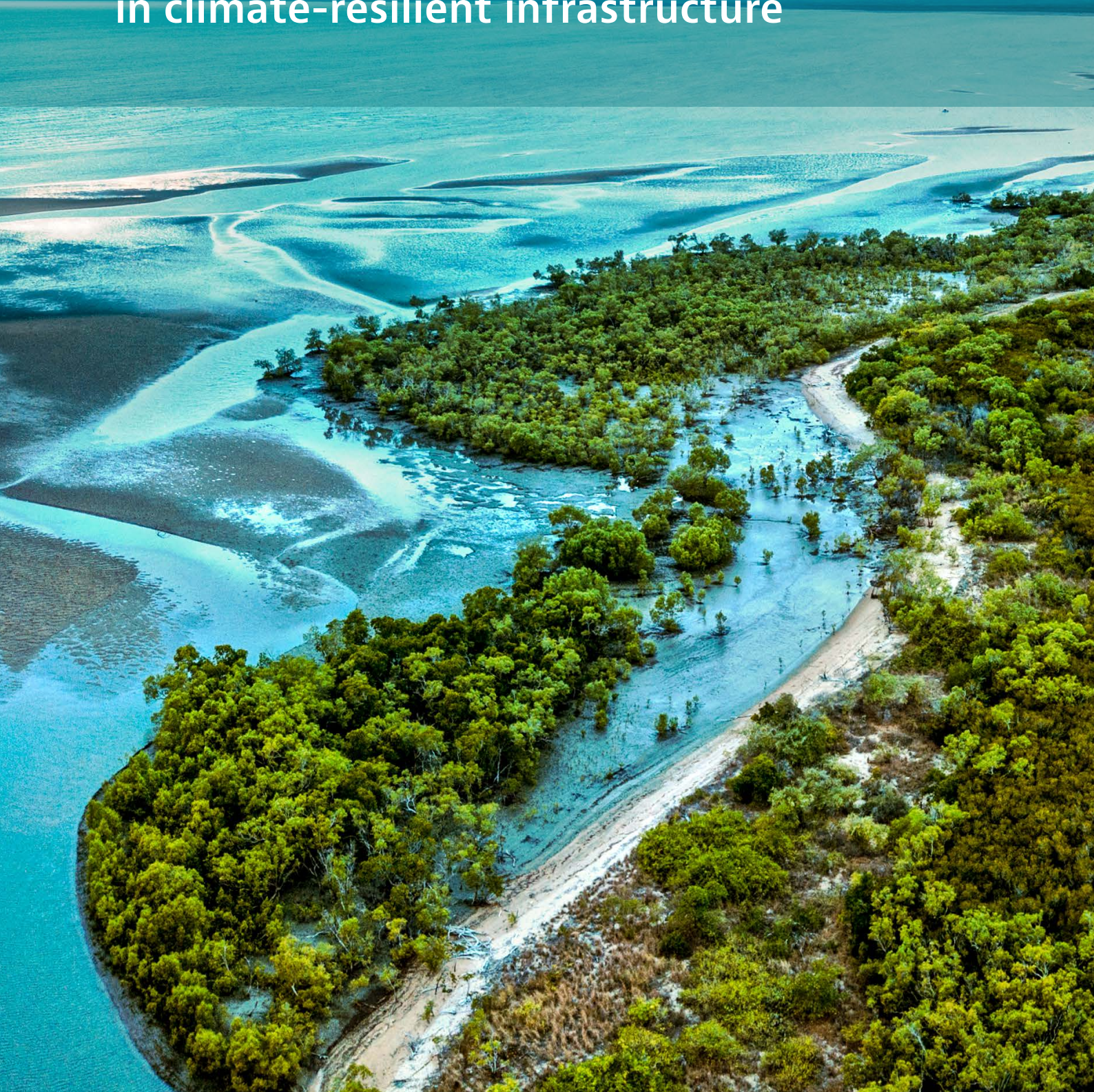


Presidency annexes to the G20/OECD report on approaches for financing and investment in climate-resilient infrastructure



Presidency Annex to OECD (2024), *G20/OECD Report on approaches for financing and investing in climate-resilient infrastructure*, OECD Publishing, Paris, <https://doi.org/10.1787/8f6d436a-en>.

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Annex A. Selected case studies

Integration of climate impacts and disaster risks into policies and planning

Table A.1. Türkiye's National Development Plan

| | |
|------------------------|--|
| Ministry/Agency | Presidency of Strategy and Budget, Ministry of Environment, Urbanization and Climate Change, , Directorate of Climate Change, all other relevant ministries. |
| Description | <p>In order to transition to a long-term sustainable economy that integrates climate risks, Turkey has given priority to policies on the prevention of environmental pollution, combating climate change, protection and sustainable use of biological diversity and natural resources in the recent National Development Plan (12th NDP), published by the Presidency of Strategy and Budget. Presidency of Strategy and Budget, with a multi-sectoral perspective, is responsible for coordinating the planning and programming processes among public institutions. With the 12th NDP, green transformation and climate change has been determined as one of the main elements in the future planning. Aiming for sustainable development, environmental legislation and standards have been developed, institutional and technical infrastructure has been improved, and projects have been carried out to strengthen environmental management.</p> <p>At the stage of submitting a new transport project (including construction of railway, road, port, airport and marina) to the State Investment Program, it is mandatory to prepare an Environmental Impact Assessment (EIA) Report and to get an "EIA positive" decision from the Ministry of Environment, Urbanization and Climate Change.</p> |
| Challenge | To combat climate change, the economies must decarbonize, and this requires significant financial investment. Turkey must create innovative financing models that target decarbonization, and for this, the planning made by the central government must incentivize sustainable finance. |
| Opportunity | <p>In the environment sector, the policy instruments that the government uses can be divided into three categories: 1) setting environmental standards, 2) imposing and enacting restrictions and 3) setting emission standards.</p> <p>Thus, basic strategy documents such as the Climate Change Adaptation Strategy and Action Plan were prepared, and the framework that guides environmental policy and practice was developed. The Climate Law, which is anticipated to be passed soon, is expected to improve Turkish regulatory landscape on climate change.</p> <p>The main opportunity for the Turkish Republic comes from the development of a national emission trading system and improvements made in using ESG instruments such as green bonds throughout every part of the economy, public or private.</p> <p>The EIA Report mechanism provides a clean and predictable investment process for both private sector investors and public investor agencies so that it contributes positively to the enabling investment environment of the country. If the Report is negative, the project proposal would be rejected at the beginning of the investment process.</p> |

Table A.2. Green budgeting and climate mainstreaming architecture of the European Commission

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|------------------------|---|
| Ministry/Agency | Directorate-General for Economic and Financial Affairs |
| Challenge | Mainstreaming climate change in the European Multiannual Financial Framework (i.e. the EU budget for the period 2021-2027). Promoting greater use of green budgeting tools to help redirect public investment, consumption and taxation to green priorities and away from harmful subsidies. |
| Opportunity | <p>Guidance on the climate proofing of infrastructure in the period 2021-2027</p> <p>The guidance meets the following requirements laid down in the legislation for several EU funds, notably InvestEU, Connecting Europe Facility (CEF), European Regional Development Fund (ERDF), Cohesion Fund (CF), and the Just Transition Fund (JTF):</p> <ul style="list-style-type: none"> • It is consistent with the Paris Agreement and EU climate objectives, which means it is consistent with a credible greenhouse gas (GHG) emission reduction pathway in line with the EU's new climate targets for 2030 and climate neutrality by 2050, as well as with climate-resilient development. • It follows the principle 'energy efficiency first', which is defined in Article 2(18) of Regulation (EU) 2018/1999. • It follows the principle 'do no significant harm', which is derived from the EU's approach to sustainable finance and enshrined in Regulation (EU) 2020/852 (Taxonomy Regulation). <p>The climate proofing process is divided into two pillars (mitigation, adaptation) and two phases (screening, detailed analysis).</p> |

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| | Based on lessons learnt from climate proofing major projects over the period 2014-2020, this guidance integrates climate proofing with project cycle management (PCM), environmental impact assessments (EIA), and strategic environmental assessment (SEA) processes, and it includes recommendations to support national climate-proofing processes in Member States. |
| Sources | https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/green-budgeting-eu_en and https://commission.europa.eu/document/download/968be999-7fd5-45ac-8c1b-0c9edc2c15_en https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021XC0916(03)&from=EN |

