

CLIMATE ACTION PATHWAY

WATER

Action Table

2020

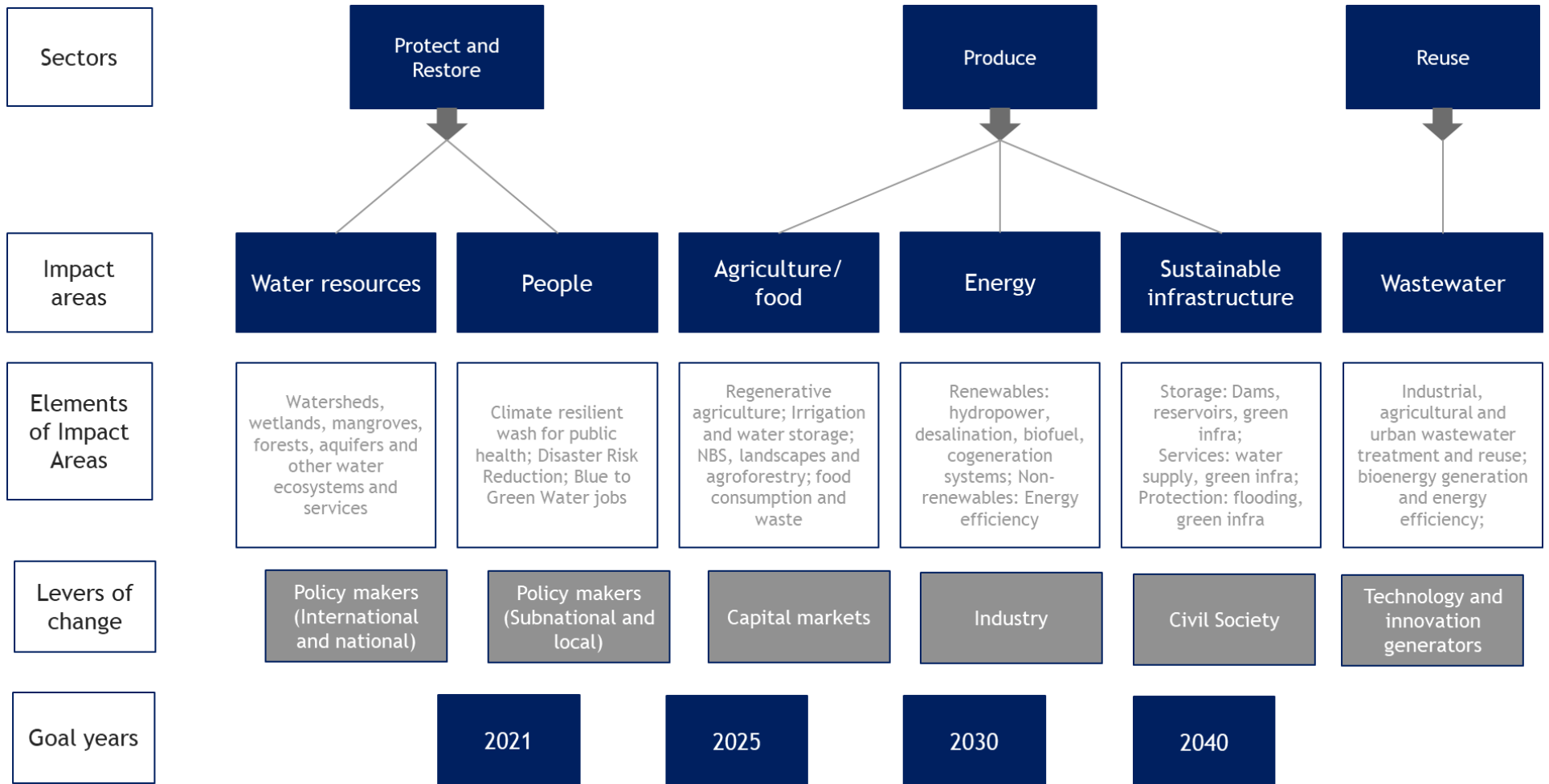


ACTION TABLE STRUCTURE AND APPROACH

The purpose of the Water Action Table is to highlight specific, promotable actions to deliver the vision and pathway of a zero-carbon future through Water, with a sector-based approach. Some impact areas are not sector specific. The Action Table employs Three Horizons Framework, systems mapping and conservation hierarchy approaches.

The Water Action Table contains and highlights accordingly existing and potential synergies with the Pathways for Food, Energy, Human Settlements, Industry, Land Use, Oceans and Coastal Zones, Transport, Finance, Mining and Resilience.

