Global Climate Action
United Nations Climate Change

Marrakech Partnership

CLIMATE ACTION PATHWAY

CLIMATE RESILIENCE *

Action Table

2021

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TYPES OF INTERVENTIONS TO BUILD CLIMATE RESILIENCE

Building climate resilience involves all actors across and within sectors, including: governments (national, subnational and local levels) , communities, investors, businesses, academia, civil society, regional bodies and international organizations. These all need to have the capacity to prevent, anticipate, absorb, adapt to increasing shocks and stresses and transform their operations for building climate resilient systems.

We propose six steps that sectors and all organizations and communities need to take in developing climate resilient societies. These are presented linearly below, but should be undertaken in a circular and iterative manner in view of the unfolding climate emergency

1. **Awareness-raising and advocacy** – Become aware of the wide range of climate change risks. Be clear that the future will not resemble the past. Base awareness-raising and advocacy on science and examine different scenarios – ranging from an increase of 1.5 degrees to higher levels of global warming – and their increasing risks and impacts.
2. **Assess climate risks** and the impacts of climate change at national, local (city/region), sectoral or organizational level and use a systems approach that context- and location specific.
3. Develop and **implement appropriate climate risk management actions** and interventions, including the transformation of systems.
4. **Mobilize human and financial resources** to support climate resilience actions and build related human and institutional capacities to scale up these actions.
5. **Monitor and track progress on the implementation of climate risk management actions,** ensuring accountability and continuous improvement**.**
6. **Learn and share knowledge,** experiences and solutions to strengthen future collaborations and investments into resilience.

We have combined 'disaster risk reduction and management, including emergency preparedness, anticipatory action and response' with 'climate change adaptation approaches' to develop a suite of interventions and measures to address climate risks and impacts across and within sectors and guide the nine risk management actions in the Marrakech Partnership Global Climate Action (MPGCA) pathways (see Table below for the nine interventions that guide this work).

These climate risk management actions are needed to build climate resilience across all sectors and systems. They are presented in the following Climate Resilience Action Table with resilience actions taken from the seven other MPGCA climate action pathways. These seven sectoral action tables provide more detail on mitigation, adaptation and resilience actions and cover: land use (including food and agriculture); human settlements; energy; industry; transport; ocean and coastal zones; and

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water. In addition, the cross sectoral MPGCA finance pathway is also feeding into the MPGCA climate resilience pathway action tables. They can be found here: https://unfccc.int/climate-action/marrakech-partnership/reporting-and-tracking/climate_action_pathways.

The Climate Resilience Action Table presented below has six impact areas:

1. **Resilience Cross-Cutting Actions**

- This impact area is outlining the generic type of risk management actions needed by all sectors and stakeholders across systems to build climate resilient societies. It is valid as a shared narrative of actions for all eight MPGCA pathways.

2. **Resilient Food and Agricultural Systems**

- This impact area is focusing on risk management actions needed to build climate adapted and resilient agri-food systems, taking into account the entire food value chain from production to consumption (from farm to fork). Reference pathway is primarily the thematic "MPGCA Land-use" pathway.

3. **Resilient Water and Natural Ecosystems**

- This impact area is focusing on risk management actions needed to build climate adapted and resilient water and natural ecosystems. Based on climate-risk sensitive "Integrated Water Resources Management" it considers the provisioning of clean freshwater as one of the main ecosystem services, which are the foundation of healthy and resilient societies and systems. Reference pathways are primarily the thematic "MPGCA Water" and "Land-use" pathways.

4. **Resilient Cities**

- This impact area is focusing on risk management actions needed to build climate adapted and resilient urban areas across and within sectors, with a strong consideration of the urban-rural continuum. Reference pathway is primarily the thematic "MPGCA Human Settlements" pathway.

5. **Resilient Coastal Zones and Oceans**

- This impact area is focusing on risk management actions needed to build climate adapted and resilient coastal zones and oceans, considering the complex governance structures of ocean and coastal zone ecosystems and their management. The unique role of these systems in stabilizing our global climate and the implications especially for Small Island Developing States is acknowledged. Reference pathway is primarily the thematic "Oceans and Coastal Zones" pathway.

6. **Resilient Infrastructure and Services (covering transport, energy and industry)**

- This impact area is focusing on risk management actions needed to build climate adapted and resilient infrastructure and services. Reference pathways are primarily the thematic "MPGCA Industry", "Transport", "Energy" and "Human Settlements" pathways.

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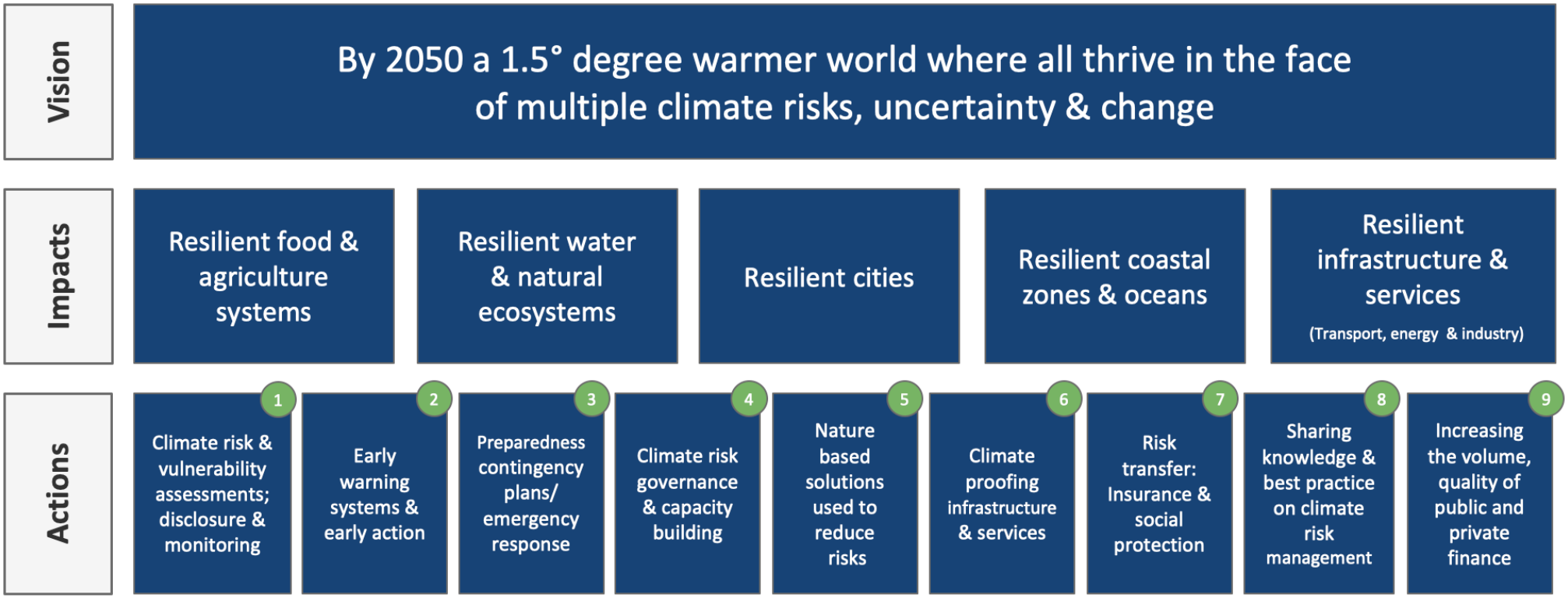
CLIMATE ACTION TABLE STRUCTURE

The Climate Resilience Pathway contributes to the overall SDGs and is provides the framing for the Race to Resilience campaign of the High-Level Climate Champions. This vision recognizes that building climate resilience requires mitigation and adaptation actions that must be combined to tackle the current and future risks and impacts of climate change across systems. The Pathway has one cross-cutting impact area and **five thematic impact areas based on most vulnerable and threatened sectors and systems of our societies.** The climate action table is organized around these six impact areas ("Impacts" in the table below). This structure is shown below.



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Impact 1

RESILIENCE – CROSS-CUTTING ACTIONS

RESILIENCE

Nexus

Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
These actions are application to all stakeholders: **Policymakers (national, subnational and local levels), Technology providers and innovators, Business and service providers, Civil society**				
1. Climate risk and vulnerability assessments, disclosure and monitoring actions	• Encourage climate risk vulnerability assessments, disclosure and monitoring of key sectors to inform policy decision-making processes (Action 1 & 4)	• Ensure governments, together with all actors, as part of their SDG efforts, carry out basic national, subnational and local strategies for risk, vulnerability and capacity mapping and monitoring to build climate resilience across sectors (Action 1 & 4). • Include a climate-informed disaster risk assessment in all national adaptation plans and related investments (Action 1 & 3).	• The majority of countries, together with all actors, have policies and regulations, at all levels and sectors, that include climate risk vulnerability, including active monitoring and disclosure (Action 1 & 4)	• All relevant actors have climate risk informed policies, plans, strategies and regulations at all levels and sectors (Action 1 & 4), including EWS and contingency plans/emergency response plans (Action 2 & 3).

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
2. Access to early warning systems and development of early actions.	• Support multi-risk early warning systems at the local, sub-national and national level to identify and take early action on extreme as well as slow-onset climate events.	• The majority of countries have risk-specific early warning systems in place for identifying and taking early action on extreme and slow-onset climate events.	• All countries have multi climate risk early warning systems in place for identifying and acting early on extreme and slow-onset events.	
3. Preparedness with contingency plans and emergency response	• Support the integration of climate risk and vulnerability into national emergency preparedness and response strategies.	• 50 % of the countries and actors have integrated climate risk and vulnerability into emergency preparedness and response strategies.	• All countries and actors have integrated climate risk and vulnerability into emergency preparedness and response strategies.	
4. Establishment of effective governance to manage climate risks accompanied by human and institutional capacity-building	• Encourage governments to integrate climate risk management actions in cross-sectoral and sectoral plans, policies, investments and actions on all levels in an inclusive, people-centered manner, especially with women, youth, indigenous peoples and marginal groups. • 50% of all developing countries produce NAPs and climate sensitive DRR plans and mobilize resources for implementation. • Ensure updated nationally determined contributions (NDCs) include all climate risk management actions for climate resilience and adaptation and are aligned with Sustainable Development Goal (SDG) targets. • Encourage all actors to integrate climate risk management actions into financial planning and budgeting (Action 4 & 9). • Integrate climate risk management	• Ensure 50% of the countries integrate climate risk management actions in cross-sectoral and sectoral plans, policies, investments and actions in an inclusive, people-centered manner, especially with women, youth, indigenous peoples and marginal groups. • 100% of all developing countries will have produced a NAP and climate sensitive DRR plans and all would be implementing priority adaptation and resilience actions. • Ensure all countries are submitting NDCs with climate resilience and adaptation actions and are aligned with SDG targets. • Context-specific climate risk management actions have been integrated into all multi-sectoral and sectoral local, sub-national and national financial planning and budgeting (Action 4 & 9).	• Ensure all national and sectoral plans, policies, regulations and investements are climate-risk informed and mainstream the suite of climate risk management measures (Action 1 & 4). • All countries are producing updated NAPs and climate sensitive DRR plans iteratively, and results of NAP implementation are measurable. • All countries are submitting NDCs with climate resilience and adaptation actions, that also help deliver SDG targets. • All countries, private sector actors and multilateral organizations have adequately integrated climate risk management actions for context specific climate extreme and slow onset events into financial planning and budgeting and investment (Action 4 & 9). • Ensure 75% of the countries integrate climate risk management actions in cross-sectoral and sectoral plans,	• All countries have integrated climate risk management actions in cross-sectoral and sectoral plans, policies investments and actions at all levels in an inclusive, people-centered manner, especially with women, youth, indigenous peoples and marginal groups. • All actors have mainstreamed the suite of climate-risk management actions in their NAPs and sectoral plans, policies, and investments including successors of NDCs and SDGs.

