The Roundtable on Financing Water

Thematic meeting: Climate Action, 23-24 September 2021

Virtual Meeting

Discussion Highlights

The eighth meeting of the Roundtable on Financing Water gathered over 375 participants, including private investors and financiers, multilateral and bilateral donors, government officials, philanthropies, NGOs and research institutions.

The Roundtable was a thematic meeting focused on Climate Action, organised in partnership with the OECD and the U.S. Department of State and the U.S. Environmental Protection Agency. It aimed at

(1) strengthening the awareness and understanding of the linkages between water security and climate action and resilience,

(2) showcasing good practices and inspiring examples of investments that mobilise and align financing for water security and climate action and at

(3) highlighting opportunities for investments that contribute to both water and climate objectives, as well as other policy goals, including environmental justice and women's empowerment at the local, national and global level.

Speakers with diverse backgrounds shared their experiences related to financing water and climate action, ranging from government representatives, banking supervisors from the European Central Bank, multilateral development banks, bilateral donors, credit rating agencies, and investors, fund managers, water sector representatives and NGOs active around the globe.

A brief summary of the highlights is provided below. The agenda and record of the sessions, as well as background papers and speakers' slides are available on the meeting webpage.

Key messages

Session 1: Setting the scene: Putting finance to work for a net zero, resilient, water secure future

- Climate change significantly changes the water cycle which affects multiple sectors, the economy, food and energy security, human health and livelihoods and the natural environment. Water-related climate risks are systemic, complex, compounding and cascading over global, regional and local networks. Network-based resilience approaches are needed to successfully manage these risks and to target investments where they can achieve the most impact.
- Water is an essential enabler and entry point for successful and sustainable climate action. Water-related investments can make considerable contributions to mitigation and adaptation efforts, thereby helping to accelerate the transition to net zero emissions and strengthening climate resilience.
- Tailored financing models are needed to overcome the barriers specific to water-related investments. Concerted effort and bold commitments from the public, private and civil society are needed to create a positive, reinforcing 'ambition loop' to tackle and finance the transition to a water secure, resilient and net zero future.

Session 2: Water as lever for climate action: The investment opportunity

- Projects delivering on water security and climate action offer ample investment opportunities. Financing examples include the *Forest Resilient Bond* for wildfire risk reduction in the US, the investment fund *Climate Investor Two* with a strategic focus on water infrastructure, water-related projects funded by the *Green Climate Fund* and the hydropower project in the Salomon islands in the form of a public-private-partnership. Further examples include *USAID*'s water investments across the globe, such as energy-related projects with water providers in Mozambique, water reforms in Cape Town for water crisis management and stakeholder cooperation for water security in the Philippines.
- Attracting private finance remains challenging and replicating and scaling successful examples is difficult due to context-specific requirements. Blended finance is one option to finance project development, capacity building, piloting and testing, and risk reduction to effectively mobilise additional private funds into water-related projects with benefits for climate action.

Session 3: Climate risks to the financial sector manifesting through water: Understanding financial materiality

- Water-related climate impacts pose significant risks to the economy and communities. These impacts may translate into financially material impacts on the financial sector. Financial actors, such as central banks, supervisors, rating agencies and investors are increasingly starting to recognise and take into account these risks. An example is the ECB's banking supervision guide on climate-related and environmental risks, which specifically includes water-related risks as well as the new U.S. Executive Order on Climate-related Financial Risks and Financial Reporting.
- The integration of water-related risks in financial decision-making is at initial stages and a lack of information, and data, as well as of appropriate models and methodologies poses significant challenges. Reflecting the value of water in investment decisions as well as disclosing exposure and vulnerability to water-related risks in investment portfolios could further help to align the financial sector with water security objectives.

Session 4: Climate resilient investments in water security: Contributing to women's empowerment and environmental justice

- Low-income groups, historically underserved communities and women and girls are often disproportionately affected by climate change and its impacts on water security. Simultaneously, women and vulnerable groups are powerful agents of change and uniquely positioned to address the challenges of water security and climate change. Improving their access to finance and strategically targeting climate and water finance towards women or vulnerable groups can maximise positive outcomes for climate action, resilience, water security, women's empowerment and environmental justice.
- Targeted financing examples include micro loans for water supply and sanitation (WSS), facilitated through Water.org and incentive payments to impact investors by Aqua for All, to steer investments with maximum impacts. The World Bank and the Asian Development Bank use clear gender indicators and targets to direct water project lending. In the US, the commitments and investments under the Justice40 initiative contribute to resilience and climate action for disadvantaged and historically underserved communities, thereby promoting environmental justice.