It also addresses cross-cutting issues such as gender, health, just transition, and circular economy principles, all of which are integrated into relevant impact action areas.





WATER CHANGE LEVERS

Policy and regulation, at local, national, and international levels, have a key role to play in:

- the protection of water resources and freshwater ecosystems, in particular wetlands;
- ensuring sustainable, universal and fair access to water, sanitation and hygiene;
- reallocating water towards societies most essential needs, including those most vulnerable to the impacts of climate change;
- implementing policies that enable the complete and net zero treatment, reuse and recycling of waste water;
- building an enabling environment that encourages system-scale planning and actively plans for sustainable renewable energy options; and
- preventing, preparing for and responding to water-related humanitarian disasters and post-disaster rehabilitation.

Whilst none of these interventions are new, many are politically challenging. To trigger change, therefore, a water-related ambition loop must be established - a positive feedback loop in which bold government policies and private sector leadership reinforce each other, and together take water and climate action to the next level.

Finance and the investor community are catalysts of systemic change. These institutions can spur the development, scaling and uptake of critical technologies, policies and practices through the adoption of bold commitments to water security and cascading these commitments through portfolios, loan books and other assets. Each sends a strong signal from the private sector to government in support of ambitious climate and water policy, serving to close the ambition loop. Mandatory GHG and water reporting and consideration of climate and water risks in financial decision-making leads to the reallocation of capital from old, carbon-intensive, non-resilient water-related assets, products, and practices towards greener ones. The public and private finance sector will also need to direct investment into the protection of water resources and freshwater ecosystems in addition to strengthening institutional and civil society capacity. Funding for climate change mitigation and adaptation in the water sector must increase, with priority given to the Least Developed Countries. And access to funding has to be facilitated for the most disadvantaged countries,



regions and communities, and for as long as is required to build in-country capacity, test innovative funding models (between 10 and 15 years), and sustain solutions over the long term.

Demand from industry, agriculture and domestic consumers will need to shift, from one of ever-increasing demands on scarce freshwater resources and unchecked pollution, towards regenerative and restorative approaches that align with the protection of freshwater resources, ecosystems and people. The adoption of demand-side public commitments to practicing and embracing circular economy principles will be essential in triggering the wastewater revolution. So too a profound realization of the value of water, evidenced by the adoption of bold targets and linking these to Executive Level compensation. Triggers of change for industry and agricultural demand include transparency, regulatory, reputational, legal and market mechanisms. Whereas consumers overwhelmingly respond to the promotion of “greener” consumption and production habits and their associated economic and health benefits, through advertising and marketing, further reinforcing the positive ambition loop for business and governments.

Civil society plays a role in strengthening public awareness of the externalities of the current high carbon, low resilience approach to water and sanitation provision as well as loss of freshwater ecosystems, through accountability monitoring, campaigns and calls-to-action, addressing research and policy gaps and improving information around sustainable choices. Civil society can also influence policy by advocating for climate and water-supportive legislative change, working towards systems transformation, driving collective action and holding actors to account.

Technology and innovation generators are needed to deliver and scale water reuse techniques and zero carbon desalination. Advances in earth observation and real-time sensors, alongside widescale use of virtual and augmented reality concepts for demand-side stakeholders, focused on the water-climate nexus, may help to stimulate overall industry and consumer demand and inform better decision-making. The value of local and indigenous knowledge is essential in developing and implementing responses at all levels.

This MP Water Climate Action Pathway (W-CAP) aspires to fundamentally align with all of the Climate Action Pathways. This alignment is essential, given the strong interlinkages across the water–climate–energy–food–environment ‘nexus’ which can lead to synergies and cross-benefits in some cases, and in others impose difficult choices and trade-offs. A subsequent version of the W-CAP (to be finalized at a later date) will identify key areas of synergy and co-benefits. Success in these pathways is fundamental to success in the water sector and vice versa. As such, readers should engage with these other Pathways to gain a full picture of the water-related change needed to win the race to zero.



WATER SYSTEM MAP

Forthcoming

Impact
1

WATER RESOURCES AND ECOSYSTEMS

MITIGATION AND RESILIENCE



	By 2021	By 2025	By 2030	By 2040
Policymakers (national, subnational, local levels)	<ul style="list-style-type: none"> Commit to enhance resilient water management through Integrated Water Resources Management and Source-to-Sea approaches in NDCs, NAPs and other national planning documents. Intact global carbon megastores, e.g. cuvette, Pantanal are safeguarded to prevent drainage or disturbance. 	<ul style="list-style-type: none"> All NDCs and NAPs are accompanied by a specific water plan and budget that addresses the climate-water interactions across all sectors including energy and industry, agriculture and livestock, forestry and land use, public health, ecosystems and biodiversity, urban wastewater management, and urban regional and 	<ul style="list-style-type: none"> Regional resilient water management training centres have been established in all climate vulnerable locations. At least 100 governments implement policies to improve the cross-sectoral management and accounting of water to ensure sufficient supply for climate mitigation and adaptation activities, while maintaining supply for 	<ul style="list-style-type: none"> Ensure protection and restoration of 40% of the Earth's water related natural ecosystems including lakes, rivers, wetlands, peatlands, mangroves. Restore 25% of the world's rivers to free-flowing state.