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	actions into COVID-19 recovery and build-back-better programmes and investments to make these climate-friendly and nature-positive. (Action 4 and 9).		policies, investments and actions in an inclusive, people-centered manner, especially with women, youth, indigenous peoples and marginal groups.	
5. Nature-based solutions used to reduce risks	• Support countries to incorporate nature-based solutions (NbS) in cross-sectoral and sectoral plans, policies, regulations and investments as well as in the updated 2021 NDCs.	• Ensure NbS planned in 2025 NDCs are implemented. • 50% of the countries have incorporated nature-based solutions (NbS) in cross-sectoral and sectoral plans, policies, regulations and investments as well as in the updated 2021 NDCs.	• All countries have incorporated nature-based solutions (NbS) in cross-sectoral and sectoral plans, policies, regulations and investments as well as in the updated NDCs/NAPs.	
6. Climate-proofing of infrastructure and services	• Update building codes to integrate main climate risks. • Encourage most relevant climate risk management actions to be fully integrated in all infrastructure assets, sectors/systems and services, ensuring they are nature-positive, resilient and low-carbon.	• Building codes for 75% of infrastructures fully integrate climate risks. • Ensure, most relevant climate risk management actions are fully integrated in all infrastructure assets, sectors/systems and services, ensuring they are nature-positive, resilient and low-carbon.	• Building codes for all infrastructures fully integrate climate risks. • Most relevant climate risk management actions are fully integrated in all infrastructure assets, sectors/systems and services, ensuring they are nature-positive, resilient and low-carbon.	
7. Risk transfer: insurance and social protection instruments	• Promote climate risk insurance mechanisms and risk-informed and shock-responsive social protection mechanisms to poor and vulnerable people against climate-related extreme events.	• 50% of all people are covered against climate-related extreme events through climate risk insurance mechanisms and risk-informed and shock-responsive social protection mechanisms, especially the poor and most vulnerable.	• All people are covered against climate-related extreme events through climate risk insurance mechanisms and risk-informed and shock-responsive social protection mechanisms, especially the poor and most vulnerable.	

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Action Category	By 2021	By 2025	By 2030	By 2040
8. Sharing of knowledge and best practices on climate risk management	• Governments and all actors to promote development of policies, rules and incentives to shift consumption patterns and the production of foods, goods and services towards nature- and climate-friendly and just practices in terms of reducing greenhouse gas (GHG) emissions and climate risks. • Include arts, culture and heritage agencies and Indigenous Peoples' organizations and knowledge in all climate resilience planning and action. (Action 4 and 8).	• Policies, rules and incentives are in place and have contributed to a shift of 50% of consumption patterns and the production of foods, goods and services towards nature- and climate-friendly and just practices in terms of reducing greenhouse gas (GHG) emissions and climate risks. • Climate resilience and adaptation knowledge of Indigenous Peoples, culture and heritage are integrated in 50% of all plans, strategies and practices (Action 4 and 8).	• Ensure all national and subnational governments and actors apply policies, rules and incentives to help shift 100 % of consumption patterns and production of foods, goods, and services towards nature- and climate-friendly and just practices in terms of reducing GHG emissions and climate risks. • Climate resilience and adaptation knowledge of Indigenous Peoples, culture and heritage are integrated in 100% of all plans, strategies and practices (Action 4 and 8).	
9. Increase in the volume, quality and access of public and private finance to invest in resilience (see "Financial Institutions" below)	• Increase the volume and quality of risk-informed public finance into resilience investments, including public finance to leverage private investment.	• Ensure that at least 50% of multilateral finance is going toward investing in adaptation and resilience projects/programmes in developing countries.	• Climate change laws and budgets in place in all countries.	
Financial institutions, asset owners and investors				
Combined Actions and cross-cutting adaptation and resilience finance actions.	• Adopt the UN Principles for Sustainable Insurance's approaches to climate risk (Physical, Transition & Litigation) • Central Banks integrate climate change into monetary frameworks and models to account for the impacts of climate change on macroeconomic outcomes.	• Mandatory TCFD aligned disclosure required by all corporate and institutional clients. • Implementation of shared, globally comparable taxonomies and classification systems is complete. • TCFD-aligned disclosures embrace transparency with regard to assumptions and practices as	• Continue to monitor and adjust capital requirements for banks and monetary policies in line with increased understanding and cooperation on climate risk. • Establish a global public finance goal for adaptation and ensure finance flows to developing countries to build resilience (Action 9)	• Financial markets, institutions and systems are aligned with a resilient future and ensuring that temperature rise remains limited to 1.5°C. • Article 2.1.c of the Paris Agreement (finance flows are consistent with a pathway towards low greenhouse gas emissions and climate-resilient development) is delivered.

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	• Asset Owners call on investee companies to fully implement TCFD recommendations, including by assessing the costs of climate-related physical, transition and liability risks. • Adopt policies requiring climate-related disclosure in line with the recommendations of the Task Force on Climate-related Disclosure (TCFD) by companies and investors. • Corporate boards are trained for climate-competent governance, including exercise of fiduciary duties to ensure that the value of material climate-related risks is taken into account across the enterprise. • Adopt policies requiring Directors & Officers Liability Insurance to include coverage for climate-related impacts. • Ensure investments are starting to be aligned and tracked to deliver the adaptation/ resilience plans and actions in the NDCs and NAPs. • Increase the number of climate resilience bonds issued, including by cities, regions and states (Action 9). • Ensure banks, insurance companies, asset owners and asset managers assess, monitor and disclose targets to manage climate-related risks (Action 1 & 9). • Bolster the evidence-base for NbS as financially viable investments for	• internal carbon pricing and how it bears on Capex, business and procurement plans and policies. • All corporate-issued bonds are certified climate bonds and used for purposes aligned with achieving net zero emissions by the 2040s and/or promoting resilience to climate impacts. • Establish a global public finance goal for adaptation and ensure finance flows to developing countries to build resilience (Action 9). • Ensure over 50% of investments are aligned with NDC adaptation/ resilience plans and actions. • Provide risk finance and insurance mechanisms to 500 million poor and vulnerable people against disaster and climate shocks (Action 7). • Ensure insurance industry provides USD 5 billion to support risk finance and insurance mechanisms (Action 7). • Ensure the public and private sectors make USD 6 trillion/year available for climate-smart infrastructure (Action 9). • Make climate risks explicit in financial and infrastructure investment decisions, including agreement on resilience metrics and standards across sectors, regions and investment types (Action 1).	• Ensure climate investments are all aligned to NDC adaptation/ resilience plans and actions. • In line with NDCs, ensure 50 % of national and international funds are allocated for green infrastructure, energy and water efficiency projects, and innovative environmental projects are established. • Issue USD 1 trillion in labelled green bond standards in low- to middle-income countries (Action 9). • Public and private financial institutions have the capacity and experience to appraise the investment potential of NbS for reducing climate risk and building resilience (Action 5) • Develop a taxonomy for NbS investments (Action 5).	• Asset Owners' portfolios are aligned with achieving net zero emissions by the 2040s and with supporting resilience to climate-related impacts. • All corporate finance and investment supports achievement of net zero emissions in this decade and/or climate resilience and adaptation, including via corporate bonds, supply chain finance, and financial products offered to customers. • Corporate Boards rigorously ensure the value of climate-related risks and opportunities are taken into account across value chains, and that executive compensation is calibrated accordingly. •

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Action Category	By 2021 ▼	• By 2025 ▼	• By 2030 ▼	• By 2040 ▼
	• reducing climate risk (Action 5 and 9). • Civil society call on governments and financial institutions to transition the financial system to limit warming to 1.5 degrees and ensure resilience. • Signal the creation of taxonomies or classification systems to enable the categorization of economic activities and sectors in relation to sustainability.	• Support the continued expansion of labelled sovereign green bond issuance. • Shift investment (capital steerage) to channel greater private capital towards, for example, climate water bonds (Action 9). • Build the capacity of financial institutions to appraise NbS and green infrastructure for investment decisions (Action 5). • Support the capacity of financial institutions to appraise the additionality required for financing climate-proof infrastructure and services (Action 6). • Encourage financial institutions to share best practice on managing climate risk as it pertains to investments and financial decision-making (Action 8).	•	•

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EXISTING INITIATIVES

Adrienne Arsht-Rockefeller Foundation Resilience Center	Aims to reach one billion people with resilience solutions to climate change, migration and human security challenges by 2030 using a range of evidence-based and innovative approaches.
African Adaptation Initiative	Focuses on adaptation action in Africa on: (1) climate information services; (2) strengthening of policies and institutions; (3) enhancement of on-the-ground action; and (4) access to and mobilization of finance and investment.
AGIR (the Global Alliance for Resilience Initiative)	Helps build resilience to the recurrent food and nutrition crises that affect the countries of the Sahel and West Africa.
Africa Risk Capacity	Aims to use finance mechanisms such as risk pooling and risk transfer to create pan-African climate response systems that enable African countries to meet the needs of people harmed by natural disasters.
ASEAN Climate Resilience Network	Supports regional exchange, particularly for sharing information, experiences and expertise on climate-smart agriculture.
Asia Pacific Adaptation Network (APAN)	Supports Asia and the Pacific stakeholders with knowledge for designing and implementing adaptation measures and building capacity to access technologies and finance in support of climate change adaptation.
Caribbean Catastrophe Risk Insurance Facility (CCRIF)	Regional catastrophe fund for Caribbean governments that limits the financial impact of devastating hurricanes and earthquakes by quickly providing financial liquidity when a policy is triggered.
Climate Adaptation Management and Innovation Initiative (C-ADAPT)	Develops innovative climate-induced food insecurity analyses and practices to inform programming and decision-making.
Climate Bonds Initiative	International initiative that promotes investment in projects and assets necessary for a rapid transition to a low carbon and climate resilient economy.
Climate Heritage Network	Network of organizations, businesses, universities and government agencies committed to using arts, culture and heritage to help communities realize the ambitions of the Paris Agreement.

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Climate Investment Platform	Aims to declutter the climate finance landscape and provide streamlined support to developing countries, emerging economies and the private sector.
Climate Resilience Network (CRN)	An informal group of organizations working on building resilience to climate risks. It acts as a platform for information exchange and collaboration on climate resilience, including those under MPGCA.
Coalition for Climate Resilient Investment (CCRI)	Works to transform infrastructure investment by integrating climate risks into decision-making, driving a shift toward a more climate-resilient economy for all countries, including the most vulnerable.
Convergence	Global network for blended finance that generates finance data, intelligence and deal flow to increase private sector investment in developing countries.
Climate Resilience and Adaptation Finance and Technology-transfer Facility (CRAFT)	Blended finance structure that includes public, private and philanthropic investors that will invest in companies that have technologies and solutions that support climate resilience.
Climate Risk and Early Warning Systems (CREW) Initiative	Supports LDCs and SIDS to significantly increase the capacity to generate and communicate effective, impact-based, multi-hazard, gender-informed early warnings to protect lives, livelihoods and assets.
EcoShape - Building with Nature platform	Foundation that carries out the public-private Building with Nature innovation programme through its network and partners.
Friends of Ecosystem Based Adaptation (FEBA)	Network of organizations promoting collaboration and knowledge-sharing on ecosystem-based adaptation through joint events and initiatives and position papers and technical documents.
Global Adaptation and Resilience Investment Working Group (GARI)	Convenes private investors and other stakeholders to focus on practical approaches to adaptation and resilience investment.
Global Commission on Adaptation (GCA)	Aims to inspire heads of state, government officials, community leaders, business executives, investors and other international actors to prepare for and respond to impacts of climate change with urgency.

