smaller and more digestible pieces.

Program managing large-scale projects can reap a number of benefits, from improved procurement to speed of delivery. For example, by dividing a large project into smaller ones, the procurement process can be expedited, and this can be of particular importance when importing materials and equipment or when purchasing equipment with long production time requirements. This phased approach allows different parties to collaborate and work simultaneously on concurrent priorities.

Decentralizing projects and phasing them in this manner can also help attract investment. It can allow more easily for the establishment of special purpose vehicles to deliver bite-sized portions of the project.

Communicate responsibilities clearly and appropriately

Complex projects should be structured in such a way as to hold all parties responsible and accountable, with each party agreeing on key performance indicators. While simple projects can continue to use traditional delivery methods, complex projects require greater collaborative approaches between consultants, contractors and owners.

Water projects, particularly complex ones, are often mismanaged when the alignment isn't clear between the owner and the business partners involved in the delivery. A joint understanding is crucial, given the variance of needs from market to market. The owners need to specify clearly what is needed and set clear objectives from the start, communicating this effectively to their partners. Owners and business partners should hold a dialogue to discuss the broader business case opportunities in order to create the maximum return on investment. An inability to communicate desires to contractors and suppliers often has severe and negative effects on the timely delivery of water projects. At the same time, failing to think innovatively can result in missed opportunities.

By formally engaging consultants and contractors before the onset of major projects, owners can ensure objectives and goals are properly assessed and understood. Take, for instance, the engagement that occurs with the alliance model in Australia that has been applied to several major, complex Australian projects. There, projects have been successful

by enabling all stakeholders to get a comprehensive picture of the challenges involved and to work together toward a holistic solution.

Research and determine how best to invest

Project owners often rely on the industry players, based on market practice and research, to determine the best finance model to deliver a major project. However, a poor definition of scope or poor interpretation can lead to challenges. The financial approach suggested by industry doesn't always align with the values and principles of the owner and can be met with public concern.

There is no one-size-fits-all business model to achieve the project financing framework. Therefore, a best practice for project owners is to conduct their own market research and analysis to determine the right financing approach. The analysis should be around the "best value" whole of life cost delivery models that achieve the sustainable objectives for the program. This type of planning and framework allows the public sector to look at the best way to implement project delivery innovation and risk allocation with the private sector and community based organizations that are required to ensure the success of the program.

One unique approach that has been successfully applied is the structure of the NEWater PPPs in Singapore. The private sector sold the treated water product back to the government, which retained control of the distribution network.

With innovative thinking it is possible to overcome the concerns associated with the use of private investment and private/public partnerships to meet immediate and future needs.

Today's professional investors have begun to understand that there's opportunity in the water inudstry, and a much less volatile opportunity than other basic resources offer. The attraction is not just the value of water itself. What should attract investors is the relatively stable demand for water, the urgent need to develop new water sources, the increasing need to rehabilitate old water infrastructure, and the opportunity to access the hidden value available through resource recovery.

While technology and expertise exist to solve the myriad challenges facing our water infrastructure, a universal need for water tangibly justifies a water-related investment strategy.

CONCLUSION

Access to water is a human right, yet the cost to provide water services—both the infrastructure and operation—is considerable. We are all connected with water and cannot survive without this precious resource. Other industries, including power providers and farming sectors cannot function without access to water. We cannot escape that

as our population increases our most precious resource becomes the critical link to our future.

Water's complexities, issues and true value are, generally speaking, not well understood by the public. This is especially true in part of the world where water is more accessible. The value of water—how it arrives through the faucet or how it is sourced and treated—is often taken for granted. Those without clean or readily accessible water must be afforded the same opportunities. Many other universal challenges exist: our industry operates in silos; it rarely communicates with one voice; many cultural barriers exist to the adoption of innovation, even when academic is evident; and financing is tight.

Yet, the industry can cite many examples of innovation throughout every stage of the process from policy formation to planning to delivery. That was the true value of the Water Leaders Summit—it was clear that best practices are in operation throughout the world. However, perhaps these best practices are not established universally because of the disparate nature of the industry geographically, needs-based and structurally.

The industry needs to continue to come together and share, and help solve the challenges together in a collaborative manner.

To enable this, there was a clear call for leadership evident in the discussions. There is a need to work across boundaries and lines of responsibility. In the absence of consistent and laudable political will, the walls can never be breached. Prioritizing water and truly understanding its value at the highest level can effect positive change and help galvanize the efforts of the industry.

One participant cited the emergence of a new breed of leaders more suited for managing broad-based approaches to the challenges we face today, and that these leaders are emerging because of the crises that communities throughout the world are beginning to face.

However, forward progress is reliant on all experts and professionals working in the industry and related sectors. We need to share experiences, knowledge and best practices, and seek out new ways to unlock innovation at every stage of the water services provision process.

While, unfortunately, no single solution to unlocking innovation exists, there is clearly a diversity of ideas, solutions and best practices that can be applied and put to work in many more circumstances around the world.

One clear message emerged from the event: the water industry needs to unlock innovation. Together.