	<ul style="list-style-type: none"> • 19% of global wetlands on RAMSAR¹ list have management plans and budgets approved. • Drought vulnerability assessments of groundwater basins (national and shared) complete. • Governments establish/ strengthen national-level mechanisms to foster a closer dialogue between ministries of environment/ climate, water, energy, agriculture, planning, emergency response, and finance. • G20 governments expand the definition of climate-related financial risk to include water security and water-risk related conflict. 	<p>transboundary planning and infrastructure.</p> <ul style="list-style-type: none"> • Wetlands and their carbon storage potential are assessed globally, covered in NDCs (sufficiently detailed to be able to report on as emission sources) • Halt degradation of wetlands and increase restoration of wetlands to 10% of global land area. • At least 100 river basins, transboundary basins, groundwater aquifers and SIDS² worldwide have plans and a set of bankable projects to enhance climate adaptation and resilience. • Mandatory water and climate reporting for companies and financial institutions is realised across G20 	<p>basic services, the economy, and ecosystems.</p> <ul style="list-style-type: none"> • Maintain two-thirds of all headwaters of the Earth’s major river systems undammed. • Protect and restore riparian habitats along one-third of all rivers. • Protect one-third of the world’s forested upper watersheds. • Governments across Asia implement nature-based coastal resilience in five countries. • Adequate protection and 1-km buffer zones for all RAMSAR wetlands. 	<ul style="list-style-type: none"> • Protect and restore riparian habitats along two-thirds of all rivers. • Protect one-half of the world’s forested upper watersheds. • Adequate protection and 1-km buffer zones for all globally mapped wetlands.
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¹ Ramsar sites are wetlands of international importance designated under the Ramsar Convention

² Small Island Developing States

<p>Financial Institutions</p>	<ul style="list-style-type: none"> • Disclosure of & accountability for financed water impacts from financial institutions begins to emerge. • Scale up PES schemes to help communities better manage water resources and water quality and equity of access for all by bringing water users together to collectively invest in upstream habitat protection and land management. 	<ul style="list-style-type: none"> • A 3-fold increase in investment for resilient water management training and capacity- building among national adaptation focal points and climate change managers / professionals. • Climate finance leverages over €1 billion for investments in climate-resilient water management and infrastructure founded on robust, inclusive, and effective water governance systems • Over 30 countries access climate finance to implement water-informed National Adaptation Plans/planning processes, and integrated flood and drought management policies and measures. • 20 river basins have received support and investment in basin resilience, including support to strengthening institutions, information and governance systems and financing infrastructure and nature-based solutions. • Investors are setting science-based targets for water and climate across their portfolios 		
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		<ul style="list-style-type: none"> • The credit rating of the world’s most impactful companies is based upon corporate efforts to improve water security and prevent water-climate-risk related conflict • Disclosure of & accountability for financed-water impacts from financial institutions is normalised amongst the world's largest publicly listed financial institutions • World's most significant stock exchanges include corporate climate and water disclosure in listing requirements. 		
<p>Technology Providers and Innovators</p>	<ul style="list-style-type: none"> • Build and upgrade a database of resilient water management case studies. • Scale up application of new frameworks and tools for climate resilient water management, including Climate Risk Informed Decision Analysis (CRIDA) 	<ul style="list-style-type: none"> • Establish data-driven methodologies to monitor and evaluate policies and progress on protection and restoration of watersheds and water-dependent ecosystems. 		

