



G20 Action Agenda on Adaptation and Resilient Infrastructure

Understanding the importance of efforts on adaptation and resilient infrastructure, and recognizing the potential for synergies of such efforts, the G20 members have been discussing adaptation and resilient infrastructure since the G20 Hamburg Summit in 2017 under the German Presidency. The Climate Sustainability Working Group (CSWG), under the Argentine Presidency in 2018, has developed the G20 Adaptation Work Program (2018-2019) building on the work achieved during the German presidency, and the G20 Country Experience on Climate and Energy.

The Japanese Presidency has continued open and constructive discussions at the CSWG this year based on the previous discussions and outcomes, while several activities, such as reports and short studies related to adaptation issues as well as events and workshops, have been conducted by G20 members as contribution to the two-year work program. The issue was further discussed by the G20 Environment Ministers in Karuizawa, Nagano, Japan on 15 and 16 June, 2019.

This **G20 Action Agenda on Adaptation and Resilient Infrastructure** is concluded by the G20 Environment Ministers as one of outcomes of the G20 Adaptation Work Program (2018-2019), which outlines actions, initiatives, and best practices that G20 members wish to highlight and share with other countries, drawing upon relevant discussions under the CSWG. The Action Agenda contains a variety of actions on climate change adaptation, disaster risk reduction, and quality and resilient infrastructure at multilateral, bilateral, regional, national, and local levels.

These actions have various objectives and features such as the following, which were recognized as significant tools which can be used to foster climate resilience:

- Taking a comprehensive approach to develop a strategic planning process for adaptation, disaster risk reduction, and sustainable development;
- Accumulating and sharing knowledge, information, and best practices for adaptation planning;
- Enhancing enabling environments and developing capacities for adaptation, resilience, and disaster risk reduction;
- Providing public finance, engaging the private sector, and mobilizing private finance and investment;
- Promoting ecosystem-based approaches and enhanced efforts in adaptation and disaster prevention which suit the local situations and conditions.

By implementing these actions collectively or individually, and sharing their experiences with others, G20 members can contribute to enhancing adaptation and resilient infrastructure in G20 and other countries. In this regard, each G20 member intends to make efforts to highlight or further enhance its activities including those listed in the Action Agenda. G20 members may wish to continue to build on the Action Agenda by supporting related actions and by providing additional actions as appropriate in the future, subject to the leadership of future G20 Presidencies.

List of Actions

This list is a compilation of information provided by the individual G20 members, with the recognition that it does not entail the endorsement by the other members, but rather reflects the result of a fruitful information sharing experience.

Further detailed information of each action provided by the individual G20 members is also available from the link below;

URL: http://www.adaptation-platform.nies.go.jp/en/ap-plat/tools_guidelines/G20Actions/

Title	Related G20 members and outreach countries	Related organizations	Comprehensive policy	Knowledge and information	Capacity development	Finance mobilization	Ecosystem-based approach	Summary
AP-PLAT	<u>Japan</u> Indonesia Thailand	ADB UNEP and other partner organizations		●	●			The AP-PLAT is a new initiative to convert the scientific climate risk dataset and information, which are accumulated in Japan and provided by the partner countries and organizations, into actual adaptation policies and practical actions on the ground through collaboration efforts in Asia-Pacific. The AP-PLAT will also develop scientific knowledge and useful tools on adaptation and promote capacity buildings through partnership of like-minded organizations and countries in the region.
SATOYAMA Initiative	The IPSI (International Partnership for the SATOYAMA Initiative) members; <u>Japan</u> Italy Republic of Korea Thailand		●	●		●		The SATOYAMA Initiative aims to promote sustainable management and use of biological resources in the "Socio-Ecological Production Landscapes and Seascapes (SEPLS)" which are shaped by the human-nature interactions over a long time. The properly-managed SEPLS often serve as "green infrastructure" that reduce disaster risks.
Climate Risk & Early Warning Systems (CREWS) Initiative	<u>Canada</u> Australia France Germany Japan Mexico Netherland	World Bank WMO UNISDR	●					The aim of this initiative is to improve Multi-Hazard Early Warning Systems in developing countries, particularly the small island developing states (SIDS) and least developed countries (LDCs). The initiative was developed to support LDCs and SIDS in significantly increasing the provision of weather and climate services and the capacity to generate and communicate effective, impacted multi-hazard, gender-informed, early warnings systems to protect lives, livelihoods, and assets. Canada's contribution will improve Multi-Hazard Early Warning Systems in developing countries, particularly the small island developing states (SIDS) and least developed countries (LDCs).
Building Resilience to Extreme Events in North America	<u>Canada</u> Mexico U.S.		●	●				The "Building Resilience to Extreme Events in North America" project aims to advance the capacities of Canada, Mexico, and the United States to deal with extreme weather and climate events. The initiative has been divided into four sub proposals; 1) improving preparedness and response to extreme events through the use of remote sensing; 2) using volunteer observer networks to inform prediction and monitoring of precipitation and wildfires; 3) improve local capacity of early warning systems for drought; and, 4) developing a standardized method for costing floods and other extreme events across North America.
Global Facility for Disaster Reduction and Recovery (GFDRR)	<u>EU</u> Australia Germany Italy Japan Mexico and other members	World Bank UNDP UNISDR			●			GFDRR hosted at the World Bank is a global partnership to support developing countries to understand, manage, and ultimately reduce their risk from natural hazards and climate change. GFDRR supports technical assistance and analytical work that enables financing by international financial institutions - including IBRD, IDA, the Climate Investment Funds, and other international financial institutions—to ensure that investments enhance resilience and reduce risks. The GFDRR is member of the InsuResilience Global Partnership on Risk Finance and Insurance and manages the Secretariat of the Global Risk Financing Facility (GRIF) as part of the Partnership's Programme Alliance.