Table A.3. Fundamental plan for National Resilience of Japan

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|------------------------|--|
| Ministry/Agency | Cabinet Secretariat (National Resilience Promotion Office) and other relevant Ministries |
| Description | The Cabinet approved the “Fundamental Plan for National Resilience” (hereinafter referred as the “Fundamental Plan”) in 2014 as the national plan for disaster prevention and mitigation, as well as rapid recovery and reconstruction from disasters. The plan is reviewed approximately every five years, reflecting changes in the socio-economic environment. The latest Fundamental Plan revised in 2023 explicitly incorporated climate change and green transformation as key priorities. In 2020, in order to accelerate the implementation of the Fundamental Plan, the Cabinet announced its five-year plan that promotes priority projects for national resilience. The five-year plan estimated the total size of projects amounting to about JPY 15 trillion over five years (FY2021-2025), including the government spending, loan and investment as well as private financing. The priority areas include, among others, measures against storm and flood damages, which have been exacerbated by climate change. The Climate Change Adaptation Plan also underscores the importance of implementing the Fundamental Plan. |
| Challenge | When formulating a comprehensive plan for resilient infrastructure, notwithstanding the importance of climate change, it is indispensable to address other important challenges, notably risks from devastating earthquakes as well as the maintenance of aging infrastructure. Labor force constraints amid aging and declining population call for better use of digital technology with a view to enhance the efficiency of infrastructure development. |
| Opportunity | The cost of disaster prevention is expected to be lower than the cost of recovery and reconstruction after disasters in the absence of disaster prevention, providing a foundation for promoting infrastructure resilience. |

Initiatives to foster community engagement to facilitate the updating, planning and implementation of climate-resilient infrastructure

Table A.4. Community Risk Reduction Plan of Brazil

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|------------------------|--|
| Ministry/Agency | National Secretariat for Peripheries / Ministry of Cities |
| Description | Community Risk Reduction Plans are being developed on a pilot basis in the cities of Brasília (Federal District), Rio de Janeiro (State of Rio de Janeiro), Belford Roxo (State of Rio de Janeiro), Mauá (State of São Paulo). |
| Challenge | Disasters have a dramatic impact on the most vulnerable communities and they must be the priority in preventive management, which involves knowing what these risks are, where they occur, who is exposed to them and their degree of vulnerability, and the existing institutional and social capacities needed to reduce them or to live in safety. Empowering vulnerable communities in risk areas to map risks, monitor them and intervene to reduce them or act in emergencies is a priority public policy in the context of climate change and its impacts. The Community Plan is a pioneering initiative by the Ministry of Cities' National Secretariat for Peripheries, which therefore faces challenges in its conception and implementation, despite the fact that there are countless related initiatives being developed by the peripheral communities themselves, by university research and extension projects, programs and projects by civil society organizations and municipal administrations. This repertoire is part of the process of building this public policy, which is also being developed in partnership with public universities and social organizations and movements, with funding via an agreement of Terms of Decentralized Education (TED) with foundation FioCruz. |
| Opportunity | The Community Risk Reduction Plan is intended to be a document and instrument for mobilizing, training and local self-management of communities at risk. The partnership with universities and social entities/movements aims to create local technical capacity to replicate this public policy in the territories in a decentralized way. |
| Sources | https://www.gov.br/cidades/pt-br/assuntos/termos-de-descentralizacao-de-credito/periferias/fiocruz/ted-no-01-2023-fiocruz |

Table A.5. United Kingdom's Coastal Innovation Fund

| Ministry/Agency | DEFRA |
|-----------------|---|
| Description | <ul style="list-style-type: none"> Government will provide support for local areas to help them utilise innovative ways to build resilience through the £200 million Flood and Coastal Innovation Fund - 25 local projects will benefit from this fund between 2021 and 2027. UK government departments work closely with local partners on climate adaptation issues. Defra coordinates the Local Adaptation Advisory Panel (LAAP), a forum for dialogue on climate adaptation between central and local government, which includes some local authorities and several UK government departments. To support local authorities in developing their adaptation plans, Defra worked with the Local Government Association and Local Partnerships (LP) to develop the Local Partnerships Adaptation Toolkit. This outlines a 5-step process to help local authorities prepare for the impacts that climate risks could have on their areas. Another resource, the Local Authority Good Practice Guidance was produced by the Local Adaptation Advisory Panel (LAAP) and the Association of Directors of Environment, Economy, Planning and Transport (ADEPT) in 2019. The West Midlands Combined Authority (WMCA) is developing its adaptation knowledge and capacity to integrate with regional and local governance plans, policies, investments, and decision making. It is integrating adaptation into retrofit programmes, focusing on overheating, flood risk and water efficiency. WMCA is also trialling community-led approaches to tackling climate change through its new Community Environment Fund, as well as developing an adaptation investment pipeline, to align with its Defra-funded Local Investment in Natural Capital (LINC) Programme. |
| Challenge | <ul style="list-style-type: none"> Promoting progressive local adaptation efforts, like those by the WMCA, across other combined authorities. |
| Opportunity | <ul style="list-style-type: none"> WMCA is also trialling community-led approaches to tackling climate change through its new Community Environment Fund, as well as developing an adaptation investment pipeline, to align with its Defra-funded Local Investment in Natural Capital (LINC) Programme. Government will provide support for local areas to help them utilise innovative ways to build resilience through the £200 million Flood and Coastal Innovation Fund - 25 local projects will benefit from this fund between 2021 and 2027 WMCA is also trialling community-led approaches to tackling climate change through its new Community Environment Fund, as well as developing an adaptation investment pipeline, to align with its Defra-funded Local Investment in Natural Capital (LINC) Programme. |

Table A.6. United Arab Emirates' varied consultation processes

| Ministry/Agency | Ministry of Energy and Infrastructure (MoEI) |
|-----------------|--|
| Description | <ul style="list-style-type: none"> Active community consultation: Prior to and during the retrofitting project, the Ministry organized forums and consultations with local communities to discuss the scope and impact of the project. This ensures that community members are informed and can voice concerns or suggestions regarding the project's execution and its environmental impact. Monitoring and reporting: Regular monitoring of the project's impact on local communities and timely reporting of findings to both stakeholders and the public. This includes assessments of how the new lighting systems affect community safety and night-time visibility. Leading the National Campaign for Awareness and Conservation which aims to design programs and activities to increase community awareness on climate resilient infrastructure. Feedback mechanism: The project includes a structured feedback mechanism that allows community members to report issues or malfunctions in the new lighting systems, ensuring ongoing responsiveness and maintenance support from the project team. Educational outreach: Implementing educational initiatives to inform the community about the benefits of efficient lighting, including energy savings and reduced carbon emissions, which align with broader environmental awareness and education efforts. |
| Challenge | <ul style="list-style-type: none"> Ensuring broad engagement: Reaching a diverse range of community members to ensure all relevant voices and concerns are heard, especially in less accessible or rural areas. Balancing technical objectives and community preferences: Aligning project technical requirements with community expectations, such as aesthetic considerations of the new lighting systems or concerns about light pollution. |
| Opportunity | <ul style="list-style-type: none"> Building community trust and support: Effective engagement can build trust and support for the project, leading to smoother implementation and a stronger public acceptance of future infrastructure projects. Enhancing local safety and well-being: The transition to efficient lighting is expected to improve road safety and security, a direct benefit to the community that can strengthen public support for similar sustainability initiatives. |

Policies to promote a comprehensive risk assessment that allow for the estimation of exposures and the identification of financial vulnerabilities

Table A.7. Catastrophe bond issuance by Mexico

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| Ministry/Agency | Ministry of Finance |
| Description | The Catastrophe Bond 2020-2024 was issued with a value of USD 485 million. The bond launched in 2020 in conjunction with the World Bank has a coverage of up to USD 485 million, and provides coverage against losses derived from earthquakes of different magnitudes and tropical cyclones. |
| Challenge | Risk assessment, cost of issuing and maintaining, and adequate coverage. |
| Opportunity | The use of catastrophe bonds represents an innovative way to manage natural disaster risk. This can encourage the development of new financial instruments and strategies to address other types of risks. Also, by transferring some of the risk associated with natural disasters to the financial markets, catastrophe bonds can help reduce the government's fiscal burden in the event of a catastrophic event. |
| Sources | https://www.gob.mx/shcp/prensa/nota-informativa-349793 https://www.eleconomista.com.mx/economia/Hacienda-activa-Bono-Catastrofico-por-afectaciones-del-huracan-Otis-en-Guerrero-20231025-0133.html |

