



POLICY BRIEF

Water a success factor for implementing the Paris Agreement

One of the keys to fulfill the goals set in the Paris Agreement will be wise water management. Water was on the agenda at the UN Climate Change Conference in Marrakesh (COP22), and its key role in strengthening resilience to climate change cannot be overstated. The role of water holds great potential for synergies in adaptation and mitigation, as illustrated in the priorities outlined in the national climate plans.

Water a central component of COP22 in Marrakesh | Building on the constructive spirit of the United Nations Climate Change Convention Conference of the Parties (COP21), COP22 paved the way for new collaborations through the Marrakesh Partnership for Global Climate Action. For the first time water played a prominent role in the COP with a full day and high level events dedicated to issues related to water. The Paris Pact on Water and Adaptation to Climate Change in the Basins of Rivers, Lakes and Aquifers, the Megacities Alliance for Water and Climate the Business Alliance for Water and Climate (BAFWAC) and the Alliance for Human Water Security, Public Health and Climate Change all emphasized the role of water in enabling mitigation and adaptation strategies and driving multi-stakeholder engagement. The Marrakech Partnership for Global Climate Action is an important vehicle for developing new partnerships and demonstrating how water can be used to support climate mitigation and adaptation measures moving forward.

Water a priority in national adaptation and mitigation plans

| The Paris Agreement set an ambitious global objective to combat climate change and help the world adapt to its effects. What remains to be seen is how parties to the Convention will fulfill their commitments. The Facilitative Dialogue and Global Stock-take in 2018 will help shed light on this. 2018 also marks the year when the compliance and reporting guidelines for the Paris Agreement – the “Rulebook” – will be ready. The years leading up to 2020, when the Agreement enters into force, will be essential to gaining and maintaining momentum, securing trust among parties to the Convention, and ensuring that global pledges adequately fund the adaptation and mitigation measures outlined in the Nationally Determined Contributions (NDCs).

The NDCs comprise the actions countries intend to take in order to achieve the long-term goals of the Paris Agreement. To-

ward that end, COP22 saw the launch of a global partnership – the NDC Partnership – dedicated to delivering on the landmark Paris Agreement, and achieving the 17 Sustainable Development Goals in the Agenda 2030 for Sustainable Development. The NDC Partnership is a coalition of countries and international institutions working together to provide technical and financial assistance to countries in need of support to achieve their ambitions. The convergence of these processes present opportunities to integrate water management in climate plans and strengthen hydro-climate actions, at the local and national levels.

The NDC bottom-up approach allowed countries to define their respective priorities and strategies for addressing climate change, based on their own capabilities and vulnerabilities, while anchoring the Paris Agreement at the national level. Almost all of the NDCs identify water as a central component of their adaptation work and some also link water to the provision of sustainable energy. While the key role of water in strengthening resilience to climate change cannot be overstated, the explicit recognition of water as an essential enabling factor — in that resilient and robust water management is required for climate mitigation and adaptation — is not widely mentioned and may be an important source of concern for effective implementation.

Non-state actors such as city mayors, private companies, NGOs, research institutes and development banks are key to support the implementation of the NDC strategies and programmes, gathering and sharing information, raising awareness, as well as mobilizing support to vulnerable communities.



NDCs of Pacific Island nations focus on securing freshwater

Climate change has put severe pressure on Pacific Island nations, causing losses and damages to land, water resources and biodiversity. The impact of climate change on coral reefs, mangroves and agriculture is severe and coastal communities are threatened by the rising sea level and increased frequency and severity of extreme weather events. Changes in precipitation patterns are threatening the availability of water resources.

The NDCs illustrate that a majority of the island states in the South Pacific have ongoing adaptation projects to help increase resilience to the impacts of climate change at the global, regional and national levels. These projects include initiatives to strengthen institutions, policy and regulations, as well as practical measures such as providing water storage and planting drought resistant crops.

Rainwater capture boosts resilience in Niue

The Augmentation of Rainwater Capture and Storage in Niue project supplies rainwater tanks to 45 per cent of the population. A polyethylene water tank manufacturing plant was established in Niue to supply domestic rainwater capture and storage systems. Training in water catchment monitoring and maintenance is also provided to further enhance water security. Storage tanks combined with better management of the catchment increase community resilience to climate variability and change – including periodic drought – and provide access to safe drinking water when the central supply is disrupted by extreme weather conditions or events.

Sea walls to help Kiribati adapt

The Kiribati Adaptation Program ran from 2012 to 2016. The first two phases – KAPI and KAPII – piloted a number of critical adaptation measures such as mangrove planting, construction of sea walls and rainwater harvesting. KAPIII sought to strengthen Kiribati's ability to provide safe drinking water and maintain resilient coastal infrastructure. KAPIII improved water use and management by installing groundwater and roof rainwater harvesting systems, which reduces water leakages and waste in existing systems, protects water reserves, and improves long-term planning for local water management, ensuring cleaner, safer drinking water.

Capacity-building key in Vanuatu

In Vanuatu, a higher sea level will cause saltwater to intrude on the shallow ground water lens in coastal areas, affecting agriculture and drinking water. The Vanuatu National Adaptation Programme of Action (NAPA) aims to aid adaptation to this impact by enhancing the capacity of local stakeholders and institutions in the watersheds of Vanuatu to cope with climate variability and climate change. This includes integrating climate change risk assessments in planning for protected areas and watersheds, and developing a watershed-based early warning and monitoring system for climate phenomena.