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European Adaptation Platform: Climate-ADAPT	<u>EU</u> Turkey			●				<p>Climate-ADAPT is a partnership between the European Commission and the European Environment Agency and supports (i) knowledge and information sharing on climate change impacts, vulnerability and adaptation, (ii) better informed decision making and (iii) coordination between sectors and governance levels.</p> <p>The primary target audience for Climate-ADAPT are governmental decision-makers, as well as the organisations supporting them in the development, implementation and evaluation of climate change adaptation strategies, plans and actions at European, transnational, national and sub-national levels, covering the 33 European Environment Agency member countries (the 28 EU Member States and Iceland, Liechtenstein, Norway, Switzerland and Turkey).</p>
"Adaptation of Real Estate Sector to Climate Change" Working Group of the GlobalABC	<u>France</u> Mexico	ICLEI WBCSD UNEP-FI AFD AFNOR		●				<p>The Global Alliance for Buildings and Construction, or GlobalABC, aims to facilitate the transition towards zero emission, efficient and resilient buildings, and gathers 27 national governments (9 are G20 countries) and 113 members.</p> <p>This working group aims at publishing a report or toolkit on the adaptation of buildings to climate change for key players of the real estate value chain.</p>
Mobilise Your City Partnership	<u>France</u> EU Germany	AFD GIZ		●				<p>Mobilise Your City is global climate partnership for integrated urban mobility planning in developing countries and an international transport alliance under the UN Marrakesh Partnership for global action.</p> <p>The partnership supports and engages local and national actors in improving urban mobility by providing a methodological framework and technical assistance through Sustainable Urban Mobility Plans (SUMP) and National Urban Mobility Programs (NUMP).</p>
InsuResilience Global Partnership	<u>Germany</u> Canada EU France Japan UK Netherland	AfDB ADB GEF IDB ILO OECD World Bank UNDP UNFCCC WFP	●		●	●		<p>The vision of the InsuResilience Global Partnership ("the Partnership") is to strengthen the resilience of developing countries and to protect the lives and livelihoods of poor and vulnerable people from the impacts of disasters. The Partnership aims to enable a substantial scale-up in the use of climate and disaster risk finance and insurance solutions and approaches by developing countries, ultimately contributing to strengthening resilience by enabling faster, more reliable and cost-effective responses to disasters.</p> <p>The central objective of the Partnership is to enable more timely and reliable post-disaster response and to better prepare for climate and disaster risk through the use of climate and disaster risk finance and insurance solutions, reducing humanitarian impacts, helping poor and vulnerable people recover more quickly, increasing local adaptive capacity and strengthening local resilience. The Partnership implements and expands climate risk finance and insurance solutions through the Program Alliance (e.g. Global Risk Financing Facility, InsuResilience Solutions Fund, The Centre for Disaster Protection, Pacific Catastrophe Risk Assessment and Financing Initiative)</p>