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Global Facility for Disaster Reduction and Recovery (GFDRR)	Supports developing countries to mainstream disaster risk management and climate change adaptation, and improve the quality and timeliness of resilient recovery and reconstruction following a disaster.
Global Innovation Lab for Climate Finance	Accelerates financial instruments that can unlock billions for energy efficiency, renewable energy, sustainable transport, climate smart agriculture and curbing deforestation.
Global Island Partnership	Led by the Presidents of the Marshall Islands, Palau and Seychelles, the Prime Minister of Grenada and the Premier of British Virgin Islands, it aims to promote action to build resilient and sustainable island communities.
Global Resilience Partnership (GRP)	Partnership of more than 60 public, private, academic and civil society organizations working towards a world where vulnerable people and places are able to thrive in the face of shocks, uncertainty and change.
Insurance Development Forum (IDF)	Public/private partnership led by the insurance industry that aims to extend insurance use and its related risk management capabilities to build greater resilience of people, communities and businesses.
InsuResilience Global Partnership	Public-private partnership working towards strengthening the resilience of the poor and vulnerable by scaling up disaster risk financing and risk transfer solutions.
Least Developed Countries Universities Consortium on Climate Change (LUCCC)	Aims to support all 48 LDCs to become able to adapt effectively to the adverse impacts of climate change.
LDC Initiative for Effective Adaptation and Resilience	Led by least developed countries, it aims to ensure support reaches vulnerable communities and countries, with no one left behind.
National Adaptation Plan (NAP) Global Network	Aims to enhance national adaptation planning and action in developing countries. The Network also facilitates international peer learning and exchange.
Nature for Climate	Aims to increase investment and action on natural climate solutions in support of the 2015 Paris Agreement.

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One Billion Coalition for Resilience (1BC)	**Provides an opportunity for individuals, households, communities and organizations to work together to increase collective impact in resilience-building in communities worldwide.**
Pacific Resilience Partnership (PRP)	Created by Pacific leaders to implement the Framework for Resilient Development in the Pacific.
Partnership for Environment and Disaster Risk Reduction (PEDRR)	Alliance of United Nations agencies, non-governmental organizations and specialist institutes it aims to promote the implementation of ecosystem-based disaster risk reduction and in development planning.
Regions4 (RegionsAdapt initiative)	Network of regional governments (states, regions and provinces) aiming to inspire them to adopt adaptation strategies, take concrete actions, collaborate, and report on their progress on an annual basis.
Resilience Africa Network (RAN)	Partnership of 20 African universities that strengthen the resilience of communities by nurturing and scaling up innovations from the different universities.
Resilience Alliance	An international, multidisciplinary research alliance that explores the dynamics of social-ecological systems.
Resilient coasts' initiative (Mangroves for the Future)	Works to promote investment in coastal ecosystem conservation for sustainable development.
Resilience Evaluation, Analysis and Learning (REAL) consortium	Building the knowledge base on resilience programme design and the implementation of United States Agency for International Development programmes.
Resilience Evidence for Decisions in Development Initiative (REDDI)	Building better connections between the evidence-related needs of decision-makers and the products of resilience measurement.
Resilience Frontiers	UNFCCC Nairobi work programme action to maximize climate resilience beyond 2030 by harnessing the potential of disruptive frontier technologies and emerging social trends towards sustainability.

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Risk-informed Early Action Partnership (REAP)	**Working to make one billion people safer from disasters by creating a new partnership to greatly expand early action financing and improve early warning systems and the capacity to act on the risks they face.**
Resilience Measurement, Evidence and Learning Community of Practice (RMEL CoP)	A network of experts who are collaborating to improve resilience measurement concepts, approaches and methods, and their application.
Sustainable Insurance Facility (SIF)	A platform for insurance regulators and supervisors addressing sustainability and wanting to share best practices.
Task Force on Climate-related Financial Disclosures	Develops voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers and other stakeholders.
UN Climate Resilience Initiative (A2R)	Promotes climate resilience in the United Nations system and for its partners to understand and manage climate risks and hazards at scale across and within sectors and related SDGs.

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GENERAL REFERENCES & GUIDANCE ON RESILIENCE

Analysis of Resilience Measurement Frameworks	IPCC Report: Global Warming of 1.5ºC
Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) Resilience Exchange	IPCC Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation.
Call for Action: Raising Ambition for Climate Adaptation and Resilience	ISO Adaptation to climate change - Principles, requirements and guidelines
Cost of doing nothing	Lessons from the Pilot Program for Climate Resilience
EC: A Strategic Approach to Resilience	Measuring Resilience
Global Commission on Adaptation (GCA) – Adapt Now	Oxfam Framework and Guidance for Resilient Development
GRP Resilience Insights	Sendai Framework for DRR
How to analyse risk and build a roadmap to resilience	UN Common Guidance on Resilience
Integrated Conflict Prevention and Resilience Handbook	UNDRR Global Assessment Report on Disaster Risk Reduction
Future of our Pasts: Engaging Cultural Heritage in Climate Action	United in Science

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Impact 2

RESILIENT FOOD AND AGRICULTURE SYSTEMS

RESILIENCE

Nexus

Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
These actions are application to all stakeholders: **Policymakers (national, subnational and local levels), Technology providers and innovators, Business and service providers, Civil society and Financial institutions**				
1. Climate risk and vulnerability assessments, disclosure and monitoring actions	• Encourage climate risk, vulnerability and capacity assessments, disclosure and monitoring for the food and agriculture system to inform related policy decision-making processes (Action 1 & 4)	• 50% of governments, together with all actors, as part of their SDG efforts, carry out basic national, subnational and local strategies for climate risk, vulnerability and capacity mapping, disclosure and monitoring to build climate resilience of the food and agriculture systems (Action 1 & 4).	• 75 % of countries, together with all actors, have policies and regulations in the food and agriculture system that include climate risk, vulnerability and capacity mapping, disclosure and monitoring (Action 1 & 4)	• All countries and relevant actors have climate risk informed policies, plans, strategies and regulations for the food and agriculture systems (Action 1 & 4), including EWS and contingency, preparedness plans/emergency response plans (Action 2 & 3).
2. Access to early warning systems and development of early actions.	• Support countries to have risk-specific early warning systems in place for the food and agriculture sectors to be able to identify and take early action on climate extreme and slow-onset	• 50 % of countries have multi-risk early warning systems for the food and agriculture actors at the local, sub-national and national level to identify and take early action on climate	• The majority of countries have multi-risk early warning systems in place for the food and agriculture actors to be able to identify and take early action on extreme and slow-onset climate	

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	events and linking/ feeding into food security and nutrition monitoring systems.	extreme as well as slow-onset events.	events.	
3. Preparedness with contingency plans and emergency response	• Support the integration of climate risk and vulnerability emergency preparedness (including contingency and readiness measures and response strategies) at all levels for people with food and agriculture-based livelihoods.	• 50 % of the countries and actors have integrated climate risk and vulnerability into emergency preparedness (including contingency and readiness measures and response strategies) at all levels for people with food and agriculture-based livelihoods.	• The majority of countries and actors have integrated climate risk and vulnerability into emergency preparedness (including contingency and readiness measures and response strategies) at all levels for people with food and agriculture-based livelihoods.	
4. Establishment of effective governance to manage climate risks accompanied by human and institutional capacity-building	• Encourage all actors to integrate climate risk management actions into decision-making processes, including financial planning and budgeting for food and agriculture systems to deliver food security and nutrition outcomes (Action 4 & 9). • Encourage all public actors to integrate climate risk management actions in food and agriculture sector plans, policies, investments and actions at all levels in an inclusive, people-centred manner, especially with women, youth, indigenous peoples and marginal groups. • Continue to support developing countries produce NAPs and climate sensitive DRR plans with dedicated chapters for the food and agriculture sectors, and mobilize resources for implementation. • Ensure updated nationally determined contributions (NDCs) include all climate risk management	• 50% of the countries integrate climate risk management actions in food and agriculture sector plans, policies, investments and actions in an inclusive, people-centred manner, especially with women, youth, indigenous peoples and marginal groups. • 50% of all developing countries will have produced a NAP and climate sensitive DRR plans with dedicated chapters for food and agriculture sectors, and mobilising resources for implementing priority adaptation and resilience actions. • 100 % of countries are submitting NDCs which include climate risk management actions for food and agriculture systems for climate resilience and adaptation and are aligned with SDG targets. • Context-specific climate risk management actions for food and agriculture systems have been	• 100% of food and agriculture sector plans, policies, regulations and investments are climate-risk informed and mainstream the suite of climate risk management measures (Action 1 & 4). • 100% of countries are producing updated NAPs and climate sensitive DRR plans iteratively, and results of NAP implementation are measurable. • 100 % of countries are submitting updated NDCs with climate risk management actions for food and agriculture systems for resilience and adaptation actions that help deliver SDG targets. • 100% countries, private sector actors and multilateral organizations have adequately integrated climate risk management actions for food and agriculture systems, for context specific climate extreme and slow onset events into financial planning, budgeting and investment (Action 4 &	• 100% of countries have integrated climate risk management actions and food and agriculture systems in cross-sectoral and sectoral plans, policies investments and actions at all levels in an inclusive, people-centred manner, especially with women, youth, indigenous peoples and marginal groups. • 100% of actors have mainstreamed the suite of climate-risk management actions and food and agriculture systems, in their NAPs and sectoral plans, policies, and investments including successors of NDCs and SDGs.

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	actions for food and agriculture systems for climate resilience and adaptation and are aligned with Sustainable Development Goal (SDG) targets. • Encourage all public actors to set up multi-stakeholder platforms for climate risk management on national, sub-national and city-region levels for the agriculture and food systems. • Integrate climate risk management actions in food and agriculture sectors into COVID-19 recovery and build-forward-better programmes and investments to make these climate-friendly and nature-positive. (Action 4 and 9). • All other private and civil society actors to integrate climate risk management actions in their food and agriculture sector-related governance processes at all levels in an inclusive, people-centered manner, especially with women, youth, indigenous peoples and marginal groups. • Empower women's agency and leadership by securing equal tenure rights everywhere, as well as equal access to capital and production assets.	integrated into 60% of all multi-sectoral and sectoral local, sub-national and national financial planning and budgeting (Action 4 & 9).	9). • 75% of the countries integrate climate risk management actions for food and agriculture systems in cross-sectoral and sectoral plans, policies, investments and actions in an inclusive, people-centred manner, especially with women, youth, indigenous peoples and marginal groups.	
5. Nature-based solutions used to reduce risks	• Support countries and all actors to incorporate nature-based solutions (NbS) in food and agriculture plans,	• 50% of countries have incorporated food and agriculture systems in their nature-based solutions (NbS), in	• 100% of countries have incorporated food and agriculture systems in their nature-based solutions (NbS), in cross-	

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	policies, regulations and investments as well as in the updated 2021 NDCs. • Support countries to develop and apply regulations that support deforestation-free food value chains in forest rich countries.	cross-sectoral and sectoral plans, policies, regulations and investments as well as in the updated 2025 NDCs. • 50% of countries apply regulations that support deforestation-free food value chains in forest rich countries.	sectoral and sectoral plans, policies, regulations and investments as well as in the updated NDCs. • 100% of countries apply regulations that support deforestation-free food value chains in forest rich countries.	
6. Climate-proofing of infrastructure and services	• Update building codes for food and agriculture and systems related infrastructures (from production to consumption) to integrate main climate risks, ensuring they are nature-positive and low-carbon.	• Building codes for 75 % of food and agriculture systems related infrastructures, fully integrate climate risk management actions, ensuring they are nature-positive and low-carbon. • Ensure, most relevant climate risk management actions are fully integrated in 50% of the food and agriculture systems related infrastructure assets, sectors/systems and services, ensuring they are nature-positive, resilient and low-carbon.	• Building codes for 100 % of infrastructures fully integrate climate risk management actions, for food and agriculture systems related infrastructure. • Most relevant climate risk management actions are fully integrated in 100 % of the food and agriculture systems related infrastructure assets, sectors/systems and services, ensuring they are nature-positive, resilient and low-carbon.	
7. Risk transfer: insurance and social protection instruments	• Promote climate risk insurance mechanisms and nutrition- and risk-sensitive and shock-responsive social protection mechanisms in the food and agriculture sectors, for more vulnerable people to better absorb the impact of climate-related extreme events.	• 50% of the poor and most vulnerable people are covered against climate-related extreme events through climate risk insurance mechanisms in food and agriculture systems and nutrition- and risk-sensitive and shock-responsive social protection mechanisms.	• 100 % of most vulnerable people are covered against climate-related extreme events through climate risk insurance mechanisms in food and agriculture systems and nutrition- and risk- sensitive and shock-responsive social protection mechanisms.	
8. Sharing of knowledge and best practices on climate risk management	• Encourage governments and all other actors at all levels, to use/apply knowledge and best practices in climate risk management in food and	• 50% of governments and all other actors, at all level, use/ apply knowledge and best practices in climate risk management in food and	• 100% of governments and all other actors, at all levels, use/ apply knowledge and best practices in climate risk management in food and	

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	agriculture sectors, for the development/ update of related policies, rules and incentives; to drive the urgent shift of consumption patterns and the production of foods, towards healthy/ nutritious, nature- and climate-friendly and just practices in terms of reducing greenhouse gas (GHG) emissions and climate risks. • Encourage the integration of indigenous knowledge, culture, art and practices together with innovation and technology in the suite of knowledge and good practices in climate risk management actions for building the resilience of the food and agriculture system. (Action 4 and 8)	agriculture sectors, for the development of related policies, rules, and incentives, to drive the urgent shift of production and consumption patterns and the production of foods, towards nature- and climate-friendly and just practices in terms of reducing greenhouse gas (GHG) emissions and climate risks. • 50% achievement for the integration of indigenous knowledge, culture, art and practices together with innovation and technology in the suite of knowledge and good practices in climate risk management for building the resilience of the food and agriculture systems. (Action 4 and 8).	agriculture sectors, for the development of related policies, rules, and incentives, to drive the urgent shift of production and consumption patterns and the production of foods, towards nature- and climate-friendly and just practices in terms of reducing greenhouse gas (GHG) emissions and climate risks. • Indigenous knowledge, culture, art and practices are 100% integrated with innovation and technology in the suite of knowledge and good practices in climate risk management for building the resilience of the food and agriculture systems. (Action 4 and 8).	
9. Increase in the volume, quality and access of public and private finance to invest in resilience	• Increase the volume and quality of national and international public, private and blended finance, including subsidies, into climate risk informed investment in the food and agriculture systems.	• 50% of national and international public, private and blended finance, including subsidies, going into food and agriculture systems is climate risk informed.	• 100% of national and international public, private and blended finance, including subsidies, going into food and agriculture systems is climate risk informed.	

