

**Conference Report** 

# 2nd EIP Water Annual Conference

Barcelona

05 November 2014

Environment



More information on the European Union is available on the Internet (http://europa.eu). More information on the European Innovation Partnership on Water is available on www.eip-water.eu

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# EIP Water: Removing Barriers to Innovation

Innovation is central to economic growth and business competitiveness, and is at the heart of the EU's <u>Europe 2020</u> strategy. Since its launch in 2012, the <u>European Innovation Partnership on</u> <u>Water</u>, an initiative within the European Union's 2020 Innovation Union, has worked to address European and global water challenges and to support implementation of the <u>EU Water Frame-</u> work Directive (WFD).

EIP Water's three key objectives are to facilitate development of innovative solutions to deal with European water challenges; to create demand and market opportunities for these innovations; and to support implementation of European water policy through innovative approaches. "Innovation and water cannot be separated," said Marianne Wenning, Director, Quality of Life, Water & Air in DG Environment, EC. "Improving water efficiency in light of increasing scarcity will require innovative solutions, as will emerging pollutants, reducing leakage, and water reuse. Water governance will also be positively influenced by innovative methods and approaches."



The EU Water Framework Directive

Adopted in October 2000, the EU Water Framework Directive (WFD) is the operational tool that sets the EU's objectives for water protection for the future. It commits EU member states to achieve "good status" of all water bodies (surface water bodies, groundwater, and transitional and coastal waters) by 2015.

This "good status" has qualitative and quantitative aspects related to biological quality, physical-chemical quality, and chemical quality including concentrations of specific water pollutants as well as to hydrological regime and morphological conditions.

The Directive also requires Member States to establish river basin districts, each with a river basin management plan that is prepared, implemented and reviewed every six years. The plans include assessment of the impacts on river basin districts; environmental monitoring; establishment of environmental objectives; and designing and implementing programs needed to achieve those objectives.

With the WFD 2015 deadline looming, the European Water Alliance, a coalition of European water-related umbrella organization, has asked the new European Commission led by President Jean-Claude Juncker to prioritize water because of its importance to the economy, environment and quality of life in the EU. "Water innovation contributes to tackling the societal challenges of the future, while at the same time creating sustainable growth and employment."

Through its Online Marketplace, EIP Water also matches up stakeholders across the entire innovation chain, with a particular focus on linking innovators with potential users.

It promotes collaboration among the public and private sectors, non-governmental organizations and the general public to promote change and innovation in the water sector. It accomplishes this primarily through its 25 Action Groups and other Working Groups.

The partnership has eight priority areas, selected to address challenges and opportunities in the water sector and promote innovation-driven actions that will deliver the highest impact. These include thematic priorities – water reuse and recycling; water and wastewater treatment and recovery of resources; the water-energy nexus; flood and drought risk management; and ecosystem services – and cross-cutting priorities – water governance, decision support systems and monitoring and financing for innovation.

### The EIP Water Annual Conference

In 2013, EIP Water launched its first Annual Conference in Brussels, as part of its efforts to engage with stakeholders and to stimulate creative and innovative solutions to water challenges at the European and global level.

Building on the success of the inaugural event (and having added an additional 16 Action Groups since then), EIP Water held its second Annual Conference in Barcelona on November 5, 2014, under the theme *"Connecting Innovation Demand and Supply."* Making this connection involved *"showcasing impact"* through presentations of successful experiences in accessing markets and implementing innovation; identifying demand for innovation, particularly with regard to water policy implementation and the private sector; and addressing barriers to innovation in the water sector, from both the demand and supply side.

#### Barcelona: The Innovation Capital

*The EIP Water Conference 2014 was hosted by Barcelona – the 2014 European Innovation Capital, or* **iCapital***. The city earned the title from the European Commission* "for introducing the use of new technologies to bring the city closer to citizens."

Those efforts started in September 2011, when Barcelona's city council launched the "Barcelona as a people city" project. Making the Catalonian city a "people city" meant introducing new technologies to foster economic growth and citizens' welfare through open data initiatives; sustainable city growth initiatives including smart lighting, e-vehicles, and residual energy heating and cooling networks; social innovation; and alliances between research centers, universities and private and public partners.

> The 2014 Conference looked at the water challenges EU member countries face in implementing the WFD, and what innovative solutions are available to address these issues. It also examined the role of the Water Action Groups in addressing these challenges, and sought to identify gaps in action and research, as well as challenges at each stage of the innovation value chain.