Session 1. Setting the scene: Putting finance to work for a net zero, resilient, water secure future

The water cycle and the world's climate are inextricably linked. The report released by the IPCC in August this year underscores that climate change is causing significant changes in the water cycle. Already today, droughts are 70% more frequent and intense rainfalls are 50% more likely to occur under 1.5°C of global warming, compared to 1850-1900 averages[1]. The effects on the water cycle have impacts on many sectors, the broader economy, human's health and livelihoods. For example, by 2050, the number of people living in water stressed regions is projected to rise to 52% of the world's population[2] and the number of undernourished or food-insecure people grew to more than 800 million between 2014 and 2017, partly because of climate shocks[3]. Further, economic losses from weather-related disasters are estimated at USD 1 891 billion between 1995 and 2015[4]. Increased competition for water resources can create trade-offs between sectors, such as allocating water between energy, agriculture and the ecosystems.

The risks related to water and climate change are not linear, but complex, compounding and cascading over global, regional and local networks. For example, cascading consequences of heavy rainfall for urban systems include storm water runoff flows into pipes, which contain sewage from households and industrial wastewater. This increases the risk of exposure to waterborne diseases and toxic substances (e.g. in New Orleans after hurricane Katrina), closed roads and disrupted mass transit, disrupting businesses due to lack of labour force and disturbed supply chains, interrupted schooling and help services. Roger Pulwarty, Senior Scientist at the US National Oceanic and Atmospheric Administration (NOAA), stressed the importance of network-based resilience approaches to tackle these types of systemic and cascading risks, in addition to classic risk reduction approaches. He highlighted the UN Office for Disaster Risk Reduction's Special Report on Drought (2021) and the UN Convention to Combat Desertification's Draft Guidance note on Drought Finance, which offer methods to manage compounding risks and provide guidance on how finance can play a crucial role in managing and reducing such systemic risks.

Overall, water can make significant contributions to mitigation and adaptation, discussed in more detail in the background paper of this session. For example, the water sector is energy dependent, with energy costs representing roughly 20% of the total costs, and energy production crucially depends on water availability. Water can play a crucial role to achieve mitigation targets and a net zero future. The nexus between water and energy in the context of climate change can be a new frontier for water finance, e.g. through arising opportunities to attract new investors, such as for renewable energy production through upgrades of waste water treatment plants to produce biogas.

However, mobilising financing for water-related projects that contribute to climate action can be challenging. For example, investments in adaptation, such as upgrading flood protection infrastructure can reduce damage costs with a positive benefit-cost ratio, thus making the economic case for investment. Nonetheless, the benefits arise in terms of avoided costs - not additional revenue streams - and can therefore be difficult to finance. Further challenges relate to the fragmentation of the water sector and small ticket-sizes, which can result in high transaction costs. Mixing public and private finance can create additional complexity.

Several successful financing examples exist to overcome these barriers and to attract private capital for these investments. In Morocco, for example, several urban development projects were bundled together in order to reach a critical size and to attract investment at scale. For the clean up of the Ganga river in India, in a context of poor creditworthiness of local governments, a pioneering approach was taken, in which national government funds back stop local governments' budgets. This created incentives for the private sector to provide upfront capital for wastewater treatment and to take up the assets for further maintenance. In Europe, the water operator Saur offered a sustainability-

[1] IPCC (2021), Summary for Policymakers. Climate Change 2021: The Physical Science Basis, Cambridge University Press.
[2] Kölbel, J., C. Strong and C. Noe (2018), Mapping Public Water Management by Harmonizing and Sharing Corporate Water Risk Information.
[3] FAO (2018), The State of Food Security and Nutrition in the World 2018.
[4] UNISDR, CRED and EM-DAT (2015), The Human Costs of Weather-Related Disasters 1995-2015 Report.

linked bond, which raised almost EUR 1 billion of private finance at a rate near to 0%, indexed by the two sustainability criteria water consumption efficiency and carbon intensity.