Water actions for mitigation and adaptation: competing or complementary? | Sound water management will maintain the right balance between providing carbon neutral energies while ensuring water security for agriculture, industries and cities. Water should be recognized as a key dimension for climate mitigation. For example, biofuels need vast quantities of water to grow and process, which competes with adaptation to water scarcity. On the other hand, large hydropower dams provide us with carbon neutral electricity, while also storing water for multiple uses, and therefore complement adaptation strategies. According to the Carbon Disclosure Project's report *Thirsty business: Why Water is Vital to Climate Action*, 24 per cent of GHG emission reduction solutions are dependent on the availability of water in quantity and quality. In addition, 53 per cent of companies have reported a reduction in their GHG emissions as a result of good water management.

There are also good examples of complimentary strategies in urban water management. Utilities have to cope with the impacts of climate change affecting the availability of water and their effluent discharge constraints, while they also contribute to 3–5 percent of global carbon emissions from both energy consumption and direct emissions from methane and nitrous oxides. (IWA, 2016)

Mitigation actions focus on reducing untreated or partially treated wastewater released into rivers, improving sludge management, and reducing energy consumption as well as producing carbon neutral energy from organic waste, heat, or elevation loss. However, a stronger driver for utilities to change anything in their system is to adapt to climate change to ensure water security for their service area. Even if adaptation strategies come first, there are potential synergies with the above-mentioned mitigation strategies – when improving treatment of wastewater to protect a water resource, for example.

Another strong driver for utilities to initiate change is the cost of energy. The demand for energy by water utilities, which already accounts for between 10 – 35 per cent of operating costs, is rapidly increasing. This is driven by lower quality water sources and more stringent regulations on treatment processes to achieve high water quality standards. In a carbon neutral future, all possible mitigation measures will have to be implemented including improving energy efficiencies, reducing water loss, improving source protection, harvesting rainwater, transforming wastewater treatment plants into resource recovery and energy production facilities, and reusing treated effluent for irrigation. Many of these measures also contribute to implementing adaptation strategies (IWA, 2016).

Climate finance for water, a win-win opportunity | According to the OECD Environmental Outlook, global demand for freshwater will increase by 55 percent between 2000 and 2050 (OECD, 2014). Given global water scarcity, it is necessary to balance competing water needs between different uses. Water management provides an optimal entry point to identify synergies and to negotiate strategies for mitigation and adaptation initiatives.

As scale is fundamental to transformational change, climate risk should be mainstreamed into existing water development strategies so that funds can be channeled through entities with strong experience or capacities to fund a large number of smaller-scale projects. Government institutions that are able to respond quickly after extreme events provide early warning

for disasters, insure against risk, zone land appropriately, and ensure water is managed sustainably, can often be more cost-effective and sustainable at building resilience to climate change. Non-government stakeholders should therefore work with governments and development partners to ensure climate adaptation strategies contain a significant institutional component, and that sustainability considerations and cost-effectiveness are used as the basis for all funding decisions. Furthermore, new innovative funding sources, such as green bonds, are increasingly important. The development of water standards for green bonds reflects how private sector finance can integrate climate mitigation and adaptation and highlights the need for water knowledge for future investments in energy, manufacturing, ecological restoration, etc.

While the balance between adaptation and mitigation priorities in the allocation of climate funds is improving, sources for adaptation especially are insufficient and do not adequately target the needs of those populations most vulnerable to climate change. For the most vulnerable countries to access climate finance it is critical to strengthen the dialogue with donors as well as their capacity to source, manage and apply the climate funds. In 2014, only 18 per cent of all global public climate finance was for climate adaptation (Climate Policy Initiative, 2016). As a point of reflection, the cost of implementing post-2020 activities in all of the least developed countries, as reflected in their original NDCs to the UNFCCC, has been estimated to be more than USD 93 billion per year (IIED, 2015).

Wastewater treatment an opportunity to cut carbon and energy costs | About 80 per cent of the world's wastewater is discharged into nature untreated. Carbon emissions from untreated sewage are three times the emissions of conventional energy-intensive wastewater treatments. One way to achieve carbon neutrality is by expanding wastewater treatment with a sound selection of technologies. Existing urban water utilities can also adopt energy efficient and carbon emissions reduction measures through valorizing biogas produced through treating wastewater, for example. These reduction strategies not only helps to reduce overall costs but also prepare for future GHG and environmental regulatory compliance in the city they serve.



Recommendations

- Promote recognition of water management as an essential enabling tool for optimized climate mitigation and climate adaptation.
- Support dialogue between donors and stakeholders in the most climate vulnerable countries to strengthen their capacity to access climate funds.
- Increase funding for climate adaptation activities, especially in the least developed countries.
- Promote expansion of wastewater treatment services, using fewer resources and carbon neutral and energy efficient technologies which will reduce costs and help prepare for future GHG and environmental regulatory compliance.
- Promote improvements to existing water services systems: protection of water source initiatives such as investing in green infrastructure in the watershed; rainwater harvesting as an energy efficient water source, diversifying the water portfolio resulting in an increased resilience to climate change; and transforming wastewater treatment plants into resource recovery and energy production facilities.
- Policies and institutions should facilitate and promote cooperation between all stakeholders, ensuring that the concerns of the most vulnerable groups are taken into consideration.

The Alliance for Global Water Adaptation (AGWA) and its member organizations are committed to contribute to the success of all these processes, partnerships and recommendations in order to support the implementation of the Paris agreement. Together we aim to build capacity to support the integration and application of water knowledge in relevant bodies and mechanisms under the UNFCCC.