> A significant component of the 2014 event was finance for water innovation – the mechanisms already available, the roadblocks to financing innovation, and the possibilities for innovative financing tools.

Before and after the conference, participants held a series of open and closed meetings. The day after the event, many had the opportunity to see some of Spain's water sector innovations in action through site visits to a laboratory, water and wastewater treatment and desalination plants, innovative water research facilities, a managed aquifer recharge system, a rainwater detention tank, and a wastewater quality monitoring system. EIP Water organizations also presented during the Conference Exhibition.

The EIP Water Conference 2014 was organized by the <u>European Commission</u>, with the support of the <u>Barcelona City Council</u>, <u>Aigües de Bar-</u> <u>celona</u>, <u>Barcelona Cicle de l'Aigua</u>, the <u>Govern-</u> <u>ment of Catalonia</u>, the <u>Government of Spain</u>, and <u>Aqualogy</u>.



### **Barriers and Bottlenecks**

In 2013, the EIP Water started an activity to look at the non-technical challenges to achieving the objectives for each of its priority areas under the <u>Strategic Implementation Plan</u>. Gernot Klotz, Executive Director for Research and Innovation at the <u>European Chemical Industry Council (Cefic)</u> and member of the Task Force, summarized the main bottlenecks and barriers to innovation during a panel discussion at the 2014 EIP Water Conference. Klotz suggested that new financial tools that combine different types of funding, or that allocate specific funding for specific stages of innovation, could be part of the solution to financing barriers. When it comes to making decisions about public-private and public-partnerships, building trust is the key to overcoming obstacles, he said.

#### Barriers and bottlenecks to water innovation

- Financial Instruments: There are insufficient financial flows into the sector, inadequate cost recovery, risk aversion; lack of resources for SMEs to respond to market opportunities and access to sources of funding, and a lack of combined funding models.
- Public Procurement: Public procurement has great potential to stimulate innovation in the value chain, but procurement rules need to be interpreted and adapted in way that promotes innovation.
- Public-Private or Public-Public Partnerships: The water market is fragmented, there
  is low cooperation among the actors in the water-related value-chain, and water
  management at the national, regional or local level does not facilitate implementation of innovative solutions. Partnership approaches that ensure cooperation and
  finance, like PPPs, need to be explored.
- Regulation: Although they can be restrictive, regulations are essential to innovation in the water sector. They should be evaluated based on their effects on placing innovation in the global water market.
- Showcases and demonstration sites: There are good examples of cooperation in a variety of areas that should be identified, disseminated, and developed into regional showcases.



# Defining Innovation for the Water Sector

What makes a solution innovative? What tools and conditions are needed to bring innovation to implementation?

It is a *"complex"* phenomenon that requires different skills than those needed for research, according to Carmen Vela, Spain's Secretary of State for Innovation. In order for innovation to have an impact, it needs a legal framework and regulations that will make it possible to bring solutions to the market, as well as funding and flexible administration.

"We can't separate innovation from other areas," Vela explained. "All of us, including individuals, need to be innovative. There is no way to move ahead if we are not working together."

*A very small group gets things done – they never complain about barriers. We have to focus on success.*" *Florian Witsenburg, Tygron* 

"No single country will solve the problem on its own." For that reason, new EIP Water Action Groups are needed – and we need to move quickly to put them into practice, she warned.

Florian Witsenburg, CEO of Tygron, an online 3D multiplayer game engine for urban communities, tackled these questions from the perspective of an entepreneur. His advice: *"It's about people – find those who have time to listen, who are willing to innovate."* Florian had three suggestions for promoting and implementing innovative solutions:

- Make data on water and other aspects of urban planning openly available;
- Provide financial support for finding innovative solutions (e.g. governments could allocate 3 percent of their budget for innovation);
- Establish demonstration sites to showcase and promote new technologies; after all, "tech does not sell itself."

Tygron's innovation is that it creates a platform that brings different stakeholders together and allows them to experiment with different solutions in a safe way. It is modeled in part on the game SimCity, a game in which *"stakeholders could negotiate together."* So, in this platform, *"not cooperating means no one gets their plan. Make them cooperate, and everyone wins."* 

There is an element of risk associated with adopting new technologies or approaches since, as Witsenburg puts it, *"Innovation is something that has not been accepted yet."* But the potential for failure is also a powerful tool for learning and gaining experience.



The challenge with the water market is – is there a market? We don't want risk in the water market, so there is little incentive for innovation.