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Study "Common Ground between Paris Agreement and Sendai Framework" by NAP Global Network	<u>Germany</u>			●				<p>The study "Common Grounds between the Paris Agreement and Sendai Framework" performed by Germany was commissioned to the OECD in contribution to the G20 Adaptation Work Program. The study points out challenges and potentials for coherent implementation of the Paris Agreement and the Sendai Framework at a global, national, and sub-national level.</p> <p>It draws on lessons and comparison from three case studies in developing countries (Ghana, Peru and the Philippines) to identify good practices to scale-up concrete actions to accelerate the integration of disaster risk management (DRM) and climate change adaptation (CCA) in implementation processes. Thereby, the case studies will focus on specific thematic areas, such as infrastructure or ecosystem-based adaptation. Further, the case studies identifies the most suitable financial instruments (including risk finance and insurance) for implementing aligned CCA and DRM measures.</p>
Study: "Engaging the Private Sector in National Adaptation Planning Processes" by NAP Global Network	<u>Germany</u>		●					<p>The study "Engaging the private sector in National Adaptation Planning processes", conducted by the NAP Global Network, commissioned by the German Federal Ministry for Economic Cooperation and Development aims to offer guidance to governments and their partners on how to engage the private sector in the NAP process. It outlines enabling factors that facilitate private sector engagement, offers practical guidance to countries and provides examples of instances where the private sector has successfully engaged with the NAP process, as well as with climate change adaptation more broadly.</p>
Support for Adaptation Planning and Implementation through the NDC Partnership in Collaboration with the NAP Global Network	<u>Germany</u> Argentina Australia Brazil Canada France Indonesia Italy Japan Mexico South Africa United Kingdom United States EU			●	●			<p>Germany together with its partners supports the NDC Partnership, which aims at supporting developing countries in bringing climate and development goals together and implementing them in a coordinated manner and can accelerate adaptation to increase resilience and reduce vulnerability to climate change.</p> <p>The NDC Partnership, which aims at supporting developing countries in bringing climate and development goals together and implementing them in a coordinated manner with the help of bilateral and multilateral donor programs, fosters the implementation towards climate resilient pathways by giving political orientation.</p>
The Centre for Disaster Protection	<u>UK</u>	World Bank UKAid InsuResilience		●				<p>The Centre for Disaster Protection finds better ways to stop disasters devastating lives and economies, by supporting countries to better manage disaster risk. The Centre is founded on the principle that the relative likelihood of particular disasters can be predicted, and that their impact can be managed, with the right plans in place. So, we find and share better ways to prepare for, and respond to disasters.</p> <p>The Centre acts as a physical hub, a focus of thought-leadership, impartial advice, analytics, training and innovation.</p>

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EPIC (Educational Partnerships for Innovation in Communities) Model	<u>US</u> Japan South Africa	UNEP - Global Adaptation Network (GAN)						<p>EPIC, as a model for utilizing under-utilized local resources to help local governments build resilience, adapt, and develop more sustainably locally, has been successfully introduced in developing country cities.</p> <p>The Initiative began with the goal of expanding the network of adopters and implementers of the EPIC model in developing country cities beginning with Africa and Asia.</p>
Private Investment for Enhanced Resilience (PIER)	<u>US</u> Indonesia							<p>PIER is an innovative technical assistance project that mobilizes private sector investment to support resilience to climate change in several developing countries. PIER supports development and implementation of national-level climate risk strategies (e.g., National Adaptation Plans, Nationally Determined Contributions, climate strategies, etc.), through the application of four private sector-focused development models in agriculture, finance, capacity building, and policy. PIER aims to improve developing countries' ability to attract private sector resilience investment by demonstrating viable resilience investment opportunities.</p>
National Adaptation Plan (NAP) Global Network	Financial support for the Network has been provided by; <u>US</u> Canada Germany	International Institute for Sustainable Development (IISD)						<p>NAP Global Network aims to enhance national adaptation planning and action in developing countries through coordination of bilateral support and in-country actors. The Network also facilitates international peer learning and exchange.</p>
HELP (High Level Experts and Leaders Panel on Water and Disasters) Flagship Initiatives	<u>Netherlands</u>	UNESCAP UNESCO OECD UNISDR ADB WMO						<p>From the angle of reducing the risks from extreme water-related natural events, HELP seeks to provide policy guidances on relevant aspects. The Netherlands has embarked on sharing and jointly elaborating its national and international experiences with prevention oriented and adaptive water management planning into an uncertain future under climate change scenarios.</p>
Bridging the Gap: Financing Sustainable Infrastructure	Convener countries of the Global Commission on Adaptation: <u>Netherlands</u> Argentina Canada China Germany India Indonesia Mexico South Africa UK							<p>The Global Center and Commission on Adaptation are amongst the global efforts to align and mobilise finance flows for adaptation. The GCA will be supporting action to address this challenge, focusing both at the level of infrastructure assets and infrastructure systems. Key areas for action include: mobilizing private finance, mainstreaming climate change into infrastructure planning and encouraging the use of insurance and other risk management tools.</p>
Resilient Delta's - Delta Alliance	<u>Netherlands</u> Argentina Brazil China Indonesia US Spain Vietnam							<p>One of the missions of the Delta Alliance, an international knowledge-driven network organisation with the mission of improving the resilience of the world's deltas, is to support the development and proliferation of new approaches in delta management through research, exchange of best practices and an exchange of concepts and ideas. The Delta Alliance has developed a toolbox to promote an exchange of methods and technologies in delta management.</p>