Table A.8. Saudi Arabia's National Infrastructure Fund requirements

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|--------------------|--|
| Description | <p>Any new financing entity aspiring to following best practices in relation to policies should include:</p> <ul style="list-style-type: none"> • Risk Appetite Framework • Investment and Credit Policy • Expected Credit Loss Policy • Internal Control Policy <p>Policies can expand to include:</p> <ul style="list-style-type: none"> • Stress Testing Framework Policy • Model Management Policy <p>From the Governance perspective, any new entity should establish an independent Risk Committee with senior management representation to oversee risk assessment processes and mitigation strategies.</p> <p>It should also adopt the "Three Lines of Defense Model" model, where the first line manages risk in daily operations, the second line independently oversees risk controls, and the third line provides internal audit and assurance.</p> |
| Challenge | <p>Even with strong policies and procedures in place, any new entity may expect that achieving a truly comprehensive risk assessment will come with its own set of challenges in due course:</p> <p>These may include challenges on the data front such as inconsistent data formats, lack of real-time updates, and data quality issues that can hinder accurate risk analysis.</p> <p>The constantly evolving financial landscape means that traditional risk assessment models may struggle to keep pace with emerging risks like cyber threats or climate change.</p> <p>Effective implementation of a data-driven risk management approach requires skilled professionals who can analyze complex data and build robust risk models. There can be a shortage of such specialized talent in the job market.</p> <p>Risk scoring models used by the Fund may be biased based on the historical data used to build them. This may lead to inaccurate assessments for certain industry segments.</p> <p>Any new entity is required to comply with a complex set of regulations and this sheer volume of requirements can make it difficult to maintain a focus on comprehensive risk management.</p> |
| Opportunity | <p>By proactively identifying and mitigating risks, any new entity can enhance profitability by avoiding potential losses and improving their overall financial health. This will lead to more efficient capital allocation and potentially higher returns for investors.</p> <p>A strong risk assessment process will allow the new entity to offer tailored financial products and services that meet the specific needs and risk profiles of our customers. This fosters trust and loyalty, leading to stronger customer relationships. It will also provide the ability to demonstrate a commitment to robust risk management may attract and retain customers who value financial stability. This can be a significant differentiator in a competitive market.</p> <p>A comprehensive risk assessment process should help the new entity stay ahead of regulatory changes and ensure compliance with AML/KYC and other regulations. This will reduce the risk of regulatory fines and penalties.</p> <p>By having a clear understanding of potential exposures and vulnerabilities, the new entity will be able to make more informed decisions about lending, investing, and other financial activities. This will lead to better strategic planning and risk-adjusted growth.</p> <p>A strong risk management framework should foster a culture of risk awareness that encourages innovation. By understanding potential risks upfront, the new entity should be able to develop new products and services with greater</p> |

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| | confidence. Other benefits include: Public perception is likely to improve as the new entity mature over time and are seen as managing risk responsibly. This should be validated as and when the socio-economic benefits of the new entity's contribution to climate-related projects are witnessed. |
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Table A.9. Regional transport system vulnerability assessments in France

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|------------------------|---|
| Ministry/Agency | Directorate General for Infrastructure, Transport and Mobility |
| Description | DGITM launched an assessment on the national road network (i.e. all state-owned roads, including overseas network and concessions) in autumn 2023. DGITM co-financed (50-50) the vulnerability assessment of the transport system of the Région Provence-Alpes-Côte d'Azur. DGITM follows other vulnerability assessments launched by its infrastructure managers, especially in the rail sector. The Center for Studies and Expertise in Risks, Environment, Mobility and Urban Planning (Cerema) developed a vulnerability assessment methodology in 2015 and updated it in 2019. DGITM promotes this methodology as the national methodology of reference for vulnerability assessment and asked Cerema to provide an update of the methodology in 2023-2024, based on the experience gained from recent studies. Cerema has introduced a ten-step approach to analyzing the vulnerability and improving the resilience of transport infrastructure to climate change called "Systemic Approach to Adaptation of Transport Infrastructure" (ASAIT). Mainly intended for network infrastructure managers, this approach has already been applied several times on various road and rail networks. Another institute I4CE carried out a study to estimate the cost of adaptation, particularly for transport infrastructure |
| Challenge | Lack of data for the vulnerability assessment, duration and cost of the vulnerability assessment (quite long), which make it difficult for infrastructure managers to perform a complete assessment |
| Opportunity | The vulnerability assessments are the first essential step that needs to be performed before deciding of any adaptation plan : it helps calibrating the most relevant adaptation measures |

Managing costs to ensure sufficient funding for the repair and restoration of climate-related damages and losses to public infrastructure

Table A.10. Strategies to manage risks resulting from climate-related damages in Russia

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|------------------------|---|
| Ministry/Agency | Ministry of Natural Resources and Environment of the Russian Federation (Minprirody) Ministry of Construction, Housing, and Utilities of the Russian Federation Ministry of Energy of the Russian Federation Ministry of Economic Development of the Russian Federation Ministry of Emergency Situations (EMERCOM) Russian Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet) Federal Agencies for Water Resources State Development Corporation VEB.RF |
| Description | Upgrading Infrastructure in Arctic Regions: Recognizing the vulnerability of its Arctic infrastructure to thawing permafrost due to climate change, Russia has initiated projects to monitor and reinforce buildings, oil pipelines, and other critical infrastructure. This includes the use of special materials and construction techniques designed to adapt to changing permafrost conditions. Flood Protection Measures: In response to increased flood risks, cities like St. Petersburg have undertaken significant projects to protect against flooding. The St. Petersburg Flood Prevention Facility Complex, also known as the Dam, is a massive engineering project designed to protect the city from storm surges and rising sea levels. Emergency Response Funds: Russia has established frameworks for emergency response funding, such as the Reserve Fund and the National Wealth Fund, which can be mobilized to address immediate needs following natural disasters, including those exacerbated by climate change. |
| Challenge | Climate risks still pose a significant threat over the medium and long term. This is explained by the following factors: 1. Natural disasters are a significant factor in economic activity and migration processes in the regions of the Far North, Siberia and the Far East. According to the Third Assessment Report, in 2010 - 2020, more than 142 thousand people in the Russian Federation were subjected to evacuation and forced relocation due to natural disasters. Natural disasters pose a particularly great threat to indigenous peoples. 2. In the foreseeable future, climate factors will begin to have an increasingly significant impact on the labor market and employment of the population of the Russian Federation through losses of working time caused by an increase in the frequency and scale of hazardous natural phenomena, and a decrease in labor productivity (especially outdoors) caused |

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| | <p>by extreme weather conditions (heat, intense precipitation, including tropical and freezing rain, hail, squally winds, tornadoes, smoke from forest fires, storm surges, etc.).</p> <p>3. The impact of climatic factors on the healthcare system in the Russian Federation includes the impact on the health status of the population, the level of morbidity and mortality (negative impact on the course of cardiovascular, respiratory and other diseases), on the epidemiological situation, on the infrastructure of the healthcare system, provision of emergency medical care.</p> <p>4. Climate change affects energy production, its transmission and consumption, balances of consumption of hot, drinking, and technical water, the amount and composition of wastewater in heat supply, water supply and sanitation schemes of populated areas. In this regard, taking into account expected climate changes is mandatory when forecasting balances in the energy sector and housing and communal services. An increase in air temperature increases risks in both cold and warm periods (the need for heating and air conditioning will change significantly, especially in the south of the country). The increase in the number of days with extremely high temperatures and the duration of dry periods has a negative impact on the supply of process water for water supply purposes.</p> <p>5. An increase in precipitation, including to extreme levels, and associated floods cause destruction of existing infrastructure, including structural elements of highways and artificial road structures (bridges, culverts) and other objects.</p> <p>6. The impact of precipitation and elevated temperatures contributes to the degradation of the upper layers of permafrost soils at the base of buildings, road structures and other infrastructure, which lead to the development of unacceptable deformations and partial destruction of objects in the permafrost zone.</p> |
| Opportunity | <p>Achievement of the main objectives of climate policy which are:</p> <ol style="list-style-type: none"> 1. development of the information and scientific basis of climate policy, including strengthening the scientific, technical and technological potential of the Russian Federation, to ensure completeness and reliability of information on the state of the climate, anthropogenic and other impacts on the climate, its ongoing and future changes and the consequences of such changes; 2. development and implementation of operational and long-term adaptation measures; 3. development and implementation of operational and long-term measures to mitigate the anthropogenic impact on the climate, including the creation of regulatory and economic mechanisms for the implementation of measures to reduce and prevent greenhouse gas emissions within the framework of the international obligations of the Russian Federation, as well as to increase the absorption of such gases; 4. development of a set of measures that reduce (prevent) greenhouse gas emissions or increase their absorption (climate projects) and can be implemented in the Russian Federation, other states and regions of the world; 5. development of mutually beneficial cooperation on issues related to climate change and related issues on a bilateral and multilateral basis. <p>Implementing smart technologies in urban planning and infrastructure can improve energy efficiency, reduce emissions, and enhance disaster resilience. This includes smart grids, energy-efficient buildings, and intelligent transportation systems.</p> <p>Investing in research and development of new materials and construction techniques that are resilient to extreme weather and climate impacts can lead to safer and more sustainable infrastructure.</p> <p>Developing green finance mechanisms, such as green bonds and climate funds, can attract investment in climate-resilient infrastructure and sustainable projects.</p> |