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EXISTING INITIATIVES

Adaptation of African Agriculture Initiative (AAAI)	Aims to reduce the vulnerability of Africa and its agriculture to climate change. It promotes and fosters the implementation of specific projects.
Global Alliance for Climate Smart Agriculture (GACSA)	Forum for those who work on climate-smart agriculture to share and exchange experiences, information and views on issues when adapting to climate change and mitigating greenhouse gases.
Global Landscape Forum	Platform on sustainable land use dedicated to achieving the Sustainable Development Goals and Paris Climate Agreement.
Global Panel on Agriculture and Food Systems for Nutrition	
Global Peatland Initiative	Supports countries in the conservation, better management and restoration of peatlands, and in facilitating South–South cooperation.
Food and Land Use Coalition (FOLU)	A community of organizations and individuals committed to the urgent need to transform the way we produce food and use our land for people, nature and the climate.
Just Rural Transition	Transform climate-resilient, sustainable food production, land use and eco-systems, which is urgently needed to feed a growing population without collapse of the natural systems that sustain life.
One Planet Business for Biodiversity	Action-oriented business coalition on biodiversity with a specific focus on agriculture.
Scaling Up Nutrition (SUN)	A government-led movement to improve end malnutrition in all its forms and improve nutrition resilience in 63 developing countries.

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FURTHER REFERENCES

EAT-Lancet Report on Healthy Diets From Sustainable Food Systems	Nature-Based Solutions for Climate Manifesto
Global report from the Food and Land Use Coalition (FOLU)	Voluntary guidelines for ecosystem based approaches to climate change adaptation and DRR
IPBES Land Degradation and Restoration Assessment	IPCC Report: Climate Change and Land
IPBES Global Assessment on Biodiversity and Ecosystem Services	Global Panel on Agriculture and Food Systems report: Future Food Systems: For people, our planet and prosperity
The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission report	

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Impact 3

RESILIENT WATER AND NATURAL ECOSYSTEMS

RESILIENCE

Nexus

Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
These actions are application to all stakeholders: **Policymakers (national, subnational and local levels), Technology providers and innovators, Business and service providers, Civil society and Financial institutions**				
1. Climate risk and vulnerability assessments, disclosure and monitoring actions	• Encourage climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events in water sectors and related natural ecosystems to inform policy and investment decision-making processes (Action 1 & 4)	• 50% of governments, together with all actors, as part of their SDG efforts, consider climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events as an integrated part of their water sectors and related natural ecosystems to inform policy and investment decision-making processes (Action 1 & 4)	• 75% of governments, together with all actors, as part of their SDG efforts, consider climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events as an integrated part of their water sectors and related natural ecosystems to inform policy and investment decision-making processes (Action 1 & 4)	• All countries and relevant stakeholders have climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events as an integrated part of their water sectors and related natural ecosystems to inform policy and decision-making processes (Action 1 & 4)
2. Access to early	• Support stakeholders acting in	• 50 % of the stakeholders acting in	• All stakeholders acting in "integrated"	

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Action Category	By 2021	By 2025	By 2030	By 2040
warning systems and development of early actions.	integrated water resources management (including agrifood, pastoral, forest, wetland systems and human settlement) to contribute to and benefit from risk-specific early warning systems to help identify and take early action on climate extremes and slow onset events, with water security dimension.	integrated water resources management (including agrifood, pastoral, forest, wetlands and human settlement) contribute to and benefit from risk-specific early warning systems to help identify and take early action on climate extremes and slow onset events, with water security dimension.	water resources management (including agrifood, pastoral, forest, wetlands and human settlement) contribute to and benefit from risk-specific early warning systems to help identify and take early action on climate extremes and slow onset events, with water security dimension.	
3. Preparedness with contingency plans and emergency response	• Support synergies between integrated water resources management, climate risk and vulnerability emergency preparedness (including contingency and readiness measures) and response strategies at all levels.	• 50 % of the stakeholders acting in integrated water resources management have combined integrated water resources management, climate risk and vulnerability emergency preparedness (including contingency and readiness measures) and response strategies at all levels.	• All stakeholders acting in integrated water resources management have belt synergies between integrated water resources management, climate risk and vulnerability emergency preparedness (including contingency and readiness measures) and response strategies) at all levels.	
4. Establishment of effective governance to manage climate risks accompanied by human and institutional capacity-building	• Encourage all actors to integrate climate risk management actions into decision-making processes (plans, policies, investments and actions) related to integrated water resources management in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups (Action 4 & 9). • Encourage all public actors to integrate water resources management (with all lakes and river, underground aquifers, and all wetlands) in climate risk management systems and the water energy food nexus for decision-making processes, including financial planning and	• 50% of the countries integrates climate risk management actions into their decision-making processes (plans, policies, investments and actions) related to integrated water resources management in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups. • 50% of all public actors integrates water resources management (with all lakes and river, underground aquifers, and all wetlands) in climate risk management systems and the water energy food nexus for decision-making processes, including financial planning and budgeting, to deliver	• 75% of the countries integrates climate risk management actions into their decision-making processes (plans, policies, investments and actions) related to integrated water resources management in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups. • 75% of all public actors integrates water resources management (with all lakes and river, underground aquifers, and all wetlands) in climate risk management systems and the water energy food nexus for decision-making processes, including financial planning and budgeting, to deliver	• 100% of the countries integrates climate risk management actions into their decision-making processes (plans, policies, investments and actions) related to integrated water resources management in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups. • 100% of all public actors to integrates water resources management (with all lakes and river, underground aquifers, and all wetlands) in climate risk management systems and the water energy food nexus for decision-making processes, including financial planning and budgeting, to deliver

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Action Category	By 2021	By 2025	By 2030	By 2040
	budgeting, to deliver food, health and water security and other services (Action 4 & 9). • Continue to support developing countries, produce NAPs and climate sensitive DRR plans which fully integrates water resources management in climate risk management actions (climate risk sensitive water resources management) and mobilize resources for implementation. • Ensure updated nationally determined contributions (NDCs) include climate risk sensitive integrated water resources management for related sectors, for climate resilience and adaptation targets and are aligned with Sustainable Development Goals (SDG). • Promote multi-stakeholder platforms to integrated water resources and climate risk sensitive integrated water resources management at regional, national, sub-national and local levels. • Promote climate risk sensitive integrated water resources management into COVID-19 recovery and build-forward-better programmes and investments to make these climate-friendly and nature-positive. (Action 4 and 9). • Empower women youth and marginal groups agency and leadership by promoting inclusive climate risk	food, health and water security and other services (Action 4 & 9). • 50% of all developing countries have produced a NAP and climate sensitive DRR plans which fully include climate risk-sensitive integrated water resources management and mobilising resources for implementation. • 50 % of countries are submitting NDCs which include climate risk sensitive integrated water resources management for related sectors, for climate resilience and adaptation targets which are contributing to SDGs targets. • 50% of countries have multi-stakeholder platforms established to integrated water resources and climate risk sensitive integrated water resources management at regional, national, sub-national and local levels. • Continue to support the empowerment of women youth and marginal groups agency and leadership by promoting inclusive climate risk sensitive integrated water resources management, especially in dryland areas.	food, health and water security and other services (Action 4 & 9). • 100% of countries are producing updated NAPs and climate sensitive DRR plans which fully include climate risk sensitive integrated water resources management and mobilising resources for implementation. • 100 % of countries are submitting updated NDCs which include climate risk-sensitive integrated water resources management for related sectors, for climate resilience and adaptation targets which are contributing to SDGs targets. • 100% of countries have multi-stakeholder platforms established to integrated water resources and climate risk sensitive integrated water resources management at regional, national, sub-national and local levels. • Full support is provided for the empowerment of women youth and marginal groups agency and leadership by promoting inclusive climate risk sensitive integrated water resources management, especially in dryland areas.	food, health and water security and other services (Action 4 & 9).

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	sensitive integrated water resources management, especially in dryland areas.			
5. Nature-based solutions used to reduce risks	• Increase the quantity, quality and health of natural ecosystems, against climate shocks and stresses with positive impacts on water, biodiversity, and food and nutrition security. • Support countries and all actors to incorporate nature-based solutions (NbS) into climate risk-sensitive integrated water resources management plans, policies, regulations and investments as well as in the updated 2021 NDCs. • Formalize and enforce indigenous and local communities in water ecosystem management actions, recognizing their role in protecting critical water, wetlands, forest and costal ecosystems.	• Continue to increase the quantity, quality and health of natural ecosystems, against climate shocks and stresses with positive impacts on water, biodiversity, and food and nutrition security. • 50% of countries and all actors have incorporated nature-based solution (NbS) into climate risk-sensitive integrated water resources management plans, policies, regulations and investments as well as in the updated 2025 NDCs. • Most indigenous and local communities have formalized and enforced water ecosystem management actions, empowering them as the custodians of 80% of the planets biodiversity (recognizing their role in protecting critical water, wetlands, forest and costal ecosystems).	• Continue to conserve, restore and maintain the health of natural ecosystems, against climate shocks and stresses with positive impacts on water, biodiversity, and food and nutrition security. • 100% of countries and all actors have incorporated nature-based solution (NbS) of into climate risk-sensitive integrated water resources management plans, policies, regulations and investments as well as in the updated NDCs. • All indigenous and local communities have formalized and enforced water ecosystems management actions, empowering them as the custodians of 100% of the planet's biodiversity and contributing to climate resilient food systems.	
6. Climate-proofing of infrastructure and services	• Update building codes for hybrid blue, green and grey infrastructures related to water sectors to integrate main climate risks in a given location, ensuring they are nature-positive, resilient and low-carbon. • Most relevant climate risk management actions are integrated in the water sectors related services, ensuring they are nature-positive,	• 75% of building codes for hybrid blue, green, and grey infrastructures related water sectors integrate the main climate risks in a given location, ensuring they are nature-positive, resilient and low-carbon. • Most relevant climate risk management actions are integrated at 50% in the water sectors related services, ensuring they are nature-	• 100% of building codes for hybrid blue, green, and grey infrastructures related water sectors integrate main climate risks in a given location, ensuring they are nature-positive, resilient and low-carbon. • Most relevant climate risk management actions are fully integrated (at 100%) in the water sectors related services, ensuring they	