Engaging a broad range of stakeholders and effectively linking water security objectives to other international agendas, including the Sustainable Development Goals (SDGs), climate goals under the Paris Agreement, the Sendai framework on disaster risk reduction and biodiversity goals can promote coherent and aligned action. Cate Lamb, Global Director for Water Security at CDP and UNFCCC Water Champion for COP26, stressed the role of non-state actors to create an "ambition loop" for water investments for climate action during the COP26, the 2023 UN Conference on Water and beyond. Reforms that aim to harness the power of the market, such as water disclosures by businesses and investors, could help to put the financial system to work for water and climate action. Companies responding to the CDP survey, for example, reported that water-related risks could have negative impacts on business value of up to USD 336 billion – while mitigating these risks is much less costly: identified risk reduction measures are estimated to be five times cheaper than inaction[5]. However, trade-offs can arise when tackling water and climate risks, such as increased energy consumption resulting from improved wastewater treatment. Awareness and reporting are first steps for behavioural change and the development of new solutions and strategies to manage such trade-offs and to achieve positive outcomes for water security and climate action.

In conclusion, financing models can be adapted to the distinct challenges of the water-related investments in their contribution to climate action. Aligning finance for water security and climate action offers potential to accelerate the transition towards a water secure, resilient and net zero future, when all actors – public, private, and the civil society - make bold commitments supported by innovative and robust financing approaches.

Session 2. Water as a lever for climate action: The investment opportunity

Investments in water security can make key contributions to climate action by supporting adaptation to climate change, improving resilience and climate mitigation. In the context of global climate commitments, water offers a considerable investment opportunity to achieve multiple societal and climate objectives simultaneously.

Several financing examples for water security and climate action were discussed during this session. Ger Bergkamp, Head of Business Development at Climate Fund Managers, presented the investment fund *Climate Investor Two*, which has a strategic focus on climate resilient investments in water, oceans and sanitation, financing infrastructure projects, such as water supply plants, desalination projects or nature-based solutions. The fund combines water security investments with climate impact and uses blended finance to generate attractive returns. It is structured in three sub-funds: the Development fund, the Construction equity fund and the Refinancing fund. A more detailed overview of the financing structure of this fund can be found in the background paper of the session. Currently, the fund has 25 to 30 transactions actively under development with ticket sizes of between USD 10 and 20 million.

The *Green Climate Fund* (GCF) under the UNFCCC's financing mechanism also increasingly focuses on water, stressing the interconnection between SDG 6 (safe water) and SDG 13 (climate action). Hubert Jenny, Senior Infrastructure Specialist in the Division of Mitigation Adaptation at the Green Climate Fund, highlighted the upcoming GCF Water Security Sectoral Guidelines with mitigation and adaptation pathways. The water-related mitigation pathway includes water efficiency and water reuse and recycling, efficient irrigation, modern water and sanitation management and climate smart utilities. The adaptation pathway strengthens integrated water resources management, promotes climate proofing of water infrastructure and maximises technology and institutional and financial innovation. In Jordan, Palestine and South Africa, for example, GCF co-finances projects for water reuse, using credit enhancements and other instruments. Hubert Jenny reports that all projects are 100% funded by the public sector since it remains challenging to attract private sector finance.

Todd Gartner, Director of the Cities4Forests & Natural Infrastructure Initiative at the World Resources Institute presented another innovative financing example: the *Forest Resilient Bond*, which was launched in 2019 in the Western

[5] CDP (2021) A wave of Change: The role of companies in building a water-secure world, CDP Global Water Report 2020.

US. The bond raises capital from private investors through a special purpose vehicle to fund the full costs of forest restoration projects, which increase the forests' resilience to wildfires. Funds are provided from both public and private actors, such as local governments and environmental agencies, insurance companies and other stakeholders, which benefit from risk reduction and attractive returns. The second Forest Resilient Bond is being launched in October this year, covering 48 thousand acres of restoration financed with over USD 25 million of private capital. A financing structure and more details can be found in the background paper of this session.

