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TECHNICAL ASSISTANCE REPORT– CLIMATE PUBLIC INVESTMENT MANAGEMENT ASSESSMENT (C-PIMA)

JUNE 2023

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Climate Public Investment Management Assessment (C-PIMA)

June 2023

Prepared By

Nicoletta Feruglio, Sandeep Saxena and Sylke von Thadden-Kostopoulos

Authoring Departments:

Fiscal Affairs Department

F I S C A L A F F A I R S D E P A R T M E N T

Jamaica
Climate Public Investment Management Assessment (C-PIMA)

Nicoletta Feruglio, Sandeep Saxena and Sylke von Thadden-Kostopoulos

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GLOSSARY

BAU	Business-as-usual
CAT Bonds	Catastrophe Bonds
CCAB	Climate Change Advisory Board
CCD	Climate Change Division
CCORAL	Caribbean Climate Online Risk & Adaptation Tool
CCRIF-SPC	Caribbean Catastrophic Risk Insurance Facility Segregated Portfolio Company
CDB	Caribbean Development Bank
CDM	Comprehensive Disaster Management program
COFOG	Classification of the Functions of Government
C-PIMA	Climate Change Public Investment Management Assessment
DBJ	Development Bank of Jamaica
DRM	Disaster Risk Management
DVRP	Disaster Vulnerability Reduction Project
EIA	Environmental Impact Assessment
FAA	Financial Administration and Audit Act
FMIS	Financial Management Information System
FY	Fiscal Year
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GOJ	Government of Jamaica
IBC	International Building Code
IADB	Interamerican Development Bank
IFI	International Financial Institution
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Plan
JBI	Jamaica Bauxite Institute
JSIF	Jamaica Social Investment Fund
J-SRAT	Jamaica Systematic Risk Assessment Tool
LNG	Liquefied Natural Gas
LoCAL	Local Climate Adaptive Living
LTS	Low Carbon Emissions and Climate Resilient Development
MCs	Municipal Corporations
MDAs	Ministries, Departments and Agencies
MEGJC	Ministry of Economic Growth and Job Creation
MOFPS	Ministry of Finance and Public Service
MTF	Medium Term Socio-Economic Policy Framework

NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NDF	National Disaster Fund
ND-GAIN	Notre Dame Global Adaptation Initiative
NDRF	National Disaster Reserve Fund
NEPA	National Environment and Planning Agency
NRCA	Natural Resources Conservation Authority
NRIP	National Risk Information Platform
NSP	National Spatial Plan
ODPEM	Office of Disaster Preparedness and Emergency Management
PIAB	Public Investment Appraisal Branch
PIM	Public Investment Management
PIMA	Public Investment Management Assessment
PIMIS	Public Investment Management Information System
PIMS	Public Investment Management System
PIMSEC	Public Investment Management Secretariat
PIOJ	Planning Institute of Jamaica
PPP	Public Private Partnership
PSIP	Public Sector Investment Program
PXPC	Public Expenditure Policy Coordination
RCP4.5	Representative Concentration Pathway 4.5
RFP	Request for Proposals
SNG	Subnational Governments
SOE	State Owned Enterprise
UTMS	Urban Transport Management System
WB	World Bank
WDI	World Development Indicators

PREFACE

At the request of the Ministry of Finance and the Public Service (MOFPS) of Jamaica, a team from the IMF's Fiscal Affairs Department (FAD) undertook a remote Climate Public Investment Management Assessment (C-PIMA). The mission had two phases: i) collection of data and information from key country stakeholders during December 5–15, 2022; ii) data analysis, formulation of the recommendations, and report writing during March 2023. The mission team was led by Nicoletta Feruglio and comprised Mr. Sandeep Saxena and Ms. Sylke von Thadden-Kostopoulos (all FAD). The mission was supported by Ms. Letitia Li (Research Assistant, FAD).

During the mission, the team met with staff at key departments of the MOFPS: the Economic Management Division - Fiscal Policy Management; the Public Expenditure Division - Public Expenditure and the Public Investment Appraisal Branch (PIAB); the Public Expenditure Policy Coordination Division - Asset Management and Financial Systems and Procedures; and the Public Enterprise Division.

The mission team also met with senior staff of the Planning Institute of Jamaica (PIOJ), the Auditor General Department, the Ministries of Economic Growth and Job Creation (Climate Change Division), Science, Energy and Technology, Transport and Mining, Industry, Commerce, Agriculture and Fisheries, the Local Government and Community Development - Office of Disaster Preparedness and Emergency Management (ODPEM) and the Rural Water Supply Limited - the National Environment and Planning Agency, the National Water Commission, the National Works Agency, the Development Bank of Jamaica (DBJ), the Jamaica Environmental Trust and the Jamaica Social Investment Fund (JSIF).

The mission team would like to thank the Jamaican authorities for their hospitality and cooperation and for the constructive discussions during the mission. Special thanks go to the staff at the MOFPS, in particular Mesdames Darlene Morrison and Diane Black and Mr. Trevor Anderson for their excellent support of the mission.