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Action Category	By 2021	By 2025	By 2030	By 2040
	resilient and low-carbon.	positive, resilient and low-carbon.	are nature-positive, resilient and low-carbon.	
7. Risk transfer: insurance and social protection instruments	• Invest in climate risk and water insurance mechanisms and risk-sensitive and shock-responsive social protection schemes for most vulnerable people to better absorb, recover and adapt to the impact of climate-related extreme events. • Invest in climate risk-sensitive and shock-responsive social protection schemes for most vulnerable people, particularly in developing countries to better absorb, recover and adapt to the impact of climate-related extreme events.	• Climate risk and water insurance mechanisms and risk-sensitive and shock-responsive social protection schemes cover 50% of most vulnerable people to better absorb, recover and adapt to the impact of climate-related extreme events. • Climate risk-sensitive and shock-responsive social protection schemes cover 50% of most vulnerable people, particularly in developing countries to better absorb, recover and adapt to the impact of climate-related extreme events.	• Climate risk and water insurance mechanisms and risk-sensitive and shock-responsive social protection schemes cover 100% of most vulnerable people to better absorb, recover and adapt to the impact of climate-related extreme events. • Climate risk-sensitive and shock-responsive social protection schemes cover 100% of most vulnerable people, particularly in developing countries to better absorb, recover and adapt to the impact of climate-related extreme events.	
8. Sharing of knowledge and best practices on climate risk management	• Encourage countries and all stakeholders acting in water sectors, at all levels, to use/apply knowledge in climate risk sensitive integrated water management (and vice versa), for the development/ update of related policies and rules; to drive the urgent shift of water sourcing and use patterns, towards nature and climate-friendly and just good practices for reducing water loss, greenhouse gas (GHG) emissions and climate risks. • Encourage the integration of indigenous knowledge, culture, art and practices together with innovation and technology in the suite of knowledge and good practices in both integrated water resources management and climate	• 50% of countries and all stakeholders acting in water sectors, at all levels, use/apply knowledge in climate risk sensitive water management (and vice versa), for the development/ update of related policies and rules; to drive the urgent shift of water sourcing and use patterns, towards nature and climate-friendly and just good practices for reducing water loss, greenhouse gas (GHG) emissions and climate risks. • Continue to integrating indigenous knowledge, culture, art and practices together with innovation and technology in the suite of knowledge and good practices in both integrated water resources management and climate risk management for building	• 100% of countries and all stakeholders acting in water sectors management systems, at all levels, use/apply knowledge in climate risk sensitive water management (and vice versa), for the development/ update of related policies and rules; to drive the urgent shift of water sourcing and use patterns, towards nature and climate-friendly and just good practices for reducing water loss, greenhouse gas (GHG) emissions and climate risks. • Indigenous knowledge, culture, art and practices together with innovation and technology are 100% integrated in the suite of knowledge and good practices in both integrated water resources management and climate risk management for building	

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	risk management for building regenerative, low carbon and resilient societies. (Action 4 and 8).	regenerative, low carbon and resilient societies. (Action 4 and 8).	regenerative, low carbon and resilient societies. (Action 4 and 8).	
9. Increase in the volume, quality and access of public and private finance to invest in resilience.	• Increase the volume and quality of national and international public, private and blended finance, into climate risk sensitive integrated water resources management for informed investments to benefit people most threatened by climate change. • Repurpose financial incentives and subsidies for shifting to sustainable and climate risk sensitive integrated water resources management by using public health promotion tools, such as labelling, certification and other regulations for low carbon, low water and nature positive footprints.	• Continue to increase the volume and quality of national and international public, private and blended finance have into climate risk sensitive integrated water resources management for informed investments to benefit people most threatened by climate change. • Continue to shift to sustainable and climate risk sensitive integrated water resources management, by using public health promotion tools, such as labelling, certification and other regulations for low carbon, low water and nature positive footprints.	• The volume and quality of national and international public, private and blended finance is fully matching climate risk sensitive integrated water resources management in line with SDGs targets (SDG 6). • Shift to sustainable and climate risk sensitive integrated water resources management fully completed, by using public health promotion tools, such as labelling, certification and other regulations for low carbon, low water and nature positive footprint.	

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EXISTING INITIATIVES

Alliance for Water Stewardship	Collaboration of businesses, non-governmental organizations and public sector actors working on the sustainability of local water resources through the adoption and promotion of a universal framework for the sustainable use of water.
Business Alliance for Water and Climate	Alliance of companies committed to analyzing and sharing water-related risks; measuring and reporting water use data; and reducing impacts on water in operations and throughout the value chain.
Zurich Flood Resilience	Multi-sector partnership focusing on finding practical ways to help communities strengthen their resilience to floods globally.

FURTHER REFERENCES

Landscape approach for disaster risk reduction in 7 steps	Nature-based flood protection: Principles and implementation guidance.
Water Shocks: Wetlands and Human Migration in the Sahel	Water Resilience and Climate Adaptation

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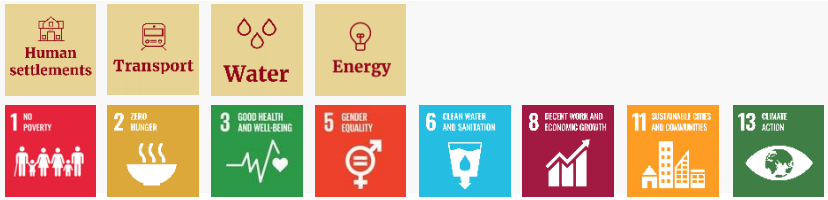
Impact 4

RESILIENT CITIES

RESILIENCE

Nexus



Action Category	By 2021	By 2025	By 2030	By 2040
These actions are application to all stakeholders: **Policymakers (national, subnational and local levels), Technology providers and innovators, Business and service providers, Civil society and Financial institutions**				
1. Climate risk and vulnerability assessments, disclosure and monitoring actions	• Encourage climate risk, vulnerability and capacity assessments, disclosure and monitoring for people and built environment (grey, green and hybrid infrastructure and services) in human settlements to inform related policy decision-making processes in city-regions. (Action 1 & 4).	• 50% of governments, together with all actors, as part of their SDG efforts, carry out basic national, subnational and local strategies for climate risk, vulnerability and capacity mapping, disclosure and monitoring for people and built environment (grey, green and hybrid infrastructure and services) in human settlements to inform related policy decision-making processes in city-regions (Action 1 & 4).	• 75 % of governments, together with all actors, as part of their SDG efforts, carry out basic national, subnational and local strategies for climate risk, vulnerability and capacity mapping, disclosure and monitoring for people and built environment (grey, green and hybrid infrastructure and services) in human settlements to inform related policy decision-making processes in city-regions (Action 1 & 4).	• All countries and relevant actors have climate risk informed policies, plans, strategies and regulations (Action 1 & 4), including EWS and contingency, preparedness plans/emergency response plans (Action 2 & 3).

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
2. Access to early warning systems and development of early actions.	• Support countries to have risk-specific early warning systems in place for people and built environment (grey, green and hybrid infrastructure and services) in human settlements to be able to identify and take early action on climate extreme and slow-onset events in city-regions.	• 50 % of countries have multi-risk early warning systems in place for people and built environment (grey, green and hybrid infrastructure and services) in human settlements at the local, sub-national and national level to identify and take early action on climate extreme as well as slow-onset events in city-regions.	• 75 % countries have multi-risk early warning systems in place for people and built environment (grey, green and hybrid infrastructure and services) in human settlements at the local, sub-national and national level to identify and take early action on climate extreme as well as slow-onset events in city-regions (Action 2)	•
3. Preparedness with contingency plans and emergency response	• On climate extreme events, support capacities to implement emergency preparedness, anticipatory action and response strategies at all levels for people and built environment (grey, green and hybrid infrastructure and services) in human settlements.	• For climate extreme events, 50 % of the countries and actors have capacities to implement emergency preparedness, anticipatory action and response strategies at all levels for people and built environment (grey, green and hybrid infrastructure and services) in human settlements.	• For climate extreme events, 75 % of the countries and actors have capacities to implement emergency preparedness, anticipatory action and response strategies at at all levels for people and built environment (grey, green and hybrid infrastructure and services) in human settlements.	•
4. Establishment of effective governance to manage climate risks accompanied by human and institutional capacity-building	• Encourage governments to integrate climate risk management actions into decision-making processes (plans, policies, investments and actions) related to human settlements in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups (Action 4 & 9). • Continue to support developing countries produce NAPs and climate sensitive DRR plans with dedicated chapters on human settlements (people and built environment in city-regions), and mobilize resources for implementation. • Ensure updated nationally determined contributions (NDCs)	• 50% of all governments have integrated climate risk management actions into decision-making processes (plans, policies, investments and actions) related to human settlements in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups (Action 4 & 9). • 50% of all developing countries will have produced a NAP and climate sensitive DRR plans with dedicated chapters on human settlements (people and built environment in city-regions), and mobilize resources for implementation. • 100 % of countries are submitting	• 75 % of all governments have integrated climate risk management actions into decision-making processes (plans, policies, investments and actions) related to human settlements in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups (Action 4 & 9). • 75 % of all developing countries will have produced a NAP and climate sensitive DRR plans with dedicated chapters on human settlements (people and built environment in city-regions), and mobilize resources for implementation. • 75 % of countries are submitting NDCs	• All governments have integrated climate risk management actions into decision-making processes (plans, policies, investments and actions) related to human settlements in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups (Action 4 & 9) • All developing countries have produced a NAP and climate sensitive DRR plans with dedicated chapters on human settlements (people and built environment in city-regions), and mobilize resources for implementation. • All countries have submitted NDCs which include climate risk

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Action Category	By 2021	By 2025	By 2030	By 2040
	include all climate risk management actions for human settlements for climate resilience and adaptation and are aligned with Sustainable Development Goal (SDG) targets. • Encourage all public actors to set up multi-stakeholder platforms for climate risk management at city-region level and to ensure that previous pledges, commitments and policy-decisions made by governments, companies and other actors in relation to climate risk management actions are followed and, when not, actors are held accountable. • Integrate climate risk management actions into COVID-19 recovery and build-forward-better city-region programmes and investments to make these climate-friendly and nature-positive. (Action 4 and 9). • All other private and civil society actors to integrate climate risk management actions in city-region governance processes at all levels in an inclusive, people-centred manner, especially with women, youth, indigenous peoples and marginal groups.	NDCs which include climate risk management actions for human settlements for climate resilience and adaptation and are aligned with SDG targets. • Context-specific climate risk management actions for human settlements have been integrated into 50% of all multi-sectoral and sectoral local, sub-national and national financial planning and budgeting (Action 4 & 9). • 50% of all public actors have set up multi-stakeholder platforms for climate risk management at city-region level and have ensured that previous pledges, commitments and policy-decisions made by governments, companies and other actors in relation to climate risk management actions are followed and, when not, actors are held accountable. • All other private and civil society actors integrate climate risk management actions in 75% of city-region governance processes at all levels in an inclusive, people-centred manner, especially with women, youth, indigenous peoples and marginal groups.	which include climate risk management actions for human settlements for climate resilience and adaptation and are aligned with SDG targets. • Context-specific climate risk management actions for human settlements have been integrated into 75 % of all multi-sectoral and sectoral local, sub-national and national financial planning and budgeting (Action 4 & 9). • 75 % of all public actors have set up multi-stakeholder platforms for climate risk management at city-region level and have ensured that previous pledges, commitments and policy-decisions made by governments, companies and other actors in relation to climate risk management actions are followed and, when not, actors are held accountable. • All other private and civil society actors integrate climate risk management actions in 100 % of city-region governance processes at all levels in an inclusive, people-centred manner, especially with women, youth, indigenous peoples and marginal groups.	management actions for human settlements for climate resilience and adaptation and are aligned with SDG targets. • Context-specific climate risk management actions for human settlements have been integrated into all multi-sectoral and sectoral local, sub-national and national financial planning and budgeting (Action 4 & 9). • All public actors have set up multi-stakeholder platforms for climate risk management at city-region level and have ensured that previous pledges, commitments and policy-decisions made by governments, companies and other actors in relation to climate risk management actions are followed and, when not, actors are held accountable.
5. Nature-based solutions used to reduce risks	• Support all city region-related actors to incorporate nature-based solutions (NbS) in plans, policies, regulations and investments for human settlements.	• 50% of city-region related actors have incorporated nature-based solutions (NbS), in cross-sectoral and sectoral plans, policies, regulations and investments for human settlements,	• All city-region related actors have incorporated nature-based solutions (NbS), in cross-sectoral and sectoral plans, policies, regulations and investments for human settlements,	