Table A.11. United Kingdom's approaches to manage disaster costs

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|------------------------|--|
| Ministry/Agency | DEFRA |
| Description | <ul style="list-style-type: none"> • NAP3 outlines government's plans to plans to mitigate the climate risks across the UK including risks to infrastructure. • Government will invest GBP 5.2 billion in flood and coastal erosion schemes in England by 2027. This includes a £100 million Frequently Flooded Allowance to support communities where 10 or more properties have flooded twice or more in the last 10 years. • Government will provide support for local areas to help them utilise innovative ways to build resilience through the £200 million Flood and Coastal Innovation Fund - 25 local projects will benefit from this fund between 2021 and 2027. • The Flood re scheme supports UK households that are at risk of flooding to access affordable insurance. |
| Challenge | <ul style="list-style-type: none"> • Adaptation is perceived as a public good which can be a barrier to private investment. |
| Opportunity | <ul style="list-style-type: none"> • Defra, its agencies, the National Park Authorities and AONB partnerships will support the Home Office, the lead government department for wildfire, in scoping out a Wildfire Strategy and Action Plan by mid-2024, across all themes in NAP3 including infrastructure. • Lead government departments will work with regulatory bodies and infrastructure operators throughout the third National Adaptation Programme (NAP3) period from 2023 to 2028 to implement the actions set out in the UK Government Resilience Framework relating to public and private sector resilience standards. • The Water Services Regulation Authority (Ofwat) will take a long-term view of the requirements for investment |

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| | <p>in water infrastructure and consider climate change as part of the methodology for the Price Review 2024, to ensure that water companies can invest in the resilience of their infrastructure.</p> <ul style="list-style-type: none"> • Water companies will follow the National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England, which includes an objective for water companies to develop plans for their infrastructure to be resilient to flooding and coastal change between now and 2030. • Water companies will invest GBP 400 million via 18 schemes in new infrastructure to improve water resilience by increasing water capacity and driving water efficiency, with projects started before April 2025 and completed by 2030. • Ofgem will ensure, through RII02 (which runs from 2021 to 2026 for gas distribution and electricity transmission and from 2023 to 2028 for electricity distribution), and in future through subsequent price controls, that network companies have sufficient funding to protect new and existing sites that are identified by Environment Agency data to be at risk of flooding. For example, the current engineering technical report 138 standard sets a target for resilience to a 1-in-1,000-year flood event. |
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Table A.12. Türkiye’s Climate and Disaster Resilient Cities Project

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| Ministry/Agency | Ministry of Environment, Urbanization and Climate Change, Ministry of Transportation and Infrastructure, İLBANK A.Ş., DG State Hydraulics Works (DSİ), Municipalities, relevant Ministry in charge of the infrastructure project |
| Description | The 12th National Development Plan which is the main policy document of Türkiye proposes policies and measures to tackle climate change in various sectors including urban infrastructure. Türkiye is working on the “Climate and Disaster Resilient Cities Project” with the World Bank which aims to support the government in tackling the challenges related to climate and disaster resilient housing and infrastructure. Some municipalities have introduced local climate change action plans, these plans include policies and measures about resilient and green infrastructure. DSİ and İLBANK A.Ş. provides support for renovating water and wastewater infrastructure of municipalities. Losses to public infrastructure financed by the State are funded by the relevant Ministry in charge of the Project through funds transferred from the Central Budget. For PPP Projects, the Contractor is responsible for providing a full-fledged insurance that covers damages or losses resulting from climate-related events during the construction period. For private dwellings, the home owner is responsible for providing the compulsory earthquake insurance cover for his/her apartment. |
| Challenge | For the transformation of infrastructure systems, regulations that can ensure inter-sectoral connection and if possible, numerical targets need to be determined. Deterioration in the line infrastructure due to above-average rainfall and broken rock fragments breaking off due to above-normal temperature levels cause line closures. No dedicated or general-purpose reserve or contingency funds exist for financing climate-related damages and losses to public infrastructure. |
| Opportunity | Investments in Türkiye have accelerated in the field of adaptation to climate change. Acceleration of resilient infrastructure investments may create opportunities for more “green jobs”. The effects of floods or extreme weather events and economic losses can be reduced. Another opportunity is new technological investments that can increase maintenance services and travel safety. |

V. Practices to scale up financing for climate-resilient infrastructure by promoting and incentivising private sector participation and reducing barriers to private investment

Table A.13. Sustainable finance and investment for the green economy in Italy

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| Ministry/Agency | Ministry of Economy and Finance (MEF) Ministry of Environment and Energy Security (MASE) Bank of Italy National Commission for Companies and the Stock Exchange (CONSOB) Institute for Insurance Supervision (IVASS) Commission for the Supervision of Pension Funds (COVIP). |
| Description | Italy MOF (Department of the Treasury), with the support of the EU Commission (DG REFORM – Structural Reform Support Program), realised the project “Sustainable finance and investments for the green economy”, between 2020 and 2021. One of the main deliverables of this initiative has been the definition of an improved policy framework to foster the mobilization of private capital flows to achieve climate neutrality targets by 2050. In order to define such framework, specific interviews |

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| | <p>have been conducted with a wide set of stakeholders (including industry players and trade association). This has been essential to identify existing barriers to private financing of sustainable investments (distinguished by sector and type of barrier) and to analyse the combination of market and regulatory mechanisms to overcome those barriers, as well as to assess different types of incentives to promote sustainable investment by the private sector. One of the most relevant cross-sectoral barriers identified is the lack of consistent, comparable, high-quality data on climate and environmental risks. Another relevant obstacle is the low degree of sustainability disclosure by companies (especially by Small and Medium sized ones) as well as of their insufficient level of capabilities.</p> <p>Moving from the evidence of the SRSP project, Italy MOF has started another project at the end of 2023, with the support of the EU Commission (DG REFORM), in the Technical Support Instrument framework, whose main deliverables are: a) the mapping of available ESG data and existing data gaps; b) the definition of a concept for a public data hub, which should work as a single point of entry at national level for the disclosure and collection of climate- and nature-related information for firms; the definition of a template for the voluntary ESG disclosure for SMEs; d) the implementation of capacity building initiatives, especially targeting SMEs mid-management. Results will be developed throughout 2024 and 2025.</p> <p>In parallel to the realization of these projects, Italy MOF has also set up a National Platform on Sustainable Finance, which runs from the end of 2022 (see also section 2.2). This initiative involves also MASE, Bank of Italy, CONSOB, IVASS and Covip. It aims at fostering the mobilisation of private finance through capital markets, to support the sustainable transition in Italy, within the framework of European and international commitments. By coordinating and exchanging views among supervisory authorities, sharing best practices, and carrying out analyses and in-depth studies, the Platform aims, in particular, at offering concrete solutions to promote and ease private investment in sustainable projects. The Platform also represents a forum for interaction and open dialogue with involved stakeholders (public and private ones). Building on the results of the SRSP project, the Platform has identified 3 priority areas to work upon: a) the identification and availability of data on climate and natural hazards, through mapping and overcoming the fragmentation of existing local and national, private and public databases; b) the sustainability reporting prepared by unlisted small and medium sized enterprises; c) insurance protection for environmental and climate risks. Experts working within different working groups (one set up for each specific priority area) are also cooperating and contributing with experts working on the TSI project, in order to create the best synergies with the work of the Platform and also to avoid the potential duplication of results.</p> |
| Challenge | <ul style="list-style-type: none"> • Low availability of high-quality data, data fragmentation; • Enterprises' limited sustainability reporting; • Shortage of competences and skills; • Insurance protection gap for environmental and climate risks, as well as for disaster events. |
| Opportunity | <ul style="list-style-type: none"> • Increase the flow of private resources towards sustainable investments; *Improve access to sustainable funds, expanding the resource base for companies beyond banking; • Strengthen transition finance and the convergence towards net-zero climate targets; • Increase insurance against environmental, climate and disaster risks, with a better balance between private and public resources to manage disaster risks (ex ante and ex post). |
| Sources | <p>Results of the SRSP projects and of each deliverable are available here (https://www.dt.mef.gov.it/en/attivita_istituzionali/sistema_bancario_finanziario/finanza_sostenibile/progetto_mef/)</p> <p>An updated overview of the work of the Platform is available here (https://www.dt.mef.gov.it/en/attivita_istituzionali/sistema_bancario_finanziario/finanza_sostenibile/Tavolo_finanza_sostenibile/)</p> |