Another financing example is located in the Solomon Islands, consisting of a Hydropower Project, co-financed by K-Water, the Green Climate Fund, ADB and World Bank through a mix of grants and loans. Dr Yongdeok Cho, Executive Director, Asia Water Council, K-Water in Korea highlighted that this Public-Private-Partnership aims at generating renewable energy through hydropower to substitute diesel-based energy production, saving over 49 thousand tonnes of CO_2 eq per year and strengthening the small island state's resilience to climate change.

Ella Lazarte, Senior Water and Sanitation Advisor at USAID, provided several examples of USAID's water investments that support climate action across the world. For example, USAID supports small private water providers in Mozambique to help to reduce electricity costs, which can cover up to 50-60% of total costs for decentralised systems, through increased solar energy use and thus improving their resilience. In Cape Town, they supported the city department to improve revenue collection through a customer turnaround project, helping the city to cope with and recover from its water crisis in 2017/8. In the Philippines, USAID puts a strong focus on strengthening the planning for water security and resilience at all government's levels, cooperating with local, provincial and national authorities. USAID also cooperates with corporates, such as the food and beverage company Danone, to support their water stewardship across their value chains.

Speakers stressed the need as well as the lack of private sector finance and highlighted several barriers: While project developers often have the technical skills for water-related projects, they might lack the knowledge and experience to structure and finance projects and/ or to manage different stakeholders and legal requirements. Further, location-specific policy and regulatory frameworks can be the bottleneck for the mobilisation of private finance at scale and country-specific contexts can make replication of financing approaches challenging. Foreign exchange risk poses an additional barrier to foreign direct investment.

Strengthening the enabling environment and deploying tailored financing approaches, such as blended finance, can help overcome these challenges. Most of the presented examples contained capacity building, training and stakeholder engagement as integral part of the projects. Blended finance can also play a role to fund pilots to develop and test new financing instruments for the water and climate sphere. Integrating corporates into water-related projects for climate action was also mentioned as an important step for the mobilisation of finance.

Day 2: High-level opening remarks

The Roundtable's second day started with high-level opening remarks from Henk Ovink, Special Envoy for Water of the Kingdom of the Netherlands, and Franz Rojas, Chair of the Task Force on Financing at the World Water Council. Both speakers highlighted the importance of discussions around scaling up and aligning finance for water security and climate action, especially in the context of several upcoming international conferences, such as the COP26 in November 2021, the World Water Forum in Senegal in 2022 and the 2023 UN Conference on Water.

Session 3. Climate risks to the financial sector manifesting through water: Understanding financial materiality

Water-related risks pose significant costs on economies and societies, already now and increasingly in the future. Some partial estimates of the scale of global economic losses related to water insecurity include USD 260 billion per year from inadequate water supply and sanitation, USD 120 billion per year from urban property flood damages, and USD 94 billion per year of water insecurity to existing irrigators[6]. Financial actors, such as central banks, supervisors

[6] Sadoff, et al. (2015), Securing water, sustaining growth: report of the GWP/OECD task force on water security and sustainable growth.

and credit rating agencies are increasingly aware of the potential financial materiality of these climate- and water-related risks.

In his keynote speech, Frank Elderson, Executive Board Member and Vice-Chair of the Supervisory Board of the European Central Bank, highlighted the ECB's banking supervision Guide on climate-related and environmental risks[7], which specifically includes water-related risks, such as water stress, flooding and water pollution. The guide sets out expectations on banks to self-assess their climate-related risks and develop strategies and action plans to mitigate those risks. Stocktaking of current climate- and environmental-related risk strategies of banks under ECB's supervision reveals that banks are far from fully taking into account climate and environmental risks, and banks are starting to put in place implementation plans. The ECB also conducted a supervisory macro-level modelling exercise with data from over four million companies to which Euro-area banks are exposed via loans, securities, holdings or other, which showed that the costs of a green transition and risk mitigation will be more than compensated by long-term benefits and avoided costs linked to the impacts of climate change.

Credit rating agencies, such as Moody's, also consider water as source of credit risk, manifesting through two channels: 1) risks related to water management, which are often overlooked by the financing community, and which include risks related to water scarcity and water availability, reduced water quality due to pollution, etc. The second channel concerns 2) the water-related manifestations of climate change, such as floods, droughts, sea level rise, etc. Physical climate risk assessment includes the location of assets or corporates and the local exposure to water-related climate risks, as well as a sensitivity assessment and the assessment of mitigation measures taken. In Moody's portfolio, 50 countries are identified as highly or very highly exposed to physical climate risks. Further, transition risks, such as changes in regulations and liability risks are also taken into account. Different types of risks related to water and their impacts on the financial systems are discussed in more detail in the background paper of this session.