<p>Business and Service Providers</p>	<ul style="list-style-type: none"> • 3,500 companies report financial value at risk for each river basin they depend upon 	<ul style="list-style-type: none"> • 5,000 companies report financial value at risk per river basin and investments made to enhance the health of the river basin. • 500 water users achieving third party verification for their water stewardship practices in the most water stressed locations. • Amount of money invested in ecosystem restoration has doubled since 2021. 	<ul style="list-style-type: none"> • A globally diverse set of large businesses have decoupled business growth from the depletion of freshwater resources. • Number of companies setting and making progress against science-based targets for water has increased to 500. • 1,000 water users achieving third party verification for their water stewardship practices. 	
<p>Civil society</p>	<ul style="list-style-type: none"> • Create communications campaign aligned with 2021, UN-Water Year of "Valuing Water" to raise public awareness • Civil society is involved, including water sector stakeholders, in decision-making on both climate change and water management issues. Civil society is included at all stages of the decision-making process, from development through to implementation 	<ul style="list-style-type: none"> • Support 30+ countries to access climate finance for water-informed National Adaptation Plans and integrated flood and drought management policies and measures (Global Water Partnership's GCA Water Action Track commitment) 	<ul style="list-style-type: none"> • Boost the resilience of ~30 million people in 15 landscapes in 5 countries by 2030, by promoting integration of ecosystem-based approaches in infrastructure development (Wetlands International commitment in GCA Water Action Track) 	

	<p>and monitoring & evaluation including through water stewardship processes.</p> <ul style="list-style-type: none"> • Create virtual resilient water management decision support classes that reach 1,000 stakeholders in the first year 		
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EXISTING INITIATIVES

<u>Building Climate Resilience for the Urban Poor (UNCAS)</u>	Invest USD 15.2B by 2023 and USD 60.8B by 2030 to build resilience to the impacts of climate change for 600M urban poor people in 140 cities
<u>Global Campaign for Nature (UNCAS)</u>	Commit to conserving 30% of the Earth’s lands and oceans by 2030 and contribute to the Paris Agreement's goals through nature-based solutions.
<u>A Global Deal For Nature: Guiding principles, milestones, and targets</u> https://advances.sciencemag.org/content/5/4/eaaw2869	The Global Deal for Nature (GDN) is a time-bound, science-driven plan to save the diversity and abundance of life on Earth
<u>CBD Aichi Targets</u>	https://www.cbd.int/aichi-targets/
<u>IPCC 2014, 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands</u>	https://www.ipcc-nggip.iges.or.jp/public/wetlands/
<u>Dickin, S., Bayoumi, M., Giné, R., Andersson, K. and Jiménez, A.</u>	

<p><u>(2020). Sustainable sanitation and gaps in global climate policy and financing. Npj Clean Water, 3(1). DOI: 10.1038/s41545-020-0072-8.</u></p>	
<p><u>Source to Sea</u></p>	<p>A multi-stakeholder initiative that helps freshwater, coastal and marine experts to contribute to global knowledge generation on source-to-sea interconnections, connect and engage in collaborative projects, promote best practices, and take collaborative action to improve the management of land, water, coastal and marine linkage</p>

FURTHER REFERENCES

<p><u>Intergovernmental Panel on Climate Change, Special Report: Global Warming of 1.5°C</u></p>	
<p><u>World Bank Water Data Portal: https://wbwaterdata.org</u></p>	<p><u>Online source for all water-related open data at the World Bank, disaggregated by country and region and organized by three interrelated pillars: Sustain water resources; Deliver services; Build resilience</u></p>
<p><u>Source to Sea Platform</u></p>	<p><u>Solutions to Marine Ocean Litter</u></p>

Impact
2

PROTECTING PEOPLE

Protect and Restore

MITIGATION AND RESILIENCE



	By 2021	By 2025	By 2030	By 2040
Policymakers (national, subnational, local levels)	<ul style="list-style-type: none"> All NDCs consider GHG mitigation potential in sanitation related mitigation activities. Identify and incorporate climate risks into sanitation development plans and financing. Facilitate the development of risk assessments to inform water supply and sanitation national/sub-national strategies and plans. 	<ul style="list-style-type: none"> Ensure Sendai Framework Target 4 is met on 'Substantially reduce disaster damage to critical infrastructure and disruption of basic services including water and sanitation services'. Ensure response to future pandemics prioritize the provision of safe water, sanitation, and hygienic conditions for all, particularly for vulnerable households and healthcare facilities. 	<ul style="list-style-type: none"> Achieve resilient and healthy societies through universal and equitable access to safe, affordable and climate-resilient drinking water and sanitation services (SDG 6), especially servicing the most vulnerable. Ensure Sendai Framework Target 4 is met on 'Substantially reduce disaster damage to critical infrastructure and disruption 	<ul style="list-style-type: none"> Climate resilient water management is included in 100 national DRR strategies under the Sendai Framework.