Table A.14. Australia's Solar Pacific Pristine Power (SPPP)

| | |
|------------------------|--|
| Ministry/Agency | Australian Department of Foreign Affairs and Trade |
| Description | <p>Australia, through the Australian Infrastructure Financing Facility for the Pacific (AIFFP), has provided USD22 million in financing to Solar Pacific Pristine Power (SPPP) to support the construction of Palau's first utility-scale solar and battery energy storage facility (the Project).</p> <p>Located on Palau's largest island, Babeldaob, the Project comprises a 15.28-megawatt peak capacity solar photovoltaic facility, and a 12.9-megawatt battery energy storage system. When complete, it will be among the largest hybrid facilities of its kind in the Pacific and generate over 20 per cent of Palau's energy needs.</p> <p>The Project is wholly private sector-led. It demonstrates how Australian financing can leverage and encourage private sector investment to deliver major infrastructure projects in the Pacific, importantly without adding to sovereign debt. SPPP is a special purpose vehicle incorporated in Palau by Solar Pacific Energy Corporation. Solar Pacific Energy Corporation is a renewable energy developer based in the Philippines and part of the Alternergy group.</p> <p>The Project has seen the AIFFP contribute US\$18 million as a direct loan to Solar Pacific Energy Corporation, which they will pay back at a fixed 4.75% rate over 17 years. An additional US\$4 million in grants were also provided by AIFFP.</p> |
| Challenge | <p>The investment demonstrates the benefits offered by a best-practice approach to meeting and exceeding global standards on social and environmental safeguards. In May 2021, a comprehensive due-diligence assessment conducted by the AIFFP found that the proposed provider of the plant's solar modules was procuring polysilicon from factories suspected of using forced labour. As a result, and at the request of the AIFFP, SPPP collaboratively initiated a second procurement to source a new supplier which could demonstrate its supply chain was not exposed to modern slavery.</p> |

| | |
|--------------------|---|
| | <p>These actions not only ensured that the AIFFP's investment would do-no-harm, but also contributed to measurable improvements in global labour conditions by removing significant Pacific market demand for the exposed forced labour-exposed polysilicon products. Although the new supplier's technology had a higher unit cost, a careful lifecycle analysis conducted by SPPP demonstrated that the new modules would satisfy all operational and production requirements, including capacity to withstand typhoon strength winds. They also benefited from a supplier led recycling program at end of life.</p> <p>In recognition of the additional and unforeseen project costs generated by the change in supplier, the AIFFP contributed a further USD4 million, alongside the original USD18 million loan, in DFAT funding to ensure that the Project would remain viable. The value of this innovative blended-finance contribution was carefully determined by the AIFFP to ensure that it covered only costs in excess of what could be funded by the original debt facility, and SPPP's equity contribution. In line with OECD Development Assistance Committee standards for blended finance, this ensured that the AIFFP's additional funding was not market-distorting, and that the updated arrangement would not interfere with a strong market incentive for the borrower to generate commercial returns from the solar and battery facility.</p> |
| Opportunity | <p>Ecological Protection</p> <p>The AIFFP is committed to ensuring that its investments are climate resilient; ensuring all its projects respond to climate change risks and impacts, and maximise opportunities for low-emissions, climate resilient development. Like many Pacific and small island countries, Palau is highly dependent on imported fossil fuels to service its energy needs. At present, more than 99 per cent of the island's electricity is generated using automotive diesel, leading Palau's energy sector to issue up to 96 per cent of all national greenhouse gas emissions.</p> <p>The AIFFP's investment in the Project was designed in part to assist Palau to meet – and even exceed – its self determined Paris Agreement emissions reductions targets early; a rare and notable achievement for a country with one of the world's highest per capita greenhouse gas emissions rates. For instance, when operational, the Project will immediately and renewably generate over 20 per cent of Palau's energy needs, reducing Palau's energy sector emissions in line with its self-determined commitment of 22 per cent below 2005 levels by 2025. The solar and battery facility will also contribute considerably to Palau's efforts to meet its targets of 45 per cent renewable energy, and 35 per cent energy efficiency by 2025.</p> <p>The investment also demonstrates that quality infrastructure can be installed without any ecological cost. Palau is home to the most species-diverse native forests in Micronesia, and many of its plants and animals are rare and endangered.⁵ To preserve this pristine ecology, and prevent critical habitat loss, SPPP worked with biodiversity specialists to find an existing site for capital works that was already degraded, and which would be large enough for electricity generation. Months of careful effort and close cooperation with local stakeholders to meet the environmental requirements of Palau and the AIFFP also enabled SPPP to mitigate the risk that the solar and battery facility would damage surrounding pristine environment. For instance, and unusually for a capital works as large as the Palau solar and battery facility, no new roads have been required to allow materials to pass through to the site during construction.</p> <p>Return on Investment</p> <p>The AIFFP's commitment to inclusive social and environmental standards contributes to ensuring that Pacific Countries and Timor-Leste have greater access to capital to meet critical infrastructure needs, and that this infrastructure is delivered in a way that meets their development priorities. The AIFFP's investment makes clear the returns that accrue to infrastructure investments that go above and beyond simply ensuring financial viability. Not only will the Project deliver returns for SPPP, but it is being achieved in a way that enhances global safeguards standards, does no harm, and facilitates achievement of Palau's self-determined climate and development needs</p> |
| Sources | <p>https://www.aiffp.gov.au/sites/default/files/2022-10/website_final_-_palau_solar_case_study.pdf</p> <p>https://www.dfat.gov.au/sites/default/files/2022-23-pacific-regional-development-program-progress-report.pdf</p> |

Table A.15. ESG principles throughout the infrastructure lifecycle in Indonesia

| | |
|------------------------|---|
| Ministry/Agency | Ministry of Finance |
| Description | Integrating ESG principles throughout the project life cycle, since the early project preparation stage. The process starts by identifying material ESG risk, designing climate-resilient projects, and developing a mitigation plan to minimize the impact. This include defining the project performance indicator with regards to environment and climate aspects. In 2022, ESG Framework and respective Manual in government support for infrastructure financing were launched as our initiative to contribute to achieving the sustainable agenda and addressing climate issues while responding to the shifted private's approach towards sustainable, resilient, inclusive, and transparent infrastructure financing. This policy acts as a guide for all stakeholders, particularly to project's sponsor to ensure that the infrastructure provision will bring a positive impact on the economy and maintain potential negative impacts on the environment and social aspects at minimum level. Embedding 10 ESG standards as stipulated in the ESG Framework and Manual is implemented gradually through PPP projects and will be further implemented for other schemes upon review of its implementation. |
| Challenge | Enhancing the stakeholders' capacity and awareness on preparing good infrastructure projects considering ESG aspects. |
| Opportunity | Leveraging more private investment (including green investors) to finance infrastructure which considered ESG principle and contribute to SDGs and climate related target. |

Fiscal measures made available for and to support climate resilient infrastructure