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Southeast Asia Disaster Risk Insurance Facility (SEADRIF)	<u>Singapore</u> Japan	World Bank				●		<p>The Southeast Asia Disaster Risk Insurance Facility (SEADRIF) will be the first regional facility to provide climate and disaster risk financing and insurance solutions, and strengthen financial resilience of participating ASEAN Member States.</p> <p>With support from Japan, Singapore and the World Bank, the SEADRIF platform will be domiciled in Singapore, with an initial focus of providing a flood risk pool for Laos, Myanmar, and potentially Cambodia.</p>

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Japan Bilateral Support for Adaptation in Asian and Pacific Countries	<u>Japan</u> Indonesia Thailand Vietnam	The Philippines Mongolia Fiji Vanuatu Samoa	●	●	●			<p>The Ministry of the Environment Japan has supported eight Asia-Pacific countries for adaptation planning and policy development through developing scientific projection of climate change impacts assessment.</p> <p>In each project, a consortium team which consists of governmental officer, research institutions and consultants was established and has developed capacity for both state and non-state counterparts in the country.</p> <p>In cooperation with Indonesia and Thailand, adaptation information infrastructures were also established to enhance functions to develop scientific data/information and adaptation related information to provide them to stakeholders in the country through online systems.</p>
Climate Change Adaptation in Vulnerable Coastal Cities and Ecosystems of the Uruguay River	<u>Argentina</u>	Uruguay	●				●	<p>This is a four-year, 14 million USD project to be implemented in cities and riparian protected areas of significant importance located along the lower Uruguay River corridor, which is shared by Argentina and Uruguay.</p> <p>In order to promote climate change resilience at communities and ecosystems of the Uruguay River, several activities will be developed in a comprehensive approach of climate risk management, urban resilient infrastructure, and community and ecosystem-based adaptation.</p>
Climate Change and Disaster Resilience in Myanmar	<u>Canada</u>	Myanmar ADB		●				<p>In partnership with the Asian Development Bank, this technical assistance project, which Canada is providing CAD\$10 million towards disaster resilience in Myanmar, is not only building disaster-ready and financially resilient national and local governments and private sector institutions in Myanmar, but also building resilience in the disaster-prone and highly populated Ayeyarwady delta region of the country.</p>
Agricultural Insurance Index in the Casamance Region of Senegal	<u>Canada</u>	Senegal			●	●		<p>Canada is providing CAD\$1.6 million towards technical and institutional capacity in Senegal to expand access to agricultural climate risk insurance in the Casamance region. The project is reducing the number of small agricultural producers who do not have access to the insurance services currently in place. The project is also assisting financial institutions in their agricultural insurance integration policy; and building the capacity of the authorities responsible for collecting, analyzing and disseminating rainfall data.</p>
Adapt'Action	<u>France</u>	African countries, Least Developed Countries and Small Island Developing States		●	●			<p>France has launched Adapt'Action supporting some of the most vulnerable countries along low-carbon and climate-resilient development pathways. Through technical assistance and capacity building activities, the Facility is acting as a driving force in speeding up investments that have co-benefits for adaptation to climate change in the most vulnerable geographical areas (Africa, Least Developed Countries and Small Island Developing States).</p>