	<ul style="list-style-type: none"> • Identified climate change risks are mapped together with the existence of disadvantaged communities and low levels of access to water and sanitation. • Youth and young water professionals are empowered as leaders and knowledge holders that provide solutions for water security and climate action that respect, protect and promote the fundamental human rights to water and sanitation. • National water supply and sanitation development policies /strategies incorporate issues related to climate change and are aligned with national mitigation and adaptation priorities. 	<ul style="list-style-type: none"> • Access to water and sanitation are improved for those most vulnerable to climate change impacts. • All NDC's include climate-informed Disaster Risk Assessment frameworks. • Integrated climate and DRR planning is brought into action in drought and flood impacted areas which include preparedness, response and risk reduction • Climate advisory services are established in 20 countries that provide forecasting and monitoring of drought and floods • 150 Cities in the most stressed river basins have established source water protection plans. • Climate change is integrated into water and sanitation sector dialogues, joint sector reviews, information exchange and coordination meetings. • Water and sanitation development plans and strategies incorporate monitoring systems that include indicators to measure the 	<p>of basic services including water and sanitation services. Mainstream the inclusion of disaster risk assessment in project finance for climate investments.</p> <ul style="list-style-type: none"> • 100 countries have included NBS for flood and drought risk in their NDCs and national DRR strategies under the Sendai Framework • Climate change adaptation-focused urban planning or water-sensitive urban design policies are put in place that include restoring urban natural spaces, 'unsealing' cities and reincorporating aquatic areas into urban river basins. 	
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		<p>effectiveness of prioritized mitigation and adaptation measures</p> <ul style="list-style-type: none"> • Water and wastewater utilities at the national level have elaborated climate risk management plans in 80 countries. 		
<p>Financial Institutions</p>	<ul style="list-style-type: none"> • Water supply and sanitation ministries and Ministries of finance support the integration of climate priorities into water and sanitation sectoral strategies and plans with dedicated agreed budgets. • Governments ensure that, when targeting multilateral, bilateral and other sources of climate financing, proposals bring together cross-sectoral water and sanitation considerations. 	<ul style="list-style-type: none"> • Promote greater opportunities for climate finance to complement development finance in the sanitation sector. • Incentivize the use of NbS such as green infrastructure for addressing flood and drought risk. • Financial risk instruments such as insurance are put into place to protect 2 million people most at risk from droughts and floods. • Governments carry out institutional analysis considering a range of financing options and intermediaries to support sanitation systems (to adapt to climatic conditions and/or reconstruction after extreme weather events) 	<ul style="list-style-type: none"> • Increase three-fold capital investments needed to meet the SDGs targets 6.1 and 6.2 for safe water and sanitation. More climate financing directed to climate-resilient WASH from, among others, Green Climate Fund. 	

		<ul style="list-style-type: none"> National water and sanitation sector stakeholders have agreed on an action plan with national environmental focal points, on how to secure funding from multilateral funds for climate change. 		
<p>Technology Providers and Innovators</p>	<ul style="list-style-type: none"> Improve hydrological predictions and enhance forecasting and early warning capacities, particularly in support of more proactive flood and drought risk management National technical guidelines and specifications are developed for mitigation and adaptation to climate change of water and sanitation technologies, and for institutional settings (e.g. schools, healthcare centres). Governments foster the development of impact assessments of previous water and sanitation interventions that include analysis of climate threats. 	<ul style="list-style-type: none"> Transition to aerobic technologies in pit latrines, such as properly operated composting toilets alongside practices of regular emptying of septic tanks and good wastewater management. Advances in near-term climate prediction ensures water and agriculture managers can respond to sub-seasonal variabilities more effectively. Water supply and sanitation service delivery systems are developed to function under a range of future climate scenarios and contexts. 	<ul style="list-style-type: none"> Adapt sanitation infrastructure through additional technical components of sanitation infrastructure. 	

<p>Business and Service Providers</p>	<p>Forthcoming</p>			
<p>Civil society</p>	<ul style="list-style-type: none"> • Communicate the need to mainstream climate-resilient water management into national DRR plans under the Sendai Framework - with a particular emphasis on flood and drought management • Track, monitor, advocate and bargain to ensure that duty-bearers in government, private and finance sectors deliver on obligations and commitments for climate resilient WASH, including via tracking budgets, spending and impact for the most climate vulnerable and high priority populations. 	<ul style="list-style-type: none"> • Tool kit guidance on establishing local drought or flood response systems in 10 key basins 		

EXISTING INITIATIVES

<p><u>African Adaptation Initiative (UNCAS)</u></p>	<p>Enhance action on adaptation with the aim of addressing the financing gap, and implementing measures to address disaster risk reduction and resilience needs in Africa</p>
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<u>CWRA</u>	The City Water Resilience Approach (CWRA) was developed to help cities grow their capacity to provide high quality water resources for all residents, to protect them from water-related hazards, and to connect them through water-based transportation networks (“provide, protect, connect”) 
<u>WASH Pledge</u>	Business commitment to ensuring adequate and safe WASH facilities are provided in owned facilities, with suppliers and communities of operation. 
<u>Ocean Risk and Resilience Action Alliance (ORRAA) (UNCAS)</u>	Com Drive investment into coastal natural capital by pioneering ground-breaking finance products that incentivise blended finance and private investment. 