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Action Category	By 2021	By 2025	By 2030	By 2040
	• Encourage cities in the most stressed river basins to establish source water protection plans.	as well as in their updated 2025 NDCs. • Ensure cities in 75% of the most stressed river basins have established source water protection schemes.	as well as in their updated 2025 NDCs. • Ensure cities in 100 % of the most stressed river basins have established source water protection schemes.	
6. Climate-proofing of infrastructure and services	• Update building codes for built environment in human settlements to integrate main climate risks, ensuring they are nature-positive and low-carbon and based on the five circular economy strategies: recover, reduce, reuse, rethink and regenerate. • Encourage actors to integrate most relevant climate risk management actions in infrastructure assets, sectors/systems and services in human settlements, ensuring they are nature-positive, resilient and low-carbon. • Support the implementation of segregated waste collection and management schemes (recycling/organics/residual waste) in human settlements. • Promote universal and equitable access to safe, affordable and climate-resilient drinking water and sanitation services (SDG 6), especially servicing the most vulnerable populations.	• 75% of building codes for built environment in human settlements fully integrate climate risk management actions, ensuring they are nature-positive and low-carbon and based on the five circular economy strategies: recover, reduce, reuse, rethink and regenerate. • Ensure, most relevant climate risk management actions are fully integrated in 50% of infrastructure assets, sectors/systems and services in human settlements, ensuring they are nature-positive, resilient and low-carbon. • Ensure segregated waste collection and management schemes (recycling/organics/residual waste) in human settlements for at least 50 % of produced waste. • Ensure universal and equitable access to safe, affordable and climate-resilient drinking water and sanitation services (SDG 6) for at least 75 % of urban population, especially servicing the most vulnerable populations.	• All building codes for built environment in human settlements fully integrate climate risk management actions, ensuring they are nature-positive and low-carbon and based on the five circular economy strategies: recover, reduce, reuse, rethink and regenerate. • Ensure, most relevant climate risk management actions are fully integrated in all infrastructure assets, sectors/systems and services in human settlements, ensuring they are nature-positive, resilient and low-carbon. • Ensure segregated waste collection and management schemes (recycling/organics/residual waste) in human settlements for all produced waste. • Ensure universal and equitable access to safe, affordable and climate-resilient drinking water and sanitation services (SDG 6) for at least 100 % of urban population, especially servicing the most vulnerable populations.	
7. Risk transfer: insurance and social protection instruments	• Promote climate risk insurance mechanisms and risk-informed mechanisms for people and built environment in human settlements to	• 50% of the poor and most vulnerable people in human settlements are covered against climate-related extreme events through climate risk	• 100 % of the poor and most vulnerable people in human settlements are covered against climate-related extreme events	

* unedited version

Action Category	By 2021	By 2025	By 2030	By 2040
	better absorb the impact of climate-related extreme events. • Promote climate risk-sensitive and shock-responsive social protection schemes for most vulnerable people in human settlements to support anticipatory and absorbing capacities.	insurance mechanisms and risk-informed and shock-responsive social protection mechanisms.	through climate risk insurance mechanisms and risk-informed and shock-responsive social protection mechanisms.	
8. Sharing of knowledge and best practices on climate risk management	• Encourage governments and all other actors at all levels, use/apply knowledge and best practices in climate risk management for the development/ update of human settlement-related policies, rules and incentives to drive the urgent shift of construction regulations and consumption patterns towards nature- and climate-friendly and just practices in terms of reducing greenhouse gas (GHG) emissions and climate impacts, based on the five circular economy strategies: recover, reduce, reuse, rethink and regenerate. • Encourage the integration of indigenous knowledge, culture, art and practices together with innovation and technology in the suite of knowledge and good practices in climate risk management actions for building the resilience of human settlements. (Action 4 and 8).	• 50% of governments and all other actors, at all level, use/ apply knowledge and best practices in climate risk management in human settlements in city-regions, for the development of human settlement-related policies, rules, and incentives, to drive the urgent shift of construction regulations and consumption patterns and the production of foods, towards nature- and climate-friendly and just practices in terms of reducing greenhouse gas (GHG) emissions and climate impacts, based on the five circular economy strategies: recover, reduce, reuse, rethink and regenerate. • 50% of integration of indigenous knowledge, culture, art and practices together with innovation and technology in the suite of knowledge and good practices in climate risk management for building the resilience of human settlements. (Action 4 and 8).	• All governments and all other actors, at all level, use/ apply knowledge and best practices in climate risk management in human settlements in city-regions, for the development of human settlement-related policies, rules, and incentives, to drive the urgent shift of construction regulations and consumption patterns and the production of foods, towards nature- and climate-friendly and just practices in terms of reducing greenhouse gas (GHG) emissions and climate impacts, based on the five circular economy strategies: recover, reduce, reuse, rethink and regenerate. • Full integration of indigenous knowledge, culture, art and practices together with innovation and technology in the suite of knowledge and good practices in climate risk management for building the resilience of human settlements. (Action 4 and 8).	

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
9. Increase in the volume, quality and access of public and private finance to invest in resilience.	• Increase the volume and quality of national and international public, private and blended finance into climate risk informed investment for building climate resilient human settlements. • Encourage finance institutions make available capital and access to funding sources for resilience and adaptation in human settlements within and across sectors (transport, energy, infrastructure and services, food and water).	• 50% of national and international public, private and blended finance is going into climate risk informed investment for building climate resilient human settlements. • Ensure finance institutions make available significant capital and access funding sources for resilience and adaptation in human settlements within and across sectors (transport, energy, infrastructure and services, food and water).	• All national and international public, private and blended finance is going into climate risk informed investment for building climate resilient human settlements.	

* unedited version

EXISTING INITIATIVES

C40	C40 cities are taking bold climate action, leading the way towards a healthier and more sustainable future.
Coalition on Urban Transitions	Coalition members collaborate to fill key knowledge gaps facing national governments looking to help drive progress towards sustainable cities.
Covenant of Mayors	Signatory cities pledge action to support the implementation of the European Union's 40 per cent greenhouse gas reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change.
Global Alliance for Buildings and Construction	Platform for governments, the private sector, civil society, and intergovernmental and international organizations to increase action towards a zero-emission, efficient and resilient buildings and construction sector.
ICLEI – Local Governments for Sustainability	Global network of more than 1,750 local and regional governments committed to sustainable urban development.
Leadership of Urban Climate Investments (LUCI)	Aims to accelerate the scale-up and leveraging of climate finance for climate-friendly urban infrastructure.
Urban Poor Fund International	Community-driven fund led by Slum/Shack Dwellers International and working to provide control over development and climate funding to the urban poor.

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Impact 5

RESILIENT COASTAL ZONES AND OCEANS

RESILIENCE

Nexus

Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
These actions are application to all stakeholders: **Policymakers (national, subnational and local levels), Technology providers and innovators, Business and service providers, Civil society and Financial institutions**				
1. Climate risk and vulnerability assessments, disclosure and monitoring actions	• Encourage climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events (including sea level rise) in oceans and coastal areas to drive related policy and investment decision-making processes for resilient and sustainable marine sectors (Action 1 & 4).	• 50% of governments and inter-regional bodies in oceans and coastal areas, together with all actors, carry out basic national, sub-national and local strategies for climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events (including sea level rise) to drive related policy and investment decision-making processes for resilient and sustainable marine sectors (Action 1 & 4).	• 75 % governments and inter-regional bodies in oceans and coastal areas, together with all actors, carry out basic national, subnational and local strategies for climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events (including sea level rise) to drive related policy and investment decision-making processes for resilient and sustainable marine sectors (Action 1 & 4).	• All governments and inter-regional bodies on oceans and coastal areas together with all interested actors carry out basic national, subnational and local strategies for climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events (including sea level rise) to drive related policy and investment decision-making processes for resilient and sustainable marine sectors (Action 2 & 3).

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
2. Access to early warning systems and development of early actions.	• Support countries to have Support stakeholders acting in oceans and coastal zones to have risk-specific early warning systems in place to be able to identify and take early action on climate extremes for safety at sea and linking to food and water security monitoring.	• 50 % of governments and inter-regional bodies together with all the stakeholders acting in oceans and coastal zones have multi-risk early warning systems in place, to be able to identify and take actions on climate extremes for safety at sea and linking to food and water security monitoring.	• All governments and inter-regional bodies together with all stakeholders acting in oceans and coastal zones have multi-risk early warning systems in place, to be able to identify and take actions on climate extremes for safety at sea and linking to food and water security monitoring.	
3. Preparedness with contingency plans and emergency response	• On climate extreme events, support capacities to implement emergency preparedness, anticipatory action and response strategies at all levels for people living in coastal areas and small islands developing states, especially for people with marine-depending livelihoods.	• 50 % of the costal and islands countries have integrated climate risk management actions into the implementation of their emergency preparedness, anticipatory action and response strategies at all levels for people living in coastal areas and small island developing states, especially for people with marine-dependent livelihoods.	• The majority of costal and islands countries have integrated climate risk management actions into the implementation of their emergency preparedness, anticipatory action and response strategies at all levels, for people living in coastal areas and small island developing states, especially for people with marine-dependent livelihoods (Action 3)	
4. Establishment of effective governance to manage climate risks accompanied by human and institutional capacity-building	• Encourage all actors to integrate climate risk management actions into decision-making processes (plans, policies, investments and actions) related to marine and coastal regions in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups (Action 4 & 9). • Encourage all public actors to integrate climate risk management actions into decision-making processes, including financial planning and budgeting for the marine and coastal regions to deliver food and	• 50% of the costal and small Islands countries integrate climate risk management actions in their decision making process (plans, policies, investments and actions) related to marine and coastal regions in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups. • 50% of all costal countries, including small Islands developing states will have produced a NAP and climate sensitive DRR plans which fully integrates climate risk management in the marine and coastal regions, and	• 100% of costal and mall islands countries integrate climate risk management actions in their decision-making process (plans, policies, investments and actions) related to marine and coastal regions in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups (Action 1 & 4). • 100% of costal countries including small islands developing states have produced a NAP and climate sensitive DRR plans which fully integrates climate risk management in the marine and coastal regions, and	• 100% of costal and islands countries have integrated climate risk management actions in cross-sectoral and sectoral plans, policies investments at all levels, in an inclusive, regenerative and people-centred manner and that deliver food and water security outcomes for all within planetary boundaries, especially with women, youth, indigenous peoples and marginal groups. • 100% of stakeholders acting in oceans and costal zones have mainstreamed the suite of climate-risk management actions for the marine and coastal

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	water security (Action 4 & 9). • Continue to support developing costal countries and small islands developing states, produce NAPs and climate sensitive DRR plans which fully integrates climate risk management in the marine and coastal regions, and mobilize resources for implementation. • Ensure updated nationally determined contributions (NDCs) include all climate risk management actions for costal countries and small islands developing states for climate resilience and adaptation in marine-related sectors, and are aligned with Sustainable Development Goal (SDG) targets. • Encourage all public actors to set up multi-stakeholder platforms for climate risk management on ocean and costal systems at local, sub-national, national and inter-regional levels. • Integrate climate risk management actions into the COVID-19 recovery and build-forward-better programmes and investment in ocean and costal system by costal and islands countries to make these climate-friendly and nature-positive (Action 4 and 9). • Enable markets and public sector actions to incentivize nature positive, climate-resilient and low-emission practices for local coastal areas and fisheries entrepreneurs across	mobilize resources for implementation. • 75% of costal countries and small islands developing states are submitting NDCs which include climate risk management actions for the marine and coastal regions for climate resilience and adaptation in marine-related sectors, and are aligned with SDG targets. • Context-specific climate risk management actions for costal countries and small islands developing states have been integrated into 60% of all multi-sectoral and sectoral local, sub-national and national financial planning and budgeting (Action 4 & 9).	mobilize resources for implementation. • 100 % of costal countries and small islands developing states are submitting updated NDCs which include climate risk management actions for the marine and coastal regions for climate resilience and adaptation in marine-related sectors, and are aligned with the SDG targets. • 100% of costal and small islands countries, private sector actors and multilateral organizations have adequately integrated climate risk management actions for th marine and costal-depending livelihood, for context specific climate extremes and slow onset events into financial planning and budgeting and investment (Action 4 & 9). • 75% of the costal countries and small islands developing states have integrated climate risk management actions in the marine and coastal regions cross-sectoral and sectoral plans, policies, investments and actions in an inclusive, regenerative and people-centred manner, especially with women, youth, indigenous peoples and marginal groups.	regions, in their NAPs and sectoral plans, policies, and investments including successors of NDCs and SDGs.