### Toward A New Market Model

The current water sector model is a closed market for innovation, according to Tomas Michel, Chairman of the <u>European Water Supply and</u> <u>Sanitation Technology Platform (WssTP)</u>. To change this, a new market model is needed with *"maximum synergy of public and private investments."* 

Michel and Wim van Vierssen, CEO of <u>KWR Wa-</u> <u>tercycle Research Institute</u> – a collaboration of Dutch water supply companies – advocated strongly for public-private partnerships as the cornerstone of a new model for the water sector.

"The water market is fragmented and very local," and so the "conventional market model" does not really apply, Michel noted during a presentation on "Innovation Demand from the Private Sector."

Effective governance and creation of new, innovative finance tools are integral parts of this. So are large-scale demonstration sites to showcase and spur adoption of new technology.

Action Groups are needed "that are involved with the financing, that are involved with the pure market uptake, that are involved with business models, that are involved with all those aspects that are critical, but that are not directly related to research and development, and not related to the technical questions," according to Michel. In a session on *"Connecting Public Sector Needs to Water Innovators,"* van Vierssen proposed a structural change for European Framework Programs (FPs) in the water sector based on the *"allied waters"* concept, which draws in business collaboration, company research teams and financing in the form of both public sector loans and venture capital investment.

The old model for bringing innovations to market moved in a linear way from basic and applied research, much of which took place in a semi-public sector setting, through a commercialization process that was largely carried out through the private sector, before ultimately finding its way to the end users among the general public.

In a new *"allied waters"* approach, the applied research and commercialization phases are carried out under a hybrid, *"triple C"* knowledge management model that brings together different actors in a collaboration that is clustered (in terms of knowledge), complementary and coordinated.

In this system, European innovators should be offering game-changing public value propositions; reaching the top end of the market and being competitive on a global scale; developing products with excellent scientific and public market references; fostering new hybrid companies with total cost recovery models for research teams.

The start up phase is now over ... what we are expecting, all of us, are results, concrete results, and things that we can show off to the water community, to the market and also to the politicians to see how we can empower this further and have it further endorsed and also if it's possiblesubsidized. This is why I personally advocated in this conference for public-private partnership, which of course is another way of putting resources into the whole matter. Most efforts to encourage innovation have focused on SMEs, but van Vierssen emphasized that large multinationals also have an important role to play. As part of a collaborative group, they offer the advantage of a market partner with a worldwide network.

Innovation in the sector will also come at a cost – the thorny issue of water pricing will have to be addressed.

"Everybody in the water sector will agree that water is underpriced, and the actual costs of water are not recovered through water tariffs," Michel said. This, combined with an "almost religious" conviction among consumers "that they have an absolute right to that water at almost no cost" makes it harder to persuade people to accept new ways of doing things.

To support sector innovation "bring water – first of all – to full cost recovery, and then start to build into the water price all the future risks, the better quality you want to have, the better state of our natural bodies, etc." *Europe needs to organize innovation. Wim van Vierssen, KWR WaterCycle Research Institute* 





Great quote on how to keep stakeholders involved and active via @Tygron: 'Tell me, I'll forget. Show me, I'll remember. Involve me, I'll understand.'

Chrysi Laspidou @CLaspidou via twitter during EIP Water Conference



## Corporate Water Risk: Feeling the Bite

The pressure on corporations to disclose their water-related risks is driving demand for new technology innovations.

Cross-sector technology transfers, and new approaches to governance, partnerships and collaborations are other areas of opportunity, according to Cate Lamb, Head of Water at <u>CDP</u> (formerly the Carbon Disclosure Project), an international, not-for-profit organization providing a system for companies and cities to measure, disclose, manage and share environmental information.

"There's a little bit of chicken and egg going on," added CDP CEO Paul Simpson. "The investment community starts to become aware that there's a risk, but until they have information from the companies in which they invest where the risk is really felt, they are not really confident enough to know what to do."

Many big companies "should have a handle on water, but are not yet able to report to investors," and others "are still not sophisticated in their water stewardship strategies," Simpson explained.

CDP chose this year's EIP Water Conference to release its latest report on corporate water risk, *"From water risk to value creation: CDP Global Water Report 2014."* 

Among its major findings: 68 percent of companies that reported to CDP are exposed to water-related risks that have substantive impacts on their business and operations.

How does water compare to other environmental risks? *"If climate change is the shark, water is the teeth,"* as Simpson put it.