Table A.16. Brazil's Regulation of the Infrastructure Debentures Law

| | |
|------------------------|--|
| Ministry/Agency | Undersecretariat for Economic Monitoring and Regulation / Ministry of Finance |
| Description | The Regulation offers tax benefits for issuers of incentivized debentures in the infrastructure sector, with an emphasis on projects with social and environmental benefits, represents a special measure related to the energy transition and ecological transformation. In addition, the Tax Reform and its provisions can generate incentives for sustainability and climate resilience, whether for the purposes of actions to mitigate greenhouse effect emissions, reducing climate risks on infrastructure, or generating resources for regional investments to adapt infrastructure. |
| Challenge | The Regulation requires a clear and objective definition of criteria and recommendations aimed at implementing the sustainability and climate resilience of the infrastructure projects benefiting, especially considering the climate risks to the fiscal and financial stability of the federal entities. |
| Opportunity | In addition to ensuring coherence and generating competitiveness for strategic sectors, the introduction of the Selective Tax as part of the Tax Reform brings the opportunity to reform the Contribution of Intervention in the economic domain of fuel, either to expand its financing possibilities in the transport sector or to broaden its incidence and application. In any case, there is a great fiscal opportunity with the reform of this instrument, with more environmental and climate benefits. Moreover, the creation of a regulated carbon market can produce a significant increase in tax revenue, with the possibility of directing these resources towards financing sustainable and resilient infrastructures. |

Table A.17. Mexico's ecological taxes

| | |
|------------------------|---|
| Ministry/Agency | State Governments and Central Government |
| Description | <ul style="list-style-type: none"> • Ecological taxes in the Finance Law of the State of Queretaro, Zacateca and Yucatan: • Tax for remediation in the extraction of materials. • Tax on the extraction from the soil and subsoil of non-metallic minerals with low environmental impact and non-metallic minerals with high environmental impact. • Tax on the emission of gases into the atmosphere. • Tax on the emission of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, PFCs and SF₆, derived from production processes. • On the amount of pollutant load of the taxed atmospheric emissions made from the facilities or fixed sources expressed in tons. • Tax on the final disposal of special handling and hazardous waste. • Taxes the final disposal of special handling waste, as well as the isolation and confinement of hazardous waste in the state. • Tax on the emission of pollutants into the soil, subsoil and water. • On the amount in square meters of land affected, cubic meters of water affected as appropriate, with polluting substances that are emitted or discharged from the facility or facilities or fixed sources. |
| Challenge | Reducing the impact of CO ₂ emissions and special handling waste, as well as contributing to prevent and mitigate pollution in the State by i) planning and executing works, infrastructure, preservation, restoration, management or remediation of the ecological balance, ii) implementing and executing projects for the prevention, protection and restoration of the environment, and iii) preventing and attending to natural disasters, environmental contingencies, droughts, cyclones, among others. Creation of flexibility mechanisms such as offset credits and fiscal incentives. |
| Opportunity | Reduce pollutants from major sources, as well as discourage the behavior of polluting agents. Capacity building in the public and private sector to enable the correct use and improvements to the law. |

Table A.18. Infrastructure Canada's funding programmes

| | |
|------------------------|--|
| Ministry/Agency | Infrastructure Canada |
| Description | Funding programs integrate asset-specific and community-level climate resilient planning and design which supports policy and investment coordination. Programs set direction for advancing and coordinating investments in climate resilience. For example, Infrastructure Canada delivers the Disaster Mitigation and Adaptation Fund, Green and Inclusive Community Buildings Program, and Natural Infrastructure Fund. |
| Challenge | Intensifying impacts from climate change require uniting coordination efforts of both public and private sector, as well as factoring in the unique impacts to small, rural, northern and Indigenous communities and capacity challenges. |
| Opportunity | Facilitating coordination and collaboration on investments through funding streams continues to strengthen partnerships among stakeholders through communicating current research, supporting data, and knowledge sharing activities. |

Annex B. List of case studies

Table B.1. Australia

| Ministry/Agency | Project/Case/Best Practice | Link |
|--|---|--|
| Australian Infrastructure Financing Facility for the Pacific (AIFFP) | <ul style="list-style-type: none"> Standard Operating Procedures Pacific Climate Infrastructure Financing Partnership (PCIFP) | |
| Australian Department of Foreign Affairs and Trade | Solar Pacific Pristine Power (SPPP) | https://www.aiffp.gov.au/sites/default/files/2022-10/website_final_-_palau_solar_case_study.pdf https://www.dfat.gov.au/sites/default/files/2022-23-pacific-regional-development-program-progress-report.pdf |

Table B.2. Brazil

| Ministry/Agency | Project/Case/Best Practice |
|--|--|
| Ministry of Planning and Budgeting | Multi-Year Plan (Plano Plurianual – PPA – Law No. 14,802/2024) |
| Ministry of the Environment and Climate Change | National Policy for Climate Change (PNMC) |
| National Secretariat for Regional and Territorial Development Policies Ministry of Integration and Regional Development | National Territorial Planning Policy |
| National Water Security Secretariat Ministry of Integration and Regional Development | Sowing Waters Program (Programa Semeando Águas) |
| National Water and Sanitation Agency (ANA) | Water Security Index and Climate Change (ISH) |
| Undersecretariat for Economic Monitoring and Regulation Ministry of Finance | Long-term Investment plans for infrastructure sectors Mainstreaming climate scenarios into sectoral plans |
| National Center for Disaster Monitoring and Alerts (CEMADEN) Ministry of Science, Technology and Innovation (MCTI) | Monitoring and declaring environmental emergencies in vulnerable municipalities |
| National Secretariat for Peripheries Ministry of Cities | Municipal Risk Reduction Plan (PMRR) |
| Undersecretariat for Economic Monitoring and Regulation Ministry of Finance | Infrastructure Debentures Law (Law No. 14,801/2024) Tax reform |
| National Water and Sanitation Agency (ANA) | Intensity Duration Frequency curves |
| Undersecretariat for Economic Monitoring and Regulation Ministry of Finance | Sustainable assessment sheet |
| Undersecretariat for Economic Monitoring and Regulation Ministry of Finance | Institutional arrangements for infrastructure project concessions |

| Ministry/Agency | Project/Case/Best Practice |
|--|--|
| Ministry of Environment and Climate Change | National Fund for Climate Change (Fundo Nacional sobre Mudança Climática) |
| National Treasury | <ul style="list-style-type: none"> • Brazilian Framework for Sustainable Sovereign Bonds • Sovereign Sustainable Finance Committee |
| Undersecretariat for Economic Monitoring and Regulation Ministry of Finance | Reform Environmental Licensing |
| National Secretariat for Peripheries Ministry of Cities | Community Risk Reduction Plan |

Table B.3. Canada

| Ministry/Agency | Project/Case/Best Practice |
|-----------------------|--|
| Infrastructure Canada | <ul style="list-style-type: none"> • Canada's first Adaptation Action Plan • Disaster Mitigation and Adaptation Fund • Green Inclusive Community Buildings Program • Natural Infrastructure Fund • Comprehensive climate risk assessments through ISO 14091 or PIEVC protocol |
| Public Safety Canada | <ul style="list-style-type: none"> • Disaster Financial Assistance Arrangements Program (as they relate to flood risk management strategy) • Federally Identified Flood Risk Area Program • Flood Risk Portal • Flood Insurance Program for residential properties |
| Infrastructure Canada | <ul style="list-style-type: none"> • Funding from Canada Infrastructure Bank into the Alberta Irrigation Project • Government of Canada Green Bonds series |

Table B.4. China

| Ministry/Agency | Project/Case/Best Practice |
|---|--|
| Asia Development Bank Guizhou Water Conservancy Investment (Group) Co, Ltd. | High Efficiency Water Utilization in Rocky Desertification Area, Guizhou |
| World Bank Bank of Shanghai Pudong Development Bank Global Environment Facility (GEF) Beixinjing Subdistrict Office Changning District, Shanghai Urban Renewal and Low-carbon Project Management Center, Changning District | Low-carbon and Climate-resilient Residential Community in Changning |