Looking at a country level, in the US, President Biden has issued Executive Order 14030 on Climate-related Financial Risks and Financial Reporting, which calls for policies, strategies, assessments and disclosure regulations of climate-related financial risks. One element specifically addresses the integration of climate-related financial risks into government lending programs. The fiscal year of 2021 guidance to government agencies, issued by the US Office of Management and Budget, for the first time encouraged agencies to optionally include actions taken or planned to address climate-related risks in their reporting. For some governmental lending programs, such as from the agriculture or housing and urban development departments, the consideration of climate-risks is mandatory, including water-related risks, such as flooding. With the Executive Order being issued in May this year, the process of integrating climate-related financial risks into government processes has been put forward and will develop further in the future.

Some private investors, such as the private investment firm Terra Alpha Investments, also seek to incorporate data on water-related risks as well as information on the water use of corporates in their investment decisions. Water-related risks affect a wide range of sectors and corporates. According to Tim Dunn, Founder and CIO of Terra Alpha Investments, a significant share of the stocks listed at major stock exchanges are in industries with a medium or high level of water risk, highlighting the urgency for investors to assess the impacts of water risks.

Speakers stressed the need for improved data and methodologies to effectively assess and quantify water-related risk at the local and asset level. While models, methodologies and processes are being developed to identify, quantify and integrate water risks in financial decisions, they still are at initial stages. One challenge repeated by speakers was the limited availably of analysis to translate global averages (e.g. for sea level rise), into the distribution of impacts on local levels. For diverse portfolios, for example, different tools are needed to translate averages for different asset classes. Another challenge is the uncertainty linked to climate impacts, especially for longer time horizons, which makes financial planning difficult (e.g. 20 - 40 years relevant for mortgages). Overall, there is a need for a improved knowledge on how climate- and water-related risks will materialise, to deepen the understanding of the underlying material risks.

Further, all speakers stressed the importance of reflecting the value of water and benefits related to managing water-related risks. This may include, but is not limited to effective pricing of water-related services, pollution taxes, and

[7] ECB (2020), Guide on climate-related and environmental risks: Supervisory expectations relating to risk management and disclosure.

abstraction charges on water resources. This could trigger corporate investments to mitigate or avoid water-related risks and incentivise sustainable business strategies or government decision-making. Absent effective water-related risk assessment or pricing, local governments might take unsustainable development decisions, such as seen in Arizona, where a water-intensive semi-conductor production site was being established, in order to foster business development in the area, while neglecting the limited water availability in that area.

Overall, expertise and good practices from the climate sphere, such as the establishment of global, national and local strategies could be used and applied for the water sector and the alignment of finance with water security goals. Frank Elderson stressed the key role of financial supervisors for the implementation of water-related risk assessment and disclosure. Supervisors have an important leverage on the financial sector, which then has leverage on its clients, representing the real economy, allowing for positive and effective investments in water security. Aligning the financial system with a global strategy – for both climate action and water security, can make significant changes in the economy and can trigger billions to trillions of aligned, water secure investments.

Session 4. Climate resilient investment in water security: Contributing to women's empowerment and environmental justice

Climate change disproportionally affects low-income communities as well as women and girls, who are often more exposed and vulnerable to climate change impacts with limited resources to react, adapt and to recover. Reduced water availability caused by climate change, for example, leads to more time spent by women and girls to collect water, reducing their time for other tasks, such as paid labour or education and increases their exposure to gender-based violence. In times of disaster, such as after flooding or heavy rainfall events, women suffer disproportionally from a lack and disruption of sanitation services and they are more vulnerable to diseases, such as diarrhoea. Further, women often take on the role as caretakers for the injured, and carry the responsibility of providing clean water and food for their household in difficult conditions[8] (further discussed in the background paper of this session).

However, given their role in households and communities and their extensive knowledge on natural resources, women, as well as indigenous groups also act as water stewards and thus are uniquely positioned to understand and address the challenges around water resources and climate resilience. Strategically targeting women and vulnerable groups and improving their access to finance has the potential to reach and maximise positive outcomes for a variety of policy objectives, including water security, climate action and resilience, gender equality and environmental justice.