In the past, water was very low on the corporate agenda, but over the last five years, companies and investors have realized that water scarcity and other risks are very material. Now, 62 percent of the Global 500 companies profiled in the CDP report *"have board-level oversights of water as an issue on a regular basis."* 

EIP Water Action Groups might help fill this gap. Lamb cited a need for new data acquisition and development. She also sees room for more risk assessment tools.

"There is not one single tool that will allow you to measure and monitor all risks. If you're a company, you should never really rely on one single tool or one single data set. In fact, to gain a more comprehensive understanding it's often better to use a number of tools. ... Competition in that space is important to really drive the improvements in the tools that are necessary."

There is also potential for innovation in the investment space. "There are an increasing number of small-bench capital funds and equity funds looking at water technology and water innovation," Simpson said. "How can we get more capital to flow into water solutions?"



#### An Investors Perspective on Disclosure and Innovation

Piet Klop is Senior Advisor on Responsible Investment for PGGM, the Netherlands' secondlargest pension fund, with over \$178 billion USD in total assets under management. Many investors want to be socially responsible and have positive impacts in the world, but they are still grappling with the risk that water poses, and with finding an investment value for it.

"We need to wrap our heads around the financial ways water risk is impacting investment, and better understand its material bearing on investment. To do so, we need relevant, comparable, complete data to be able to effectively compare companies based on risk," *he said. Right now, companies' disclosure of that data is entirely voluntary.* "Within three years, we will be where we want to be with ranking companies," explains Piet Klop. "This will drive *competition and spur a race to the top.* 

The financial sector is behind industry in acknowledging water risk. Half of the world's invested money is through index funds, which invest in "a little of everything," making it difficult to separate out the risks and investable opportunities. "We need aggregators like the EIB (European Investment Bank) to aggregate investment opportunities that otherwise would be too small."



The benefits of sharing experiences and disclosure is that we can stop reinventing the wheel. We need new models, we need innovations, we need start-ups – but we also need large companies.



## Financing for Innovation and Innovative Finance

One obstacle to accessing finance for innovation in the water sector is the fact that "the sector is mature and therefore it is difficult to find solutions that adapt existing systems and existing technologies", Monica Scatasta explained in a session on "Stimulating investment in water innovation from the financial sector."

"The flip side of this, however, is the large number of opportunities for renovation of existing infrastructure," particularly in Western Europe.

But the clock is ticking. *"In terms of timing, it would be a good time to start thinking of another good solution, not only in terms of technology, but in terms of financial structures as well."* 

Market fragmentation also makes it much more difficult for an innovative technology supplier to provide a solution and to scale it up. Since "a company has to deal with procurement processes, public procurement rules, and fragmentation of demand... the uptake of innovation can often be relatively slow."

New regulations can encourage innovation, but regulation of the sector also means that the "potential for failure can have grave consequences, further slowing the adoption of innovative solutions." There is a social component as well that makes water different from other sectors, so that "the lack of incentives for water users, specifically for innovations that are linked with increased efficiency in the use of water resources, is also due to the fact that the price of water is often at a level that does not include scarcity values."

Water-intensive industries are already aware of scarcity values and increasingly include them in their risk assessment.

"Companies are increasingly looking beyond the immediate boundaries of their plants; they are looking much more broadly at their value chain and at the risks that are water-related for their inputs as well as their outputs," Scatasta noted.

"By taking the systemic view, in terms of water stewardship," they "move beyond the plant, to look at ways in which the whole activity is impacted, to find solutions that are sometimes not even technical or [related to] physical infrastructure, but have to do with better planning or better partnering with other entities, suppliers or others." This could also lead to identification of an additional source of funding for water stewardship and improved water resources management.



"It could be possible, should be possible, to harness the interest of water-intensive private businesses in identifying new financing solutions." Based on these reflections, Monica Scatasta indicated that water professionals need to improve their capacity to "speak to the voter, to the consumer, to create an understanding for the value of water, voters' demand for improved water resources management, consumers' demand for goods and services with a lower water footprint and therefore ultimately demand for innovation."

The EIB serves as the "EU water bank," and is possibly the largest lender to the water sector, with over 18 billion euros in water sector loans in 2009-2013. Ninety percent of that funding goes to water projects in the EU. On average, EIB loans cover 30 percent of the investment cost of water projects, meaning that the Bank has supported investment in the sector for almost 55bn EUR in the last 5 years.