Table B.5. European Commission

| Ministry/Agency | Project/Case/Best Practice | Link |
|--|--|--|
| Directorate-General for Climate Action (DG CLIMA) | <ul style="list-style-type: none"> • EU Adaptation Strategy • EU Climate Law | https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:82:FIN |
| Directorate-General for Economic and Financial Affairs (DG ECFIN) Directorate-General for International Partnerships (DG INTPA) | <ul style="list-style-type: none"> • InvestEU Programme (InvestEU Fund, InvestEU Advisory Hub, InvestEU Portal) | |
| Directorate-General for Economic and Financial Affairs (DG ECFIN) | <ul style="list-style-type: none"> • Mainstreaming climate change in the European Multiannual Financial Framework | https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/green-budgeting-eu_en https://commission.europa.eu/document/download/968be999- |

| Ministry/Agency | Project/Case/Best Practice | Link |
|--|--|--|
| | | 7fd5-45ac-8c1b-0c9edc2c15_en |
| Directorate-General for Climate Action (DG CLIMA) Directorate-General for Taxation and Customs Union (DG TAXUD) | EU Emissions Trading System (EU ETS) and ETS 2 | |
| Directorate-General for Climate Action (DG CLIMA) | European Climate Risk Assessment (EUCRA) Guidance on the climate proofing of infrastructure | |
| Directorate-General for Regional and Urban Policy (DG REGIO) | European Solidarity Fund (EUSF) | |

Table B.6. France

| Ministry/Agency | Project/Case/Best Practice |
|--|---|
| Ministry of Ecological Transition General Directorate for Infrastructure, Transport and Mobility | <ul style="list-style-type: none"> 3rd National Plan for Adaptation to Climate Change (PNACC-3) Green Fund (Fond Vert) |
| General Directorate for Infrastructure, Transport and Mobility Center for studies and expertise in risks, environment, mobility and urban planning (CEREMA) | <ul style="list-style-type: none"> Assessment of the national road network (2023) Vulnerability assessment methodology Systemic Approach to Adaptation of Transport Infrastructure (ASAIT) |
| French government Region Sud | <ul style="list-style-type: none"> Region Sud as pilot region for ecological planning for territorial transformation |

Table B.7. Germany

| Ministry/Agency | Project/Case/Best Practice |
|-----------------|----------------------------|
| | Autobahn GmbH |

Table B.8. Indonesia

| Ministry/Agency | Project/Case/Best Practice |
|---------------------|--|
| Ministry of Finance | <ul style="list-style-type: none"> SDG Indonesia ONE/SIO (blended finance platform) ESG Framework and Manual to Integrating ESG principles throughout the project life-cycle |

Table B.9. Italy

| Ministry/Agency | Project/Case/Best Practice | Links |
|--|--|--|
| Interministerial Committee for the monitoring and publication of the information necessary for the publication of government green bonds | Government green bonds (BTP Green) | https://www.mef.gov.it/en/focus/documents/btp_green/Green-Bond-Framework_ENG-.pdf https://www.dt.mef.gov.it/export/sites/dt/modules/documenti_en/debito_publico/btp_green_post_emissioni/2023-Allocation-Impact-Report-Italy-Sov-Green-Bond-IT-20230616-EN.pdf |
| Bank of Italy | Guidelines on Supervisory expectations for climate-related and environmental risks | |
| Ministry of Economy and Finance | Government green guarantees regulated by Decree Law n. 76/2020 | |
| Ministry of Economy and Finance Ministry of Environment and Energy Security Bank of Italy | Sustainable Finance and Investments for the Green Economy | https://www.dt.mef.gov.it/en/attivita_istituzionali/sistema_bancario_finanziario/finanza_sostenibile/progetto_mef/ |

| Ministry/Agency | Project/Case/Best Practice | Links |
|---|----------------------------|---|
| National Commission for Companies and the Stock Exchange (CONSOB) Institute for Insurance Supervision (IVASS) Commission for the Supervision of Pension Funds (COVIP) | | https://www.dt.mef.gov.it/en/attivita_istituzionali/sistema_bancario_finanziario/finanza_sostenibile/Tavolo_finanza_sostenibile/ |

Table B.10. Japan

| Ministry/Agency | Project/Case/Best Practice | |
|---|--|---|
| Cabinet Secretariat – National Resilience Promotion Office Relevant Ministries | <ul style="list-style-type: none"> Fundamental Plan for National Resilience | |
| Ministry of Economy, Trade and Industry Ministry of Finance Relevant Ministries | <ul style="list-style-type: none"> Japan Climate Transition Bond | https://www.mof.go.jp/english/policy/jgbs/topics/JapanClimateTransitionBonds/index.html |
| Ministry of Land, Infrastructure, Transport, and Tourism Cabinet Office – Disaster Management Bureau | <ul style="list-style-type: none"> Risk map for flood risks Guidelines of methodologies for assessing the economic damages of flood risks | |
| Ministry of Land, Infrastructure, Transport, and Tourism | <ul style="list-style-type: none"> Strategy for green infrastructure Platform for public-private cooperation Subsidies for private sector/local governments for green infrastructure investment | |
| Ministry of Land, Infrastructure, Transport, and Tourism | <ul style="list-style-type: none"> Awareness-raising activities (disaster education and site visits) | |

Table B.11. Mexico

| Ministry/Agency | Project/Case/Best Practice | Link |
|--------------------|--|---|
| Federal Government | General Law on Climate Change National Development Plan | https://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC.pdf https://dof.gob.mx/nota_detalle.php?codigo=5708634&fecha=15/11/2023#gsc.tab=0 https://www.dof.gob.mx/nota_detalle.php?codigo=5565599&fecha=12/07/2019#gsc.tab=0 |
| State governments | State Programs for Action on Climate Change (PEACC) | https://ieecc.edomex.gob.mx/programa-accion-cambio-climatico (Estado de México) https://cambioclimatico.jalisco.gob.mx/peacc.html (Jalisco) http://www.data.sedema.cdmx.gob.mx/cambioclimaticocdmx/disenio-accion-climatica-2021-2030.html (Ciudad de México) http://www.ccpy.gob.mx/agenda-groo/programa-estatal-cambio-climatico.php (Quintana Roo) https://cambioclimatico.semaqroo.gob.mx/actualizacion-del-programa-estatal-de-accion-ante-el-cambio-climatico-2022/ (Quintana Roo) https://www.gob.mx/cms/uploads/attachment/file/316394/PACC_Chiapas-compressed.pdf (Chiapas) https://www.semahn.chiapas.gob.mx/portal/noticias/ver_noticia/1668 (Chiapas) |

| Ministry/Agency | Project/Case/Best Practice | Link |
|---|--|--|
| National Institute of Ecology and Climate Change (INECC) | National Climate Change Strategy Vision 10-20-40 | https://www.gob.mx/inecc/documentos/estrategia-nacional-de-cambio-climatico-vision-10-20-40 https://cambioclimatico.gob.mx/adaptacion-al-cambio-climatico/ |
| Undersecretary of Infrastructure – Directorate General Technical Services | <ul style="list-style-type: none"> • Study to develop risk management and climate change adaptation criteria for infrastructure • International Climate Change Adaptation PIARC Framework for Road Infrastructure in Mexico • Establishment of criteria allowing determination of criticality of public investment for infrastructure | |
| Zacatecas State Government | Ecological Tax | https://www.congresozac.gob.mx/f/articulo&art=49157&ley=57&tit=1&cap=1&sec=0#:~:text=El%20impuesto%20se%20causar%C3%A1%20en,mismo%2C%20establecida%20en%20el%20art%C3%Adculo |
| Querétaro State Government | Ecological Tax | https://asistenciaspf.queretaro.gob.mx/sites/default/files/impuestos/pdf/6.2%20Preguntas%20Frecuentes%20Impuestos%20Ecol%C3%B3gicos.pdf |
| Yucatán State Government | Ecological Tax | https://aafy.yucatan.gob.mx/imgupload/Infografia_Impuestos_Ecologicos.pdf |
| Estado de México State Government | GHG Emissions Tax | https://congresodurango.gob.mx/Archivos/LXI/DECRETOS/DEC313.pdf |
| Ministry of Finance | <ul style="list-style-type: none"> • Catastrophe Bond 2020-2024 • Sustainable Taxonomy of Mexico • Sustainable Finance Mobilization Strategy | https://www.gob.mx/shcp/prensa/nota-informativa-349793 https://www.eleconomista.com.mx/economia/Hacienda-activa-Bono-Catastrofico-por-afectaciones-del-huracan-Otis-en-Guerrero-20231025-0133.html https://www.gob.mx/shcp/documentos/taxonomia-sostenible-de-mexico?state=published https://www.gob.mx/shcp/documentos/documento-de-consulta-de-la-estrategia-de-movilizacion-de-financiamiento-sostenible?state=published |
| National Risk Atlas | Integral information stem on disturbance agents and expected damages, resulting from a spatial and temporal analysis of the interactions between hazards, vulnerability and the degree of exposure of the affected agents. | http://www.atlasnacionalderiesgos.gob.mx/ |
| Banobras | Pilot Analysis of the Loan Portfolio Exposure to Climate Risk (EMSM) | |
| Chiapas State Government | Trust Fund for Integral Disaster Risk Management | https://proteccioncivil.chiapas.gob.mx/documentos/2022/fogird/decreto-fogird.pdf |
| Ministry of Finance Banobras | Alignment of Banobras financial products with Mexico Sustainable Taxonomy | |