FURTHER REFERENCES

<u>Intergovernmental Panel on Climate Change, Special Report: Global Warming of 1.5°C</u>	
<u>World Bank Water Data Portal: https://wbwaterdata.org</u>	<u>Online source for all water-related open data at the World Bank, disaggregated by country and region and organized by three interrelated pillars: Sustain water resources; Deliver services; Build resilience</u>
<u>Strategic Framework for WASH Climate Resilience' developed by GWP and UNICEF</u>	<u>This framework seeks to advance sector thinking around WASH and climate change, focusing on the planning and execution of actions to promote climate resilience in WASH strategies, plans and approaches</u>

<p><u>Sustainable sanitation and gaps in global climate policy and financing</u></p>	<p><u>Dickin, S., Bayoumi, M., Giné, R. et al. Sustainable sanitation and gaps in global climate policy and financing. npj Clean Water 3, 24 (2020). https://doi.org/10.1038/s41545-020-0072-8</u></p>
<p><u>Manifesto for a healthy recovery from COVID-19</u></p>	<p><u>WHO 2020</u></p>
<p><u>City Water Resilience Approach</u></p>	<p><u>Accelerating Climate Action</u></p>



AGRICULTURE AND FOOD

Produce

MITIGATION AND RESILIENCE



	By 2021	By 2025	By 2030	By 2040
	▼	▼	▼	▼

Please see the Land Use Climate Action Table for the full set of actions required to transform the global food and agricultural system

Policymakers (national, subnational, local levels)	Forthcoming
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Financial Institutions	Forthcoming
Technology Providers and Innovators	Forthcoming
Business and Service Providers	Forthcoming
Civil society	Forthcoming

EXISTING INITIATIVES

<u>Risk-Informed Early Action Partnership (REAP) (UNCAS)</u>	Reduce the impact of specific disaster events on agriculture and livelihood through the monitoring of major risks
<u>Support for Smallholder Farmers (UNCAS)</u>	Enhance resilience to climate shocks and extreme events for 300 million small-scale farmers, increase household incomes and food security, and reverse ecological decline
<u>TIARA</u>	<u>TIARA, is an initiative launched by SIWI that aims to increase investments and promote rainfed agriculture as a cost-effective approach to improving agricultural productivity, climate resilience and building sustainable livelihoods across rural Africa.</u>
<u>Climate Risk Informed Decision Analysis (CRIDA)</u>	A bottom-up methodology for assessing the climate risk of critical water infrastructure, providing a more informed starting point to assess different options for adaptation and design robust adaptation pathways, in line with local needs and capacities.

FURTHER REFERENCES

<u>Intergovernmental Panel on Climate Change, Special Report: Global Warming of 1.5°C</u>	
<u>World Bank Water Data Portal: https://wbwaterdata.org</u>	<u>Online source for all water-related open data at the World Bank, disaggregated by country and region and organized by three interrelated pillars: Sustain water resources; Deliver services; Build resilience</u>

Impact
4

ENERGY

Produce


MITIGATION AND RESILIENCE



	By 2021	By 2025	By 2030	By 2040
Policymakers (national, subnational, local levels)	Forthcoming			
Financial Institutions	Forthcoming			

Technology Providers and Innovators	Forthcoming
Business and Service Providers	Forthcoming
Civil society	Forthcoming

EXISTING INITIATIVES

<u>Name of initiative (with hyperlink)</u>	Description of the initiative 
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FURTHER REFERENCES

[Intergovernmental Panel on Climate Change,
Special Report: Global Warming of 1.5°C](#)