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	sectors. • Empower women youth and marginal groups agency and leadership by promoting equal access and support to capital, innovations, technologies and services for marine-dependent livelihoods, especially in blue food.			
5. Nature-based solutions used to reduce risks	• Support coastal and Islands countries to incorporate nature-based solutions (NbS) in marine and coastal plans, policies, regulations and investments as well as in the updated 2021 NDCs. • Support coastal and islands countries to develop and apply policies and regulations that support nature and climate friendly marine food value chains for local production and consumption and sustainable trade. • Formalize and enforce indigenous and local community in marine ecosystem management, recognizing their role in protecting critical oceans and costal ecosystems.	• 50% of coastal and islands countries have incorporated nature-based solutions (NbS) in their marine and costal, plans, policies, regulations and investments as well as in the updated 2025 NDCs, because natural infrastructures are cost effective protective measures. • 50% of coastal and islands apply regulations that support marine and climate friendly marine food value chains for local production and consumption and sustainable trade. • Most indigenous people and local community have formalized and enforced marine ecosystem management, recognizing their role in protecting critical oceans and costal ecosystems and empowering them as the custodians of 80% of the planets biodiversity. • Increase the quantity, quality and resilience of coastal and other marine ecosystems against climate shocks and stresses with positive impacts on biodiversity, and food and nutrition security.	• 100% of coastal and islands countries have incorporated nature-based solutions (NbS) in their marine and costal, plans, policies, regulations and investments as well as in the updated 2025 NDCs, because natural infrastructures are cost effective protective measures. • 100% of costal and islands countries apply policies and regulations that support marine and climate friendly marine food value chains for local production and consumption and sustainable trade. • All indigenous people have formalized and enforced marine ecosystem management, recognising their role in protecting critical oceans and costal ecosystems and empowering them as the custodians of 100% of the planet's biodiversity and contributing to climate resilient food systems. • Continue to increase the quantity, quality and resilience of costal and other marine ecosystems against climate shocks and stresses with positive impacts on biodiversity, food and nutrition security.	

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
6. Climate-proofing of infrastructure and services	• Update building codes for coastal and Islands countries related marine infrastructures across sectors to integrate main climate risks (including sea level rise) in a given location, ensuring they are nature-positive, resilient and low-carbon.	• Building codes for 75 % of coastal and islands countries related marine infrastructure across sectors, fully integrate main climate risks (including sea level rise) in given location, ensuring they are nature-positive, resilient and low-carbon. • 50% of the most relevant climate risk management actions are fully integrated in the marine and coastal regions related services, ensuring they are nature-positive, resilient and low-carbon.	• Building codes for 100 % of coastal and islands countries related marine infrastructure across sectors, fully integrates main climate risks (including sea level rise) in given location, ensuring they are nature-positive, resilient and low carbon. • 100% of the most relevant climate risk management actions are fully integrated in the marine and coastal regions related services, ensuring they are nature-positive, resilient and low-carbon.	
7. Risk transfer: insurance and social protection instruments	• Promote climate risk insurance mechanisms and risk-sensitive and shock-responsive social protection schemes for more coastal and Islands vulnerable people to better absorb, recover and adapt to the impact of climate-related extreme events and possible relocation due to irreversible sea level rise. • Promote climate risk-sensitive and shock-responsive social protection schemes for most vulnerable people in coastal and Islands countries to better absorb, recover and adapt to the impact of climate-related extreme events and possible relocation due to irreversible sea level rise.	• Climate risk insurance mechanisms and risk-sensitive and shock-responsive social protection schemes are promoted for 50% of coastal and Islands vulnerable people, for them to better absorb, recover and adapt to the impact of climate-related extreme events and possible relocation due to irreversible sea level rise. • Climate risk-sensitive and shock-responsive social protection schemes are promoted for 50% of most vulnerable people in coastal and Islands countries, for them to better absorb, recover and adapt to the impact of climate-related extreme events and possible relocation due to irreversible sea level rise.	• Climate risk insurance mechanisms and risk-sensitive and shock-responsive social protection schemes are promoted for 100% of coastal and Islands vulnerable people, for them to better absorb, recover and adapt to the impact of climate-related extreme events and possible relocation due to irreversible sea level rise. • Climate risk-sensitive and shock-responsive social protection schemes are promoted for 100% of most vulnerable people in costal and Islands countries, for them to better absorb, recover and adapt to the impact of climate-related extreme events and possible relocation due to irreversible sea level rise.	
8. Sharing of knowledge and best	• Encourage costal and Islands countries and all stakeholders acting	• 50% of costal and islands countries and all stakeholders acting in oceans	• 100% of costal and islands countries and all stakeholders acting in oceans	

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
practices on climate risk management	in ocean and coastal zones, at all levels, to share and apply knowledge in climate risk management in marine and costal sectors, for the update of related policies and rules; to drive the urgent shift to patterns of marine production and consumption of good, services and blue food, towards nature and climate-friendly and just practices for reducing, greenhouse gas (GHG) emissions and climate risks and food waste and loss. • Encourage the integration of indigenous knowledge, culture, art together with innovation and technology in the suite of good practices in climate risk management actions for building regenerative, low carbon and resilient marine and coastal regions. (Action 4 and 8).	and coastal zones, at all level, to share and apply knowledge in climate risk management in marine and coastal sectors, for the update of related policies and rules, to drive the urgent shift to patterns of marine production and consumption of goods, services and blue food, towards nature and climate-friendly and just practices for reducing greenhouse gas (GHG) emissions and climate risks and food waste and loss. • 75% of indigenous knowledge, culture, art together with innovation and technology in the suite of good practices in climate risk management actions for building regenerative, low carbon and resilient marine and coastal regions (Action 4 and 8).	and coastal zones, at all level, to share and apply knowledge in climate risk management in marine and coastal sectors, for the update of related policies and rules, to drive the urgent shift to patterns of marine production and consumption of good, services and blue food, towards nature and climate-friendly and just practices for reducing greenhouse gas (GHG) emissions and climate risks and food waste and loss. • 100% of indigenous knowledge, culture, art together with innovation and technology in the suite of good practices in climate risk management actions for building regenerative, low carbon and resilient marine and coastal regions (Action 4 and 8).	
9. Increase in the volume, quality and access of public and private finance to invest in resilience.	• As a matter of priority, increase the volume and quality of national and international public, private and blended finance, into climate risk informed investments for the adaptation of all marine and coastal sectors and the people, most threaten by climate change. • Repurpose financial incentives and subsidies for shifting to sustainable climate-friendly fisheries or blue food consumption by using public health promotion tools, such as labelling, certification.	• 50% of national and international public, private and blended finance for the adaptation of marine and coastal sectors and the people most threaten by climate change, is climate risk informed investment • 50% of the financial incentives and subsidies is repurposed for the shifting to sustainable climate-friendly fisheries or blue food consumption by using public health promotion tools, such as labelling, certification.	• 100% of national and international public, private and blended finance for the adaptation of marine and coastal sectors and the people most threaten by climate change, is climate risk informed investment • 100% of the financial incentives and subsidies is repurposed for the shifting to sustainable climate-friendly fisheries or blue food consumption by using public health promotion tools, such as labelling, certification.	

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EXISTING INITIATIVES

Future Oceans Alliance	Global alliance of organizations and individuals working to enhance the sustainable development of the ocean from the local to the global levels, inclusive of local communities.
Global Ocean Forum	International and independent non-profit forum whose mission is to promote good governance of the ocean, healthy marine ecosystems and sustainable development.
Ocean Risk and Resilience Action Alliance (ORRAA)	Multi-sector collaboration between governments, financial institutions, the insurance industry, environmental organizations and stakeholders from the Global South.

FURTHER REFERENCES

IPCC Report on the Ocean and Cryosphere in a Changing Climate

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Impact 6

RESILIENT INFRASTRUCTURE AND SERVICE

COVERING TRANSPORT, ENERGY AND INDUSTRY

RESILIENCE

Nexus

Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
These actions are application to all stakeholders: **Policymakers (national, subnational and local levels), Technology providers and innovators, Business and service providers, Civil society and Financial institutions**				
1. Climate risk and vulnerability assessments, disclosure and monitoring actions	• Encourage climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events (including sea level rise) to drive related policy and investment decision-making processes for resilient and sustainable transport, energy and industrial sectors (Action 1 & 4). • Encourage integration of climate impact assessments and resilience-building for critical transport,	• 50% of governments and inter-regional bodies, together with all actors, carry out basic national, sub-national and local strategies for climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events (including sea level rise) to drive related policy and investment decision-making processes for resilient and sustainable transport, energy and industrial sectors (Action 1 & 4).	• 75 % governments and inter-regional bodies, together with all actors, carry out basic national, subnational and local strategies for climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events (including sea level rise) to drive related policy and investment decision-making processes for resilient and sustainable transport, energy and industrial sectors (Action 1 & 4).	• All governments and inter-regional bodies, together with all interested actors, carry out basic national, subnational and local strategies for climate risk, vulnerability and capacity assessments, disclosure and monitoring of climate extremes and slow onset events (including sea level rise) to drive related policy and investment decision-making processes for resilient and sustainable transport, energy and industrial sectors (Action 1 & 3).

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	energy and other infrastructure into land and marine spatial planning, national adaptation plans, and other plans and processes (including the 2030 Agenda for Sustainable Development, the Paris Agreement and Sendai Framework; Action 1 & 4) • Review legal, policy and institutional frameworks for effective climate risk assessment and adaptation planning for transport, industry and energy infrastructure (Action 1 & 4).			
2. Access to early warning systems and development of early actions.	• Support and encourage the development of risk-specific early warning systems for critical infrastructure, to be able to identify and take early action on climate extremes.	• 50% of governments, regional bodies, and all pertinent stakeholders, have developed multi-hazard monitoring and early warning systems that provide integrated information and decision-making support for critical transport, energy and industry infrastructure. • Refine real-time hydro-meteorological monitoring and early warning systems.	• 100% of governments, regional bodies, and all pertinent stakeholders, have developed multi-hazard monitoring and early warning systems that provide integrated information and decision-making support for critical transport, energy and industry infrastructure.	
3. Preparedness with contingency plans and emergency response	• Recommend that multi-hazard climate risk assessments, adaptation strategies and contingency/disaster response plans are prepared and implemented by responsible entities for all critical transport, industry and energy infrastructure and services (Action 1, 3 & 4).	• 50 % of countries have integrated climate risk management actions for critical infrastructure into the implementation of their emergency preparedness, anticipatory action and response strategies at all levels (Action 3 & 4).	• 100 % of countries have integrated climate risk management actions for critical infrastructure into the implementation of their emergency preparedness, anticipatory action and response strategies at all levels (Action 3 & 4).	