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West Africa Coastal Areas Management Program (WACA)	<u>France</u>	World Bank Benin Cote d'Ivoire Mauritania Sao Tome and Principe Senegal Togo		●		●		<p>In response to requests from countries in the region and aware of the need for multi-sectoral investments to address coastal risks, the World Bank launched the WACA Program aimed at combating erosion and coastal flooding.</p> <p>This programme provides technical assistance to West African countries (Benin, Cote d'Ivoire, Mauritania, Sao Tome and Principe, Senegal and Togo) and seeks to finance investment, inter alia, in grey and green infrastructures to reduce coastal erosion and strengthen coastal resilience.</p>
Mainstreaming Ecosystem-based Adaptation (EbA)	<u>Germany</u>	Developing countries					●	<p>EbA to climate change is becoming increasingly important in many partner countries and is also gaining in importance in German climate cooperation. Germany, one of the biggest supporters of EbA, supports climate and biodiversity projects in developing countries and emerging economies through the International Climate Change Initiative (IKI). In the IKI, EbA is one of the central funding priorities in the field of adaptation.</p>
Climate Resilient and Low-Carbon Infrastructure Planning and Development	<u>Germany</u>	Project partner countries		●	●	●		<p>As cities – in particular in developing countries – reportedly face significant barriers to prepare bankable projects, secure finance and implement such infrastructure projects, Germany supports various project preparation facilities which assists cities of developing countries with limited access to international funds to develop climate-resilient and low-carbon urban infrastructure projects and to scale up their investment on climate. In addition, Germany seeks to promote collaboration between national and sub-national tiers of government, including cities, as a key principle for climate action towards achieving the Paris Agreement.</p> <p>Through several studies and initiatives, Germany contributes to the provision of guidance for countries to move beyond an incremental approach to financing resilient and low-carbon infrastructure systems towards the transformational agenda needed for decisive climate action.</p>
Korea Bilateral Support for Adaptation Planning Process	<u>Republic of Korea</u>	Vietnam Cambodia		●				<p>The Ministry of Environment with Korea Adaptation Center for Climate Change (KACCC) has supported 4 local governments in 2 Southeast Asian Countries for adaptation planning process through climate change risk assessment and economic analysis.</p>
Annual International Training Program on the National Adaptation Plan	<u>Republic of Korea</u>	UNEnvironment UNDP Developing countries in Asia, Africa and the Pacific regions			●			<p>The Ministry of Environment with Korea Adaptation Center for Climate Change (KACCC) has been providing an annual international training program on the national adaptation plan for the developing countries in Asia, Africa and the Pacific regions. It aims to enhance the partner countries' capacity to plan and implement the national adaptation plan in order to strengthen the resilience of the countries.</p>
Philippines Water Security for Economic Growth and Stability (Be-Secure) Project	<u>US</u>	The Philippines		●				<p>The Philippines Water Security for Economic Growth (Be-Secure) Project worked in six selected urban sites to increase sustainable access to water and wastewater treatment services and resilience to water stress and extreme weather.</p>

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US-Peru Cooperation on Water Resource Management	<u>US</u>	Peru	●	●	●	●	●	USAID is supporting efforts of the Government of Perú to better-manage its natural resources, to increase water security and provide a sustainable economic future for its citizens, as well as reduce migration and the risk of internal conflicts. The Natural Infrastructure for Water Security (NIWS) Project will demonstrate how well-managed natural infrastructure projects in Peru deliver water security benefits and are sustainable, cost-effective, and scalable.
US-Dominican Republic Cooperation on Water and Sewage in Flood Plains	<u>US</u>	The Dominican Republic		●			●	The program is improving the provision of clean drinking water and the management of the collection/disposal of sewage, mitigating urban and coastal flooding, and reducing the erosion of beaches. USAID is implementing an integrated ecosystem-based climate risk reduction approach to provide affordable and resilient solutions to water and sewage-related problems in flood-prone neighborhoods. To achieve this, USAID is working with communities and local partners to install small-scale water treatment and delivery systems, build linear wetlands and green buffers in vulnerable areas, restore coral reefs, mangroves and dunes, encourage proper waste management and sanitation, and develop a geo-referenced information system to monitor results.
EPIC (Educational Partnerships for Innovation in Communities) Model	<u>US</u>				●			EPIC, as a model for utilizing under-utilized local resources to help local governments build resilience, adapt, and develop more sustainably locally, has been successfully introduced in developing country cities. The Initiative began with the goal of expanding the network of adopters and implementers of the EPIC model in developing country cities beginning with Africa and Asia.
SERVIR Program	<u>US</u> Brazil	Developing countries		●	●			SERVIR works in partnership with leading regional organizations world-wide to help developing countries use information provided by Earth observing satellites and geospatial technologies for managing climate risks and land use. For example, the SERVIR Flood Scenario Map can identify potential dike breach areas of concern.

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Circulating and Ecological Economy	<u>Japan</u>		●				●	Circulating and Ecological Economy (CEE) is a new concept to build a self-reliant and decentralized society by utilizing various local resources such as biomass and other renewable energy resources and natural capital in a sustainable manner. This leads strengthening resilience of each region/community and revitalizing local economy while ensuring a high quality of life for the future and a shift to a sustainable society. CEE is applicable in other countries taking into account local circumstances including both natural and human capital.
Japan's Climate Change Adaptation Act	<u>Japan</u>		●	●	●			<p>The Climate Change Adaptation Act was adopted in June 2018 and came into force on 1st December, 2018. The act aims at promoting adaptation measures and actions at all levels through followings.</p> <p>(1) Comprehensive assessment and adaptation planning cycle</p> <ul style="list-style-type: none"> - The Ministry of the Environment, in cooperation with other ministries and experts undertakes periodical assessment of current and future climate change impacts for all related sectors every 5 years. - The Cabinet formulates and updates the National Adaptation Plan every 5 years, taking into consideration the latest impact assessment report <p>(2) Center of excellence on adaptation</p> <ul style="list-style-type: none"> -The National Institute for Environmental Studies (NIES) is designated as the center of excellence for adaptation. -NIES supports adaptation planning and actions by local governments by providing technical assistance and related information via a web-based Climate Change Adaptation Platform (A-PLAT). <p>(3) Enhancing local adaptation actions</p> <ul style="list-style-type: none"> -Local governments are asked to develop Local Adaptation Plan, to set up local information center on adaptation in order to enhance local adaptation actions. <p>(4) Promotion of international cooperation and adaptation business</p> <ul style="list-style-type: none"> -The government promotes assistance to developing countries, and also supports adaptation by the private sector including promotion of new businesses related to adaptation.
Argentina's National Adaptation Plan	<u>Argentina</u>		●		●			<p>In 2019 Argentina has started elaborating its National Adaptation Plan (NAP) in accordance with the Global Process of the National Adaptation Plan of the UNFCCC and the national commitments assumed in the Argentinian Nationally Determined Contribution revised in 2016.</p> <p>The NAP process will mainly work on institutional reinforcement, coordination, awareness raising and capacity building in order to develop an adaptation strategy that goes in accordance with the NDC implementation, national long-term goals, and the achievement of the Sustainable Development Goals.</p>