<p>Policymakers (national, subnational, local levels)</p>	<ul style="list-style-type: none"> • All NDC's include commitments to expand the adoption, protection and restoration of nature-based water infrastructure. • Countries have set up national reporting systems for GHG emissions and mitigation in the urban water and wastewater sector in line with national GHG reporting standards. • Governments devise plan to address leaks in water-distribution networks. 	<ul style="list-style-type: none"> • GHG emissions from water and wastewater utilities, including through the use of energy and wastewater management are monitored and reported in national Measurement, Reporting and Verification (MRV) processes and GHG inventories. • Create enabling environment for transition toward decentralized water systems, restructuring of water institutions and policies, including an integration of planning, funding, and regulations across the currently segmented fields of water, stormwater and wastewater. • Water and wastewater utility sectors in at least 20 countries have committed to net zero by 2040. • Support the development and design of US\$6 billion in new / retrofitted water infrastructure. • Support regulatory changes that allow greater flexibility in green infrastructure planning and construction. 	<ul style="list-style-type: none"> • Water and wastewater utilities in at least 20 countries have reached complete decarbonization and improved climate resilience through climate risk management. • Flood defences that use both 'hard' infrastructure and nature-based solutions are established in 10 critical river basins. 	<ul style="list-style-type: none"> • Water and wastewater utilities in all countries have reached complete decarbonization and improved climate resilience through climate risk management.
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<p>Financial Institutions</p>	<ul style="list-style-type: none"> Promote the expanded use of labelled green bonds for financing climate- aligned water projects and assets. Boost demand for/of green bonds by implementing “green bond mandates” for domestic funds. 	<ul style="list-style-type: none"> To shift financial barriers for project owners, utilities to develop fee structures and incentives to support the transfer of capital cost, expense and revenues to offset an owner’s upfront investment in on-site water systems. Support the continued expansion of labelled sovereign green bond issuance. Use capital steerage methods to enable climate finance instruments such as green bonds in order to channel greater private capital towards climate water bonds. Enable the development of new bonds markets, particularly in lower- and middle- income countries, as well as for use by local governments. 	<ul style="list-style-type: none"> \$1 trillion issued in labelled green bond standards for water infrastructure in low- to middle- income countries. Insurance companies develop products to incentivize decentralized water systems that would reduce operating expenses and risk. Create national/federal funds for green infrastructure, energy efficiency projects, water efficiency projects or innovative environmental projects. 	
<p>Technology Providers and Innovators</p>	<p>Forthcoming</p>			

Business and Service Providers	Forthcoming
Civil society	Forthcoming

EXISTING INITIATIVES

<u>LEED Zero certification for water</u>	USGBC offers the LEED Zero certification for energy, water, and waste. A Net Zero Water certification recognizes buildings that achieve a potable water use balance of zero over 12 months. The LEED Zero certification for water is performance-based and is achieved through a GBCI review of 12-months of performance data.
<u>Living Building Challenge</u>	Living Building Challenge has a Net Zero Water certification
<u>Water Risk Monetizer by Microsoft and TruCost</u>	The Water Risk Monetizer is a publicly available global water risk tool that leverages best-in-class local water basin datasets and scientific methodologies to monetize business water risks.
<u>WAACLIM</u>	The WaCCliM project works across local, national and international levels, and engages with national stakeholders around water utilities in Jordan, Mexico and Peru.
<u>Wastewater Zero</u>	Wastewater Zero provides an action framework and commitment for business to treat all wastewater, significantly increase water reuse and recycling all with low-carbon technologies
<u>Climate Risk Informed Decision Analysis (CRIDA)</u>	A bottom-up methodology for assessing the climate risk of critical water infrastructure, providing a more informed starting point to assess different options for adaptation and design robust adaptation pathways, in line with local needs and capacities.

FURTHER REFERENCES

<p><u>Intergovernmental Panel on Climate Change, Special Report: Global Warming of 1.5°C</u></p>	
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[World Bank Water Data Portal: https://wbwaterdata.org](https://wbwaterdata.org)

Online source for all water-related open data at the World Bank, disaggregated by country and region and organized by three interrelated pillars: Sustain water resources; Deliver services; Build resilience



Wastewater revolution

Reuse

MITIGATION AND RESILIENCE



	By 2021	By 2025	By 2030	By 2040
Policy-makers (national,	<ul style="list-style-type: none"> All NDCs list opportunities to reduce emissions in the urban water sector through zero 	<ul style="list-style-type: none"> All NDCs and NAPs of countries with high levels of water stress include commitments to reuse 		<ul style="list-style-type: none"> Through decentralized modular wastewater treatment process, the