The bank has some flexibility in terms of how it provides funding; its financing instruments go beyond loans, and the bank can work directly with either public or private entities, or through intermediaries. It can blend its funding with grants from the EC or other sources and it provides advisory services to its clients, both on technical and financial matters.

Prompted by EIP Water's work identifying barriers to financing for innovation, the EIB commissioned a report on the issue from the international consultancy Ernst & Young.

"One of the first points that emerged when discussing the options put on the table by the Ernst & Young report was that, in fact, financial instruments for innovation already exist, and that maybe one of the first barriers that needs to be torn down is the barrier related to awareness," Scatasta explained. How can a large financing institution manage the transaction cost of dealing with small borrowers or projects? Should we aggregate them? Should we use intermediated financing? Should we use special financial instruments? We may need different solutions for different cases.



Enter *"InnovFin – EU Finance for Innovators"*, which is a joint initiative launched by the European Investment Bank Group (EIB and EIF) in cooperation with the European Commission under its Horizon 2020 research program.

InnovFin consists of a series of integrated and complementary financing tools and advisory services offered by the EIB Group, covering the entire value chain of research and innovation (R&I). Different instruments can be accessed by SMEs, Mid-Caps, and large companies; these include guarantees and venture capital for SMEs (managed by EIF) as well as guarantees and growth finance for MidCaps, as well as financing and advisory products for larger projects. Guarantees for SMEs and MidCaps as well as Venture Capital will be provided through financial intermediaries. Up to 2020, EU and the EIB Group will contribute close to €3bn each as a risk buffer to InnovFin. This is expected to result in total debt financing of > EUR 24bn, of which > EUR 5.5bn to SMEs and small MidCaps. The overall economic impact in terms of investment in Research & Innovation in Europe over the next 7 years is expected to reach €48bn. The expected number of transactions is estimated at 300 (of which around 110 direct operations with midcaps).

# Matching Demand to Supply – Water Challenges of four EU Member States



#### Concepcion Marcuello, General Directorate for Water, Ministry for Agriculture, Food and the Environment of Spain.

Spain has been innovating for years. In the 1920s, the country formed the world's first water basin management authority. Its main water management goal is to meet demand by guaranteeing a good quality and quantity of water and ecosystem sustainability nationwide. This is accomplished mainly by making use of river basin plans.

The country has adopted technical innovations including use of Earth Observation systems to provide detailed information on river basins and regulate agricultural water use, as well as innovations aimed at modernizing irrigated agricultural areas such as drip irrigation systems and farmer advisory services. It has also developed early warning systems to control flood damage.

Now, to meet requirements of the WFD, Spain need s more innovative solutions to address drought. The impacts of drought are amplified given the fact that the country already faces water scarcity. It needs solutions that will provide as much data as possible, secure water infrastructure, reinforce alternative water sources, make wider use of economic policy instruments, and move the country toward a hydro-economic water accounting system.

Marcuello highlighted the need for "methods for using reliable and available bulk data and converting them into useful information; innovative practices for operation and management of water and sediments in reservoirs; [and] joint management of traditional and alternative water resources with a low energy requirement."

"Innovative practices can also be explored in the processes of participation and in the role of the socioeconomics have in both the decision-making process" and the way information is provided to other institutions and organizations and the wider public, she said.



Jan Busstra, Head of Unit, Water Quality Division, Ministry of Infrastructure and Environment of the Netherlands: The Netherlands is the world's second-largest exporter of agricultural products, and its biggest water challenges are related to agricultural water management.

The country is still struggling to meet WFD requirements due to the high density of waterways and high pressure from agriculture. It also needs to strike a *"sophisticated"* balance between the *"carrot and stick"* for agricultural water regulations, and to be able to make a better business case for innovation to farmers. This last challenge he called E=mc<sup>2</sup> – new measures for farmers, creating urgency for implementation by communication, making sure farmer see the effects of efforts.

"Financing for innovation is certainly extremely important to achieve optimal coordination among government, knowledge institutes and the private sector," according to Busstra. "It also stimulates development of knowledge and innovation, in synergy, where knowledge gaps are experienced. Creating stimulating financial incentives will accelerate knowledge development, partnerships and technical solutions. Concepts like 'Building with Nature' support an adaptive approach, creating a more natural and robust system. The ecosystem approach, including ecosystem services, could trigger new approaches and innovations and delay the need for expensive infrastructure.", explaines Busstra.