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Increasing Climate Resilience and Enhancing Sustainable Land management in the Southwest of the Buenos Aires Province	<u>Argentina</u>			●	●			<p>The Project aims at promoting an enabling environment for climate adaptation as a continued, inter-sectoral and inter-institutional learning process; and to implement production-based adaptation measures in dry land agroecosystems, by introducing techniques for climate-resilient and sustainable management of natural resources, supported by cross-institutional work.</p> <p>This work aimed at:</p> <p>(1) creating an adequate political, social, and economic framework to ensure adoption, sustainability, continuity, and further development of the adaptation efforts; and (2) bolstering and fine-tuning adaptation measures identified and chosen through institutional and community-level capacity building.</p>
Case Study: The Impact of Climate Change on Water Availability in Victoria and Case Study: Coastal Climate Change Risks Assessments (2015) in Victoria	<u>Australia</u>		●	●				<p>Two case studies were conducted in Victoria. Through the case studies, it was found that all Victorian water corporations have developed 50-year Urban Water Strategies that examine the effect of climate change on water supply. Coastal Climate Change Risk Assessments assessed risks to significant public assets from future coastal flooding and erosion in three coastal regions in Victoria.</p>
Case Study: 2016 bushfire in Tasmanian Wilderness World Heritage Area	<u>Australia</u>			●				<p>The Tasmanian Government delivered an AU\$250,000 research project examining the impacts of a changing climate on bushfire risk in the Tasmanian Wilderness World Heritage Area and ways to improve Tasmania's preparation for, and response to, bushfires. As a result the Tasmania Parks and Wildlife Service has implemented new techniques, such as sprinkler systems to protect vulnerable flora</p>
Case Study: New South Wales Assessing Climate Change Impacts for Primary Industries and Case Study: Assessing Climate Change Impacts in New South Wales Alpine Areas	<u>Australia</u>			●				<p>Two case studies were conducted in New South Wales (NSW). The NSW Government has assessed; (1) climate change impacts and vulnerability of primary industries using a range of global climate models and emissions scenarios, and (2) climate change impacts in NSW alpine areas, including on water availability, bushfire, biodiversity and habitat, soil erosion and agriculture.</p>
National Disaster Risk Reduction Reforms	<u>Australia</u>		●					<p>The Australian Government is progressing nation-wide reforms in collaboration with all levels of government, the private sector and communities to reduce the impacts of disasters on Australian communities and the economy. The National Resilience Taskforce established by the Australian Government is working to reduce existing disaster risk, minimise the creation of new risk and improve disaster risk information through the development of a National Disaster Risk Reduction Framework, national guidance to assist decision makers to understand disaster risk and vulnerability, and National Disaster Risk Information Services.</p>
Managing Climate Risks across Australian Government	<u>Australia</u>				●			<p>The Australian Government is building the capability of its staff to identify, assess and manage climate risks by using Climate Compass, a climate risk management framework developed specially for Australian Government agencies.</p>