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	• On climate extreme events, support capacities to implement emergency preparedness, anticipatory action and response strategies at all levels for critical infrastructure. • Address redundancy and mapping of interdependencies and critical services to reduce cascading failures.			
4. Establishment of effective governance to manage climate risks accompanied by human and institutional capacity-building	• Encourage all actors to integrate climate risk management actions into decision-making processes (plans, policies, investments and actions) related to transport, energy, industrial and other critical infrastructure. This should be done in an inclusive, regenerative and people-centred manner, with particular consideration of women, youth, indigenous peoples and marginal groups (Action 4 & 9). • Encourage all public actors to integrate climate risk management actions into decision-making processes, including financial planning and budgeting for transport, energy, industrial and other critical infrastructure (Action 4 & 9). • Continue to support developing countries and small islands developing states, to produce NAPs and climate sensitive DRR plans which fully integrates climate risk management into infrastructure	• Put in place policies, governance, legal and institutional frameworks to effectively support climate-resilience of all new transport, energy and other infrastructure to at least 2050. • 50% of countries integrate climate risk management actions in their decision-making process (plans, policies, investments and actions) related to transport, energy and other critical infrastructure. • 50% of all countries, will have produced a NAP and climate sensitive DRR plans which fully integrates climate risk management of critical infrastructure, and mobilize resources for implementation of these plans. • 75% of countries submit NDCs which include climate risk management actions for the critical infrastructure. • Context-specific climate risk management actions for critical	• Ensure policies, governance, legal and institutional frameworks are in place to support the climate-resilience of all critical (transport, energy and other) infrastructure to (at least) 2050. • 100% of countries integrate climate risk management actions in their decision-making process (plans, policies, investments and actions) related to transport, energy and other critical infrastructure. • 100% of all countries, will have produced a NAP and climate sensitive DRR plans which fully integrates climate risk management of critical infrastructure, and mobilize resources for implementation of these plans. • 100% of all countries, will have produced a NAP and climate sensitive DRR plans which fully integrates climate risk management of critical infrastructure, and mobilize resources for	• Ensure the climate-resilience of all critical transport, energy and other infrastructure to at least 2100. • Ensure integrated planning policies (e.g. energy-water-land-use nexus) are in place to reduce climate-risks for infrastructure and operations. • Consolidate organizational capacity to manage climate risks affecting the full lifecycle of critical infrastructure services, including transport infrastructure, systems and operations, and the development and operation of energy generation, distribution and transmission. • Ensure innovation for efficient and resilient electricity systems and other critical infrastructure is a continuing priority. • Ensure decarbonized power systems (electricity installations) are resilient to ever-increasing climate impacts. • Ensure climate change considerations are fully integrated into business and service provider

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	planning, and subsequently mobilize resources for implementation. • Ensure updated nationally determined contributions (NDCs) include actions on resilient infrastructure and services, including on resource mobilisation needs (Action 4 & 9). • Encourage all public actors to set up multi-stakeholder platforms for climate risk management of critical infrastructure at local, sub-national, national and inter-regional levels. • Mainstream climate change considerations into business and service provider planning, management, maintenance and operational decision-making for critical transport and energy infrastructure and systems. • Integrate climate risk management actions into the COVID-19 recovery and build-forward-better programmes and investment, particularly as it pertains to transport, energy and industrial infrastructure (Action 4 and 9). • Enable markets and public sector actions to incentivize nature positive, climate-resilient and low-emission practices for infrastructure development. • Empower women, youth and marginal groups by promoting	infrastructure have been integrated into 60% of all multi-sectoral and sectoral local, sub-national and national financial planning and budgeting (Action 4 & 9). • Ensure cities have water management plans in place that incorporate wastewater reuse. • Develop and introduce public procurement policies that prioritize climate-resilient vehicles. • Implement policies to optimize energy efficiency and demand response in appliances, transport and buildings. • Ensure the relocation of critical transport and energy infrastructure out of high-risk areas through the use of land-use planning and other tools where feasible. • Develop training and capacity building for transportation/energy/infrastructure professionals to integrate climate risks and promote resilience. • Ensure companies of all sizes commit to 1.5^0 net zero targets. • Promote civil society and stakeholder engagement to support the climate resilience of all new transport and energy infrastructure and systems (as well as vehicles, where necessary) to at least 2050.	implementation of these plans. • 100% of countries submit NDCs which include climate risk management actions for the critical infrastructure. • Ensure human capacity is in place to maintain, operate and govern resilient and critical transport, energy and other infrastructure. • Ensure that renewable energy solutions contribute to adaptation strategies for land use, transport, energy and other infrastructure (including water/sanitation and communication infrastructure).	planning, management, maintenance and operational decision-making for critical transport and energy infrastructure and systems.

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	equal access and support to capital, innovations, technologies and services for resilient transport, energy and industrial infrastructure development. • Accelerate institutional and human capacity and technology development to identify and manage climate risks to transport, energy and other critical infrastructure. • Ensure policies promote climate-resilient transport modes for safe and efficient transportation of goods and people. • Develop model language for regulatory development to promote energy sector resilience. • Develop guidance and training for energy and transport infrastructure risk reduction (e.g. hardening solar and wind resources in areas that have high solar/wind potential but experience hurricanes/cyclones). • Ensure business capacities are in place to manage climate risks to existing assets and operations. • Implement multi-stakeholder public awareness campaigns to increase transparency and track decisions on resilient transport, energy, water and other infrastructure and commitments. • Support an engaged and proactive			

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Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	public in decisions concerning resilient electricity infrastructure. • Raise awareness of health, safety and (socio)economic issues if vehicles, transport and energy infrastructure and systems are not climate-resilient.			
5. Nature-based solutions used to reduce risks	• Support and encourage countries and all relevant actors to incorporate nature-based solutions (NbS) in transport, energy, industrial and other critical infrastructure plans, policies, regulations and investments as well as in the updated 2021 NDCs. • Incentivize the use of NbS, such as green infrastructure for addressing flood and drought risk.	• Ensure NbS are mainstreamed into transport, energy and other infrastructure. • Ensure compliance of the use of NbS, such as green infrastructure for addressing flood and drought risk. • 50% of countries have incorporated nature-based solutions (NbS) in their infrastructure, plans, policies, • regulations and investments as well as in the updated 2025 NDCs.	• 100% of countries and all relevant actors have incorporated mandatory nature-based solutions (NbS) in their infrastructure, plans, policies, regulations and investments as well as in the updated 2025 NDCs.	
6. Climate-proofing of infrastructure and services	• Update building codes for transport, energy and industrial infrastructure to integrate main climate risks (including sea level rise) in a given location, ensuring they are nature-positive, resilient and low-carbon. • Accelerate development of resilient renewable energy supply and systems for infrastructure. • Continue to develop cement standards to incorporate new cements, recognizing the criticality	• Ensure the climate resilience of all new energy and transport infrastructure and systems (as well as vehicles, where necessary) to at least 2050. • Develop new flexible/adaptive designs and associated industry standards where relevant to accommodate climate related risks. • Re-design energy infrastructure and markets to incentivize grid flexibility for the integration of high-share renewable technologies that	• Develop new technologies that enable the integration of high-share renewable technologies to increase infrastructure and system resilience. • Ensure the climate resilience of all new energy and transport infrastructure and systems (as well as vehicles, where necessary) to at least 2050. • Implement concrete standards that address the criticality of safety and resilience.	• Provide technology and related capacity-building to support the climate-resilience of all critical transport, energy and other infrastructure and systems to (at least) 2100. • Ensure electricity installations are resilient to ever-increasing climate impacts.

* unedited version

Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	of safety and resilience. • Ensure utility planning incorporates climate resilience, resilient benefit-cost analysis and flexible adaptation pathways.	increase system resilience. • 75% of countries have updated their building codes for transport, energy and industrial infrastructure to integrate main climate risks (including sea level rise) in a given location, ensuring they are nature-positive, resilient and low-carbon. • Develop resilience-focused distributed energy resource pilots. • Incorporate water issues into the green building movement and the funding of community demonstration projects.	• 100% of countries have updated their building codes for transport, energy and industrial infrastructure to integrate main climate risks (including sea level rise) in a given location, ensuring they are nature-positive, resilient and low-carbon. • Ensure new vehicles (buses, trucks, trains, vessels, etc.) incorporate modifications needed to strengthen resilience to extreme weather.	
7. Risk transfer: insurance and social protection instruments	• Promote climate risk insurance mechanisms for transport, energy, industrial and other critical infrastructure. • Promote accurate integration of climate risks by insurance underwriters in their assessments.	• 50% of countries have climate risk insurance mechanisms for transport, energy, industrial and other critical infrastructure. • Link sectoral insurance premiums to investment in resilient infrastructure, including: transport infrastructure assets, systems and vehicles; and energy generation, transmission and distribution assets and systems.	• Ensure risk finance and insurance for resilient infrastructure is available in all countries (Action 7 & 9). • Ensure insurance underwriters accurately integrate climate risks in their assessments and ensure affordable coverage without market distortion.	
8. Sharing of knowledge and best practices on climate risk management	• Encourage the sharing and application of knowledge in climate risk management for transport, energy and industrial infrastructure. • Encourage the integration of indigenous knowledge, culture, art together with innovation and	• 75% of relevant countries have integrated indigenous knowledge, culture, art, together with innovation and technology, into the suite of good practices in climate risk management actions for resilient infrastructure and services.	• 100% of relevant countries have integrated indigenous knowledge, culture, art, together with innovation and technology, into the suite of good practices in climate risk management actions for resilient infrastructure and services.	

* unedited version

Action Category	By 2021 ▼	By 2025 ▼	By 2030 ▼	By 2040 ▼
	technology in the suite of good practices in climate risk management actions for building resilient infrastructure and services (Action 4 and 8).			
9. Increase in the volume, quality and access of public and private finance to invest in resilience.	• As a matter of priority, increase the volume and quality of national and international public, private and blended finance, into climate risk informed investments into transport, energy and other critical infrastructure. • Accelerate access to finance for transport and other systems and infrastructure resilience-building, in particular for most vulnerable countries and regions (e.g. SIDS, LDCs). • Accelerate availability of finance for targeted impact and risk-assessment at the facility level. • Launch sector criteria for resilient water-related investments including hydropower. • Climate disclosure (eg TCFD) is starting to be mainstreamed as standard financial disclosure for major companies.	• 50% of national and international public, private and blended finance, into infrastructure investments is climate risk informed. • Make finance for investment in transport, energy generation and other infrastructure systems and vehicles contingent on identifying and appropriately accommodating climate risks. • Use low or zero discount rates to promote climate-resilient infrastructure. • Accelerate availability of innovative finance mechanisms for resilience building and adaptation, e.g. climate bonds/blue bonds and parametric insurance (in particular for the most vulnerable groups of countries, Action 7 & 9). • Ensure sector criteria for climate-resilient hydropower investments are used, building upon a global track-record.	• Ensure finance is in place to support the climate-resilience (to at least 2050) of all critical transport and other infrastructure and systems (as well as vehicles, where necessary). • 100% of national and international public, private and blended finance, into infrastructure investments is climate risk informed. • Establish more green funds for infrastructure, energy efficiency and/or water efficiency projects. • Issue USD 1 trillion in labelled green bond standards in low- to middle-income countries.	• Put financial and investment provisions in place to support the climate-resilience (to at least 2100) of all critical transport infrastructure and systems.

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EXISTING INITIATIVES

Coalition for Disaster Resilient Infrastructure (CDRI)	Provides knowledge products, standards, case studies and best practices on disaster and climate infrastructure risk and resilience.
LDC Renewable Energy and Energy Efficiency Initiative (LDC REEEI)	LDC-driven overarching framework to accelerate the harnessing of renewable energy potential across LDCs and to promote energy efficiency.
Navigating a Changing Climate	Partnership committed to work together to support the inland and maritime navigation infrastructure sector as they respond to climate change.
Pathways to Low-Carbon & Resilient Development	Platform for companies and key stakeholders to share, learn and identify effective ways to contribute to NDC and SDG implementation in the private sector.
Resilience Shift	Exists to empower the global community to make the world safer through resilient infrastructure.
SE4ALL Sustainable Energy for All	Works with leaders in government, the private sector and civil society to drive further, faster action toward the achievement of Sustainable Development Goal 7.
The Cool Coalition	Aims to accelerate the shift to sustainable energy sources for cooling, improve the efficiency of conventional cooling and protect vulnerable populations.

* unedited version

FURTHER REFERENCES

Building with Nature: Thinking, acting and interacting differently	Climate Risk and Vulnerability Assessment Framework for Caribbean Coastal Transport Infrastructure
Climate Change Adaptation Guidelines for Ports	Engineering With Nature: an atlas.
Climate Change Impacts and Adaptation for International Transport Networks	RailAdapt. Adapting the railway for the future

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