"Global water problems can only be addressed if the government allows an increasing role of the private sector. This calls for more creativity in shifting responsibilities from the government towards the private sector. Using this approach, there is a more competitive market, resulting in lower costs, more creativity and boosting innovation ... By changing the 'rules of the game,' a new dynamic will develop, stimulating innovation, acceleration and more cost-effective solutions."





Darja Stanic Racman, Secretary in the Water Department, Government of the Republic of Slovenia: Slovenia's main issue with regard to the WFD is water monitoring, from the perspective of river basin authorities.

"Even though Slovenia is relatively rich in water, we are far from reaching the Water Directive goals." The main challenges in Slovenia are "hydromorphological pressure and agriculture [in terms of] pollution ... On top of that, [we have] capacity problems ... It is really difficult to manage all these big challenges with sub-optimal structure." "One of the issues that water managers are struggling with is the limited resources to set up an optimal monitoring system," she explained. She was looking for solutions that address the need for monitoring as a vital element of water management; that provide monitoring data whose precision managers can trust; that address technical challenges to monitoring, such as methodology, equipment, cost reduction, and efficiency; and that help with data management.

Slovenia has to deal with multiple stressors with regard to water management. *"Extreme flood events have really increased over the past five years now. That amounts to about 200-250 million euros in damage per year, which is a relatively big number for the GDP of Slovenia."* 

At the same time – thanks to climate change – *"for six of the last ten years, we have experienced agricultural drought."* 



Sonia Phippard, Director of Water, Flood Risk Management for the United Kingdom Department of Food and Rural Affairs: Wastewater "has some quite big challenges, and it does tend to be the 'Cinderella' of the water sector. We are very stuck in old technology, and in many cases old mentality, about wastewater ... That does seem to be something where we could usefully do a bit of thinking."

She was looking for solutions to address difficult-to-treat chemical micropollutants; sewage utilities' dependence on old technology; a need for affordable, energy-efficient, sewage treatment methods that minimize hazardous waste streams and treat micropollutants; and, potentially, the need for treatment systems to address the threat of antibiotic resistance due to pharmaceutical residue in wastewater.

On the last point, "I think it is a bigger issue than simply one for innovation," Phippard noted. "Fundamentally, it's probably a joined up research issue, which Europe might want to step up to, because there is some evidence and certainly some concern that wastewater may be contributing to microbial resistance." If this is the case, "then we need to understand the problem, we need to understand why, and then be able to look at where the innovative solutions are to resolve it, fast, given the wider health-related concerns about microbial resistance."

Technological innovations must also be accompanied by management and behavioral changes. "I think one of the absolutely key bits of learning about innovation, and it is what separates it from research" is that "innovation has got to make that link to real people, and allow greater commercial success or change behaviors, or whatever you're trying to do."

An area where she sees unmet demand for innovation is ecosystem services. "There's a lot of interconnectedness, and there's no point in solving our water problems at the expense of biodiversity or air quality or economic success or anything else," she said.

*There is a gap* between plans or ideas, and doing something. *There is a gap* Harry van Dorenmalen, IBM Europe



#### The Solutions – how Action Groups could help address the challenges

Innovations ultimately are only valuable if they can be implemented. Or, as Country General Manager for <u>IBM Netherlands</u> and Chairman of IBM Europe Harry van Dorenmalen put it: *"There is a gap between plans or ideas, and doing something."* 

"That is the EIP motivation," he added. When it comes to implementing change "do not hide behind perceived obstacles. The worst thing to do is to wait." Instead, "keep going and get better."

Van Dorenmalen acted as session chair and *"auctioneer"* at the conference's Water Auction, which gave EIP Water's Action Groups an opportunity to showcase the tools and mechanisms they have developed to promote innovations in water policies and technologies.

At the *"auction,"* various Action Groups *"bid"* their solutions to the problems faced by four EU member countries – Spain, the Netherlands, Slovenia and the United Kingdom – in implementing the WFD.

*Spain:* The EIP Action Group *"bidders"* came up with solutions that addressed Spain's water challenges from two different angles. On the water demand side, Marcuello saw a good fit in the solution provided by Action Group SPADIS – Smart Prices and Insurance, because of the range of economic incentives it offered. On the supply side, Action Group RE-Desalination offered a mixture of water supply options for drinking water in cities, including desalination using renewable energy and reclamation of low quality water sources, such as brackish water and wastewater, for irrigation.