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Federal Action to Support Resilient Infrastructure	<u>Canada</u>		●	●			●	The aim of this activity is to take action to support infrastructure, that is resilient to the impacts of climate change, by establishing center to improve access to trusted, useful and timely climate information and data to support adaptation decision-making, by integrating climate resilience into building and core-public infrastructure standards and codes, and by investing in infrastructure programs that directly support resilient infrastructure, including nature-based infrastructure.
Canada's Climate Change Adaptation Platform	<u>Canada</u>			●				Canada's Climate Change Adaptation Platform is a national forum that brings together diverse actors across Canada in order to collaborate on adaptation priorities. The Platform works to create an enabling environment for adaptation and ensures that appropriate users in regions and sectors are efficiently equipped with the knowledge and resources that they need to adapt to a changing climate.
The Pan-Canadian Framework on Clean Growth and Climate Change (PCF)	<u>Canada</u>		●					The aim of this activity is to take action to adapt to current and future climate impacts to protect Canadians from climate risks, build resilience, reduce costs, and ensure that society thrives in a changing climate. Canada's federal, provincial and territorial governments have identified actions to build resilience in five areas; (1) Translating scientific information and Traditional Knowledge into action; (2) Building climate resilience through infrastructure; (3) Protecting and improving human health and well-being; (4) Supporting particularly vulnerable regions; and (5) Reducing climate-related hazards and disaster risks.
Nature-Based Solutions for Disaster Risk Reduction and Climate Change Adaptation	<u>EU</u>						●	A number of new EU-funded projects are aiming to pilot new innovative approaches to nature-based solutions, which are not only a very beneficial way of enhancing resilience and adaptive capacity and of reducing social and environmental vulnerabilities to climate change risks and impacts, but also politically desirable, socially acceptable, economically viable and beneficial.
Climate Proofing Infrastructure Investment Projects in the EU	<u>EU</u>		●	●		●		Climate change considerations are integrated in the preparation and approval of major projects funded by EU structural funds, which are projects with a total eligible cost exceeding 50 million EUR (or 75 million EUR for transport projects). More than 500 such major projects are foreseen in the period 2014-2020.
Creation of the French Gustave Eiffel University	<u>France</u>			●	●			To address the continuous transformation of cities, the French Government decided to create a unique, pioneering university made out of six existing bodies (a research institution, a university, a school of architecture and three engineering schools): with 17,000 students and 2,300 staff, Gustave Eiffel University will gather on a quarter of the French research and training effort on Cities and Transportation. The ambition is altogether to address societal challenges of tomorrow, to provide broad skills to the students, to offer international education programmes, to imagine and feed research and innovations covering the numerous fields linked to cities.

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German Strategy for Adaptation to Climate Change (DAS)	<u>Germany</u>		●					The German Adaptation Strategy (DAS) aims to reduce the vulnerability to climate change impacts, sustaining or enhancing the adaptive capacity of natural, societal and economic systems. It lays the foundation for a medium-term process to progressively identify the effects of global climate change, assess the risks, and develop and implement adaptation measures.
National Programme on Resilience Increase of Natural and Semi-Natural Forestry Systems	<u>Italy</u>				●			The national program is aimed to enhance resilience of forest by providing technical and financial support to local authorities. Application for the national program is in progress.
Measures for Energy Efficiency, Sustainable Mobility and Climate Change Adaptation in the Small Islands	<u>Italy</u>				●			On 14th July 2017 the Department for Climate and Energy published the notice "Measures for energy efficiency, sustainable mobility and climate change adaptation in the small islands", to reduce greenhouse gas emissions, promote low emission mode of transport and take climate change adaptation measures. In 2018 fourteen projects, including adaptation measures, were selected for funding, up to a maximum of EUR 1 million for each intervention.
CRelAMO PA Project	<u>Italy</u>				●			The objective is promoting climate change adaptation knowledge at local and regional level, overcoming the territorial disparities regarding adaptation progress, facilitating the integration of adaptation in spatial planning.
Notice on Small Landslides	<u>Italy</u>		●					Implement measures for hydrogeological risk reduction caused by landslides in mountain municipalities.
Support Programme for the Climate Change Vulnerability Assessment and Adaptation Response Measures of Korean Industries	<u>Republic of Korea</u>			●				Ministry of Trade, Industry and Energy (MOTIE) of Republic of Korea has been implementing support program to evaluate vulnerability levels of various industrial sectors to climate change and facilitate those sectors to establish adaptation measures.
Establishment of Five-Year Climate Change Adaptation Measures at National and Local Level	<u>Republic of Korea</u>		●					Korea's central and local governments develop and implement five-year measures and the action plans and review the progress with the aim of reducing the negative impacts of climate change by taking pre-cautious and preventive actions and enhancing the responsiveness to climate disasters.