Vedika Bhandakar, Chief Operating Office of Water.org, highlighted that reducing and removing financial barriers for vulnerable communities is effective strategy to promote access to safe water and sanitation. They partner with financial instructions, such as micro finance instructions or commercial and development banks to support them in offering dedicated loans to households for the water sector. Access to finance can promote bottom up solutions, such as in Eastern India, where groups of 5-10 women partnered to take up group loans from micro lenders to construct community wells in their neighbourhoods. The larger community wells were more resilient than smaller, household wells of the same depth. Providing access to finance thus provided safe water for poor communities while at the same time fostering climate resilience.

In the US, under Biden's Presidency, the Justice40 initiative was launched, aiming to deliver at least 40% of the overall benefits from federal investments in climate and clean energy to disadvantaged communities, thus promoting climate resilience and environmental justice. Radhika Fox, Assistant Administrator for the Office of Water at the US Environmental Protection Agency, explained that the initiative investigates how to remove structural barriers for disadvantaged communities to access funds, such as the Clean Water and the Drinking Water State Revolving Fund and that metrics are being developed to define and measure 'benefit' for affected communities.

Josien Sluijs, Managing Director of Aqua for All, highlighted that projects for gender equality, climate action and water security might not match the needs of impact investors, who often have a very limited understating of the water sector. She stressed the importance of designing financing solutions that match the requirements of both investors and

[8] OECD (2021), Gender and the Environment: Building Evidence and Policies to Achieve the SDGs, OECD Publishing, Paris.

entrepreneurs and of incentivising impact investments to enter into the sector. To steer projects and investments, where they can achieve the most impact, Aqua for All developed a Social Impact Incentive Model: For investments in pipe systems in Cambodia for example, they provide incentive grant payments to impact investors over three years, under the condition that they place their investments in remote areas. After these three years, investors will have gained experience and confidence in their clients and business model and can continue their investments without additional grant incentives. Especially when applying this model to investments for energy transitions from fossil fuel to solar energy for water pumping, this can lead to significant positive effects for water security and resilience, climate mitigation and environmental justice. One identified challenge for the mobilisation of private capital, especially for small scale utilities in Africa, is their limited experience and reluctance for private capital borrowing/lending, when a next 'cheap and easy' development grant is in sight.

Development banks have also developed gender-focused programmes in the context of their lending for water. ADB incorporates a gender lens as well as a climate angle into their lending program. For example, 75% of ADB's operations must be gender mainstreamed and by 2030, at least half of their projects need to be climate and gender focused. One example of a gender-related water project under ADB funding is the West Bengal Drinking water sector improvement project in India, which falls under ADB's highest gender category. While focussing on women's empowerment, such as through trainings on water utility management for women and targets, such as gender balance thresholds for staffing (33% of staff needs to be female), the project also aims at providing climate resilient drinking water infrastructure to a local population, with only 47% having access to piped water supply.

Speakers agreed that climate finance and water finance needs to incorporate and focus on gender issues as well as environmental justice issues, in order to maximise positive outcomes. While all discussed initiatives utilised metrics, indicators and tracking methods, better mainstreaming and tracking in the finance sphere is needed. As an example for a collaborative knowledge exchange initiative, Kamila Galeza, Senior Social Development Specialist of Water Global Practice at the World Bank presented the Bank's Inclusive Water Institutions Platform Equal Aqua which promotes peer learning and knowledge exchange across the globe to foster gender diversity and inclusion in the water sector.

Concluding remarks

The Roundtable on Financing Water provides a unique opportunity to share experiences and learning, identify innovative approaches to scale up financing for water-related investment and exchange good practice on experience to strengthen the enabling environment for investment. This thematic meeting on Climate action provided opportunity to bring stakeholders - and the water and climate communities - together to discuss challenges and solutions, which can feed into future discussions, such as during the upcoming COP26 in Glasgow.

A forthcoming OECD report will compile outcomes and shared experiences from previous Roundtables on Financing Water and related analyses and discuss opportunities and challenges to financing water-related investments in the next decade.

For more information, please visit:
http://www.oecd.org/water/roundtable-on-financing-water.htm