*Netherlands:* There was more than one winner from among the *"bids"* here as well. As a shortterm solution, Busstra saw promise in a proposal from the Action Group InduRe – Industrial Water Re-use and Recycling, which proposed controlled release of recovered nutrients to prevent pollution from agricultural run-off. For a longer-term solution, he selected a proposal from Action Group WIRE – Water & Irrigated agriculture Resilient Europe that would integrate renewable energy technology in horticultural greenhouses, to close the water cycle. *Slovenia:* The Action Group City Blueprints' proposal was best-suited to address Slovenia's water challenges *"because it presents a holistic view with technology and stakeholders,"* said Stanic Racman.

The group proposed a model that gives data on individual municipalities to provide clear objectives for policymakers and other stakeholders.

"We need people to move from specific problems to holistic solutions," Stavic Racman said. "This is the way we need water managers to connect the specific dots, and data, and stakeholders, and goals, and measures, and money. It's a negotiating process ... it's also the tools."

**United Kingdom:** The innovation that best matched the wastewater needs in the United Kingdom again came from Action Group InduRe – Industrial Water Re-use and Recycling. The group offered an opportunity to treat wastewater at its source, where pollutants are at their highest concentrations. In addition to being most cost-effective, this solution would *"close the cy-cle,"* Phippard said.



#### **EIP Water Action Groups**

#### The current action groups are:

- Action Group ESE Ecosystem Services for Europe
- Action Group FINNOWATER
- Action Group AugMent Water Monitoring for Decision Support
- Action Group EBCF European Benchmark Cooperation Foundation
- Action Group InduRe Industrial Water Re-use and Recycling
- Action Group Verdygo Modular & sustainable wastewater treatment
- Action Group Water Justice
- Action Group RTWQM Real Time Water Quality Monitoring
- Action Group ARREAU Accelerating Resource Recovery from Water Cycle
- Action Group RE-Desalination
- Action Group Ctrl+Swan Cloud technology and real-time monitoring and smart water network
- Action Group DISSME Demand-Driven Innov Support for SMEs through the Netw of Nat Water Partnerships
- Action Group RESEWAM-0 Remote sensing for water
  management optimization
- Action Group ENERGY and WATER WORKS: energizing sustainable deltas
- Action Group COWAMA Mitigation of Water Stress in Coastal Areas by Sustainable Management
- Action Group MEET-ME4WATER Meeting Microbial Electrochemistry for water
- Action Group SPADIS Smart Prices and Insurance
- Action Group W4EF Energy impact on water
- Action Group Anaerobic membrane Bio-reactor
- Action Group WaterCoRe
- Action Group WaterReg water and wastewater services regulation and governance in Europe
- Action Group PVAIZEC Large PV Pumping Systems for zero energy in irrigation
- Action Group WIRE Water & Irrigated agriculture
   Resilient Europe
- Action Group MAR Solutions Managed Aquifer Recharge strategies and actions
- Action Group CITY BLUEPRINTS



















## Bringing European Innovation Into Africa





Francisco Nunes Correia, President of the <u>Por-</u><u>tuguese Water Partnership (PWP)</u>, offered an example of how public-private collaboration is bringing innovative solutions to a market outside Europe.

The PWP is made up of 100 private companies, research centers, professional associations and government agencies in Portugal who are dedicated to water at the global scale.

Nunes said the EIP Water framework – focusing on water reuse and recycling, flood and drought risk management, the water-food-energy nexus, water and wastewater treatment, and ecosystem services – is applicable in Africa, with solutions adapted for local conditions.

Many African countries need solutions to deal with extreme hydrological variability, aggravated by climate change, and lack of installed infrastructure. Although the much of the continent is poor, financing is not the main barrier to providing solutions, Nunes said – poor governance and lack of capacity to implement changes are bigger obstacles.

In studying challenges of bringing water innovation to the market in African countries, the PWP looks at four key questions:

- What are local/regional needs?
- What technology can we provide?
- Is it economically and financially feasible?
- Is governance appropriate to sustain change?

Innovation is not just technology, but governance. JJ Francisco Nunes Correia Portugese Water Patnership

The partnership's Project Agua Global – a joint venture of PWP and <u>AEP</u>, Portugal's largest business association – selected target markets in four countries: Morocco, Algeria, Angola, and Mozambique.

For all four countries, the biggest areas of business opportunity were in water and sanitation services and multipurpose water infrastructure.