<p>subnational, local levels)</p>	<p>carbon wastewater management and treatment.</p> <ul style="list-style-type: none"> • 10 Cities have water management plans in place that incorporate wastewater reuse 	<p>100% wastewater as an adaptation measure</p> <ul style="list-style-type: none"> • GHG emissions from wastewater utilities, including through the use of energy and wastewater management are monitored and reported in national Measurement, Reporting and Verification (MRV) processes and GHG inventories processes. • Regulatory standards for wastewater reuse are developed and tested for different climate environments • 5 Cities have implemented decentralised water and energy provision plants • Governments encourage replacement of inefficient water infrastructure and move to flexible and robust water systems that can anticipate and monitor changes. 		<p>water sector is a net positive renewable energy and nutrient provider, and 100% of all municipal, industrial, and agricultural wastewater is treated for reuse or discharge into the environment.</p>
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<p>Financial Institutions</p>	<ul style="list-style-type: none"> • Institutional investors are publicly supporting a campaign to end industrial water pollution and catalyse water reuse and recycling • Scale up public-private investments in water reuse/ water renewal 	<ul style="list-style-type: none"> • Greater investment in institutions, accountability & enforcement for treatment and reuse of wastewater • Private financial institutions are reporting the proportion of companies in portfolios that are setting water-related science-based targets for water quality. • 		
<p>Technology Providers and Innovators</p>	<ul style="list-style-type: none"> • Improve data availability and model complexity on GHG emissions from biological processes in wastewater treatment plants, information that will be increasingly important as countries move towards increasing coverage of wastewater treatment. • Collaborate with government on identifying and rolling out technologies for water reuse / water renewal, water trading, water markets etc. 	<ul style="list-style-type: none"> • Reduce energy use in sewerage conveyance, such as through gravity-based systems and increased use of distributed or decentralised systems that reduce pumping distances 	<ul style="list-style-type: none"> • Energy recovery during wastewater treatment leading to net-positive energy generation from wastewater. • Businesses, households and governments have implemented circular water models. 	

<p>Business and Service Providers</p>	<ul style="list-style-type: none"> • Most impactful companies are setting and making progress against wastewater pollution and reuse targets. • Increase public acceptance of water reuse through positive marketing campaigns. 	<ul style="list-style-type: none"> • Chief Procurement Officers of the world's largest 250 companies have incentives tied to wastewater treatment and reuse. • 500 of the world's largest businesses are treating all wastewater for reuse or safe discharge. • Water utility companies recover 30% of the biomass energy/biogas in wastewater. 	<ul style="list-style-type: none"> • The proportion of untreated wastewater has been halved from 85% to 43% and water recycling and safe reuse has been substantially increased globally. • Fully recover nutrients such as phosphorus and nitrogen from wastewater and reduce dependency on fossil-based chemical fertilisers, 	
<p>Civil society</p>	<ul style="list-style-type: none"> • Create campaigns and educational programs to improve public perceptions about the safety of water reuse and on-site wastewater management. • Boost transparency of and publicly track corporate progress against wastewater commitments. 	<ul style="list-style-type: none"> • Toolbox guides are developed for critical urban environments that use wastewater in creating green spaces that can also offset droughts and floods 		

EXISTING INITIATIVES

<p><u>LE‘Energy Performance and Carbon Emissions Assessment and Monitoring’ (ECAM) Tool developed by the Water and Wastewater Companies for Climate Mitigation (WaCCliM) project</u></p>	<p>USG he ECAM tool can assess carbon emissions for the urban water cycle, within the boundaries of utilities, in order to demonstrate how the sector can reduce greenhouse-gas emissions, both in the short-term (e.g., improving operational efficiency) and the long-term (e.g., reforming water infrastructure).</p>
<p><u>Projet SIAAP/SYCTOM Comethanisation process</u></p>	<p>Sewage sludge and the wet part of domestic waste share the same high content of organic matter and their common treatment offers interesting perspectives in terms of energy recovery and material recovery. This input mix can lead to an energy and environmental balance greater than that achieved through separate channels (methane productivity greater than 100%)</p>
<p><u>Pilot project has been set up in Manila (Philippines) by two public authorities, Syctom and SIAAP</u></p>	<p>Metro Manila produces around 6,700 tonnes of household waste per day. In the absence of an efficient collection system at the scale of 17 million inhabitants. 17% of the metropolis's waste ends up in the river. A pilot project has been set up in Manila (Philippines) by two public authorities, Syctom and SIAAP, to improve the quality of the water in the Pasig River. This project enforces the phytotreatment of wastewater system piloted by the SIAAP. It is mainly a question of devising treatment methods that will reduce the quantities of untreated waste dumped into the river.</p>

FURTHER REFERENCES

<p><u>Intergovernmental Panel on Climate Change, Special Report: Global Warming of 1.5°C</u></p>	
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CONTRIBUTIONS

Under the leadership of the High-Level Champions and through the Marrakech Partnership for Global Climate Action, the development of this Climate Action Pathway was led by the Stockholm International Water Institute (SIWI), IUCN and AGWA in collaboration with CDP Sanitation and Water For All, Global Centre on Adaptation, GIZ, Wetlands International, IWMI, UNESCO, UNECE, UNDP, AWS, Water Witness, WBCSD, GWP and Water Aid.