* Underlined countries submitted the actions

Title	Related G20 members and outreach countries	Related organizations	Comprehensive policy	Knowledge and information	Capacity development	Finance mobilization	Ecosystem-based approach	Summary
Improvement of the Vulnerabilities to Heatwave	<u>Republic of Korea</u>			●				The aim of this program is to develop an effective and applicable "standard project model for heatwave adaptation" utilizing heatwave responding technologies such as cooling road, cooling fog, and cool roof and to disseminate the standard model across the country by promotional activities and technical assistance.
Local Adaptation Action Plan	<u>Republic of Korea</u>		●					Comprehensive measures including directions and strategies for the changes by climate change and adaption sector-specific action plans. The 33 municipals, the pilot cases of the 1st plan has established the action plans and soon to be implemented.
Support for the Key Public Corporations and Organizations Managing Infrastructure	<u>Republic of Korea</u>		●		●			The aim of this activity is to; (1) support the initiation of the legislation of public sector climate change adaptation reporting; (2) enhance adaptation reporting system and improve its effectiveness; (3) strengthen the effectiveness of public institution's policy enforcement; and (4) enhance awareness of adaptation capacity of public institutions and adaptation to climate change
Korea Adaptation Center for Climate Change	<u>Republic of Korea</u>			●				KACCC was established on July 1, 2009 to; (1) support nationwide climate change adaptation policies development and implementation; (2) establish and manage global and regional climate change adaptation networks; (3) develop climate change vulnerability and risk assessment frameworks and tools; and (4) raise public awareness of climate change adaptation.
Coastal Watersheds Conservation in the Context of Climate Change Project (also known as C6 Project)	<u>Mexico</u>		●					<p>The C6 project aims to promote integrated management of selected coastal basins to conserve their biodiversity, contribute to climate change mitigation and adaptation, and strengthen the sustainable use of their natural resources.</p> <p>The objective of the project is to promote the integrated management of selected coastal watersheds as a means to conserve biodiversity, contribute to the mitigation of climate change and increase sustainability in the use of ground.</p>
National REDD+ Strategy 2017-2030 (ENAREDD+)	<u>Mexico</u>		●					<p>The approach for REDD+ in Mexico considers the integrated management of the territory, the alignment of national policies, generation of synergies and inter-sectorial coordination and collaboration.</p> <p>The National REDD+ Strategy 2017-2030 (ENAREDD+) is a public policy instrument with strategic lines that simultaneously promotes climate change mitigation and adaptation actions through an integrated land management approach. REDD+ activities in Mexico must be carried out trying to address the direct and underlying causes of deforestation and forest degradation, ensuring the respect and addressing environmental and social safeguards, by fostering a proper coordination amongst federal, state, and municipal governments.</p>

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The uMngeni Resilience Project (URP).	<u>South Africa</u>				●	●		The overall objective of the uMngeni Resilience Project is to reduce the vulnerability of communities and small-scale farmers in uMgungundlovu District Municipality to the impacts of climate change. This is to be achieved by increasing climate resilience and adaptive capacity by combining traditional and scientific knowledge in an integrated approach to adaptation. The projects is comprised of three components which covers the following early warning system; climate proof settlement; climate resilient agriculture and capacity building and learning.
Ecological City Project	<u>Turkey</u>		●					The main aim of Gaziantep Ecological City Project is to design an authentic brand that competes on a global scale. Within the scope of the project, strategies and targets have been developed regarding the natural environment, structures located or to be located in the project's field, socio-economic structure, improvement of the quality of urban life, transportation lines, agricultural and recreation fields, green spaces and urban infrastructure.
The National Infrastructure Commission and the National Infrastructure Assessment	<u>UK</u>		●					The government has given the National Infrastructure Commission a key role in independently defining the nation's long-term infrastructure needs, prioritizing and planning, and testing value for money, to ensure that investment is properly targeted to deliver maximum benefit. A central part of the Commission's work is the National Infrastructure Assessment, an in-depth assessment of the UK's major infrastructure needs on a 30-year time horizon.
Adaptation Reporting Power (ARP)	<u>UK</u>		●					The Adaptation Reporting power – introduced under the UK Climate Change Act in 2008- helps ensure that organisations such as infrastructure providers and public bodies are taking action to adapt to climate change, by reporting on how they are addressing current and future climate impacts. ARP's primary goal is to support the ongoing integration of climate change risk management into organisations' work. Secondly, the reports contribute to government and wider public understanding of the level of preparedness of key sectors to climate change, at a sectoral and national level.
Climate Change Adaptation Resource Center (ARC-X)	<u>US</u>			●				EPA's Adaptation Resource Center (ARC-X) is an interactive resource to help local governments effectively deliver services to their communities even as the climate changes. Decision makers can create an integrated package of information tailored specifically to their needs.
Room for the River	<u>Netherlands</u>			●				The goal of the Programme is to give the river more room to be able to manage peak discharge volumes of the river. The main objectives are flood protection and to improve overall environmental quality in the river basin region.

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Protected Areas Management and Climate Change	<u>Spain</u>		●					The Spanish government has undertaken the task of defining the framework under which climate change considerations are duly taken into account. The approach has been characterized by the active involvement of stakeholders and by its gradual implementation through pilot projects. This initiative has been developed in two stages: (1) examine the methodology to incorporate climate change adaptation considerations in the planning and management of protected areas, and (2) apply the guidelines contained in the manual to seven pilot management plans in protected areas.

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