Among the lessons learned: *"We should adapt to realities"* in the target markets; local awareness is important, as is understanding the relationship between people and institutions; and innovation *"is not just technology, but governance."* 

### Looking Ahead/Call to Action

"So, after looking at the demand for innovation, the drivers of innovation, and the barriers to innovation – what do we need to do to move forward?" That was the question Marianne Wenning, the European Commission's Director Quality of Life, Water & Air, posed in her closing remarks.

Among the answers: "We need concrete results," Wenning said. "We need to focus our limited resources on the most important issues ... We have to make it clear to the public that water is important to all of us."

At the conference, EIP Water issued its third call for proposals for new Action Groups to add to the body of work being carried out to develop new solutions to the world's water problems, and to bring those solutions to market.

Last April, EIP Water selected 16 new Action Groups, bringing the total number to 25. The groups are charged with drawing up tools and mechanisms to promote innovations in water policies and technologies. In 2013, 40 million euros worth of research funding was made available to support projects that contribute to the aims of EIP Water.

> We have to make it clear to the public that water is important to all of us.

> Marianne Wenning, Director for 'Quality of Life, Water & Air' in DG Environment

In order to be selected, each proposal must meet six criteria – strength of proposal's relationship to EIP Water Strategic Implementation Plan; inclusion of innovative concepts; breadth and experience of the team; demand or market relevance; considerations of governance; and clarity of end goals.

Applicants for new action groups can visit the <u>application forum</u> at the EIP Water Online Marketplace.

The forum gives new Action Group applicants the opportunity to seek support or feedback from a specialist group of over 1,500 Marketplace users.



#### Showcasing Innovation: Conference Exhibition

The conference exhibition featured information stands from a number of EIP Water partners, including:

ACCIÓ

- Action Group RTWQM Real Time Water Quality Monitoring
- Action Group ARREAU Accelerating Resource Recovery from Water Cycle
- Action Group RE-Desalination
- Action Group Ctrl+Swan Cloud technology and real-time monitoring and smart water network
- Action Group DISSME Demand-Driven Innov Support for SMEs through the Netw of Nat Water Partnerships
- Action Group RESEWAM-O Remote sensing for water management optimization
- Action Group ENERGY and WATER WORKS: energizing sustainable deltas
- Action Group COWAMA Mitigation of Water Stress in Coastal Areas by Sustainable Management
- Action Group MEET-ME4WATER Meeting Microbial Electrochemistry for water
- Action Group SPADIS Smart Prices and Insurance
- Action Group W4EF Energy impact on water
- Action Group Anaerobic membrane Bio-reactor
- Action Group WaterCoRe
- Action Group WaterReg water and wastewater services regulation and governance in Europe
- Action Group PVAIZEC Large PV Pumping Systems for zero eneray in irrigation
- Action Group WIRE Water & Irrigated agriculture Resilient Europe
- Action Group MAR Solutions Managed Aquifer Recharge strategies and actions
- Action Group CITY BLUEPRINTS
- BCASA and Municipality of Barcelond
- CDP
- Cefi
- Cetaqua
- DG Research and Innovation information on H2O2O
- EIP Water Online Marketplace Introduction to features & user benefits, on-site support for working groups and existing users, registration of new users
- EUREKA and ACQUEAL
- INNO-DEMO project BIOMETAL DEMO
- INNO-DEMO project WEAM4i Water & Energy Advanced Management for Irrigation
- WssTP
- Water JPI















# Evaluation of the 2014 EIP Water conference

After the first EIP Water annual Conference in November 2013 in Brussels, we asked participants to help evaluate the Conference. Out of the 370 participants, about half had handed in the provided evaluation sheet, whose main results are shown in the following graphs.

These evaluation results informed the topics and overall design of the 2014 Conference which was equally evaluated by 110 participants; the 2014 evaluation results are compared below with the 2013 evaluation.

#### Share of participants at the 2013 and 2014 EIP Water conferences



28% of the participants came from universities and other knowledge providers. This share dropped compared to 2013. The share of technology companies and water service providers is slightly higher than the year before. These changes may be understood as a slight shift from research to practice.



#### Average marks for the EIP Water Conferences 2013 and 2014

Participants were asked to evaluate the different aspects of the conference by providing marks from 1 (excellent) to 5 (terrible). The results of this evaluation turned out to be very positive for all aspects. After the 2013 EIP Water Conference already, the overall evaluation was very positive - as a consequence, it was a clear challenge to improve the Conference further. Nonetheless, the marks for the overall Conference evaluation improved for each single aspect as shown above.

#### Sector participants in the EIP Water Conferences



#### Sector participants in the EIP Water Conferences

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