Table B.12. Russia

| Ministry/Agency | Project/Case/Best Practice | Link |
|---|--|------|
| Ministry of Economic Development of the Russian Federation Ministry of Natural Resources of the Russian Federation (Miniprody) Ministry of Construction and Housing and Communal Services of the Russian Federation | <ul style="list-style-type: none"> • Climate Doctrine of the Russian Federation • National Action Plan on Climate • Environmental and Construction Codes • SP 20.13330.2016 “Loads and Impacts” Regulation • SP 131.13330.2012 “Construction Climatology” Regulation • SP 384.1325800.2018 “Urban Development. Planning and Development of Urban and Rural | |

| Ministry/Agency | Project/Case/Best Practice | Link |
|--|--|---|
| | Settlements in the Areas of the Far North and Similar Areas with Cold Climates” Regulation <ul style="list-style-type: none"> • SP 42.13330.2016 “Urban Development. Planning and Development of Land Territories” Regulation • SP 245.1325800.2015 “Protection of Buildings and Structures Against Corrosion” Regulation • Federal Law No. 384-FZ “Technical Regulations on the Safety of Buildings and Structures • Federal Law No. 261-FZ On Energy Saving and Increasing Energy Efficiency • Federal Law No. 296-FZ On limiting greenhouse gas emissions • Government decree of Sept, 21, 2021 No 1587 On approval of criteria for sustainable (including green) development projects in the Russian Federation and requirements for the verification system for financing instruments for sustainable development in the Russian Federation • Government Resolution of Jul 14 2021 No 1912-r On approval of the goals and main directions of sustainable (including green) development of the Russian Federation • Decree of Ministry of Economic Development No 248 On approval of the criteria and procedure for classifying projects implemented by legal entities, individual entrepreneurs or individuals as climate projects, the form and procedure for submitting a report on the implementation of a climate project | |
| Public-Private Partnership Center Center for Sustainable Development, Construction and Maintenance of Real Estate | “Clever” Green building certification system | |
| Ministry of Natural Resources of the Russian Federation (Miniprody) Ministry of Construction and Housing and Communal Services of the Russian Federation Ministry of Energy of the Russian Federation Ministry of Economic Development of the Russian Federation Ministry of Emergency Situations (EMERCOM) Russian Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet) Federal Agency for Water Resources | <ul style="list-style-type: none"> • Upgrading Infrastructure in Arctic Regions • Flood Protection Measures – St. Petersburg Flood Prevention Facility Complex • Emergency Response Funds | |
| Government of Russian Federation Ministry of Economic Development of the Russian Federation Central Bank of the Russian Federation State development corporation VEB.RF | <ul style="list-style-type: none"> • Taxonomy of Green and Adaptation Projects • Impact and Responsible Investing for Infrastructure Sustainability | https://xn--90ab5f.xn--p1ai/en/sustainable-development/green-finance/national-competence-center/?tabs=methodology https://xn--90ab5f.xn--p1ai/files/?file=b5409866c0b23504e0b497ea37cb4c3d.pdf https://xn--90ab5f.xn--p1ai/downloads/iriis-methodology-eng.pdf |

| Ministry/Agency | Project/Case/Best Practice | Link |
|--|----------------------------|---|
| Department of Economic Policy and Development of the City of Moscow Department of Finance of the City of Moscow | Moscow green bonds | https://www.mos.ru/upload/documents/files/7969/04052021_Koncepciyazelenihobligacii.pdf |

Table B.13. Saudi Arabia

| Ministry/Agency | Project/Case/Best Practice |
|------------------------------|---|
| National Infrastructure Fund | <ul style="list-style-type: none"> Stress Testing Framework Policy Model Management Policy Risk mitigation instruments : first loss guarantee, risk sharing products for climate risks, etc. |

Table B.14. South Korea

| Ministry/Agency | Project/Case/Best Practice |
|---|--|
| Ministry of Environment | <ul style="list-style-type: none"> Public Institution Adaptation Measures Climate Change Impact Assessment |
| Ministry of Environment National Institute of Environmental Research | MOTIVE(Model Of inTegrated Impact and Vulnerability Evaluation of climate change) |
| Ministry of Environment Korea Environment Institute | VESTAP(Vulnerability Assessment Tool To Build Climate change Adaptation Plan) |

Table B.15. Switzerland

| Ministry/Agency | Project/Case/Best Practice |
|---|--|
| Swiss Office for the Environment (FOEN) State Secretariat for Economic Affairs (SECO) Cantons | <ul style="list-style-type: none"> Strategy for adapting to climate change in Switzerland Action Plan on Adaptation to Climate Change in Switzerland National program to assess the impacts of climate change on critical infrastructure Integration of climate resilience at canton and city level Integrating climate resilience into sector policies |

Table B.16. Türkiye

| Ministry/Agency | Project/Case/Best Practice |
|--|--|
| Presidency of Strategy and Budget Ministry of Environment, Urbanization and Climate Change Climate Change Office Relevant ministries | <ul style="list-style-type: none"> National Development Plan Newly developed environmental legislation and standards |
| Ministry of Environment, Urbanization and Climate Change Ministry of Transportation and Infrastructure İLBANK A.Ş. DG State Hydraulics Works (DSİ) Municipalities Relevant Ministry in charge of the infrastructure project | Climate and Disaster Resilient Cities Project |
| Ministry of Environment, Urbanization and Climate Change | Turkish Sustainability Reporting Standards |

Table B.17. United Kingdom

| Ministry/Agency | Project/Case/Best Practice |
|--|--|
| Department of Environment, Food and Rural Affairs (DEFRA) Infrastructure and Projects Authority (IPA) HM Treasury (HMT) UK Infrastructure Bank (UKIB) National Infrastructure Commission (NIC) Other government departments | <ul style="list-style-type: none"> • Third National Adaptation Programme (NAP3) • HM Treasury Green Book • The IPA Gate Review • Local planning requirements and standards for the construction of infrastructure |
| Climate Change Committee (CCC) Department of Environment, Food and Rural Affairs (DEFRA) | <ul style="list-style-type: none"> • UK Climate Risk Assessment (CCRA) – every 5 years |
| Department of Environment, Food and Rural Affairs (DEFRA) | <ul style="list-style-type: none"> • Frequently Flooded Allowance GBP 100 million (within GBP 5.2 billion in flood and coastal erosion risk mitigation plans) • Flood and Coastal Innovation Fund (GBP 200 million) • Local Adaptation Advisory Panel (LAAP) • Local Government Association and Local Partnerships (LP) • Association of Directors of Environment, Economy, Planning and Transport (ADEPT) • West Midlands Combined Authority (WMCA) • Local Investment in Natural Capital (LINC) Programme |
| HM Treasury (HMT) Financial Conduct Authority (FCA) Prudential Regulatory Authority (PRA) Department for Business and Trade Financial Reporting Council Department for Work and Pensions The Pensions Regulator | <ul style="list-style-type: none"> • Roadmap towards mandatory climate-related disclosure • Climate-related supervisory expectations (SS3/19) • Mandatory Annual Strategic Reports (October 2021) • Climate-related disclosure requirements aligned with TCFD (December 2021) |

Table B.18. United Arab Emirates

| Ministry/Agency | Project/Case/Best Practice |
|--|---|
| Ministry of Energy and Infrastructure | Public-Private Partnership Model |
| | Distribution of contractual payments over project duration |
| | Developing the National Energy and Water Demand Side Management Programme |
| | Risk transfer through the PPP contract |
| | Federal Policy to regulate the ESCO market |
| | Active community consultation |
| | Monitoring and reporting |
| Leading the National Campaign for Awareness and Conservation | |