EXECUTIVE SUMMARY

Jamaica is highly exposed to multiple natural hazards, including tropical cyclones, floods, and droughts. Jamaica ranks 47th out of 191 countries in the 2023 Inform Risk index.[1] Jamaica suffers from damaging winds, rain, and storm surges, especially during the tropical cyclone season. Over the coming decades, Jamaica is expected to experience more heatwaves, more irregular rainfalls that bring heightened hazards of droughts or flooding, stronger tropical cyclones, and raising sea levels. Intensified climate hazards interact with socioeconomic vulnerability in Jamaica—since infrastructure, population and tourism activities are concentrated in the coastal areas—amplifying climate related costs to the country's physical assets, population, and the broader economy.

The country has suffered significant economic losses caused by repeat disasters over the past decades, and plausible future climate events will likely lower potential growth in critical economic sectors. Hydrometeorological events (floods, tropical storms, hurricanes etc.) have been the most prominent hazards in Jamaica. Two hurricane events in Jamaica in the early 2000s caused losses equivalent to 8 and 3 percent of GDP, respectively. Looking ahead, the expected damages from the hydrometeorological events are likely to be as damaging. The tourism sector is highly sensitive to the effects of climate change and equivalent to some 20 percent of GDP. Other sectors of the economy, especially agriculture, which already is coping with higher temperatures, rising sea levels, and volatile precipitation patterns are highly sensitive to the effects of climate change as well.

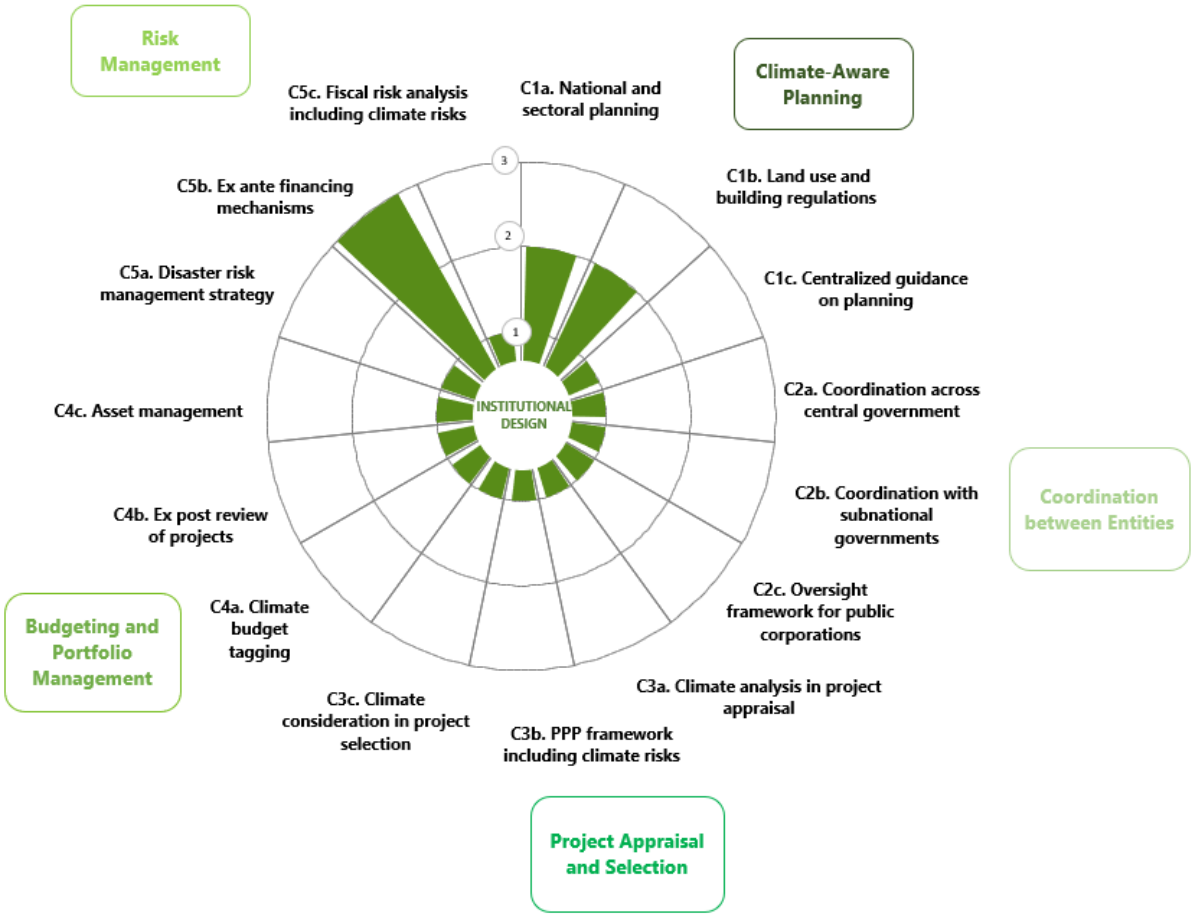
Jamaica's dependence on fossil fuels imports for energy generation calls for a transition to renewables even though Jamaica's contribution to the world-wide greenhouse gases (GHG) emissions is insignificant. In 2020, Jamaica contributed less than 0.03 percent of total GHG emissions—below other Caribbean comparators. However, the country is highly dependent on imported petroleum products to meet its energy needs. Over 85 percent of Jamaica's electricity is generated from fossil fuel—mostly heavy fuel oil—which exposes the country to volatility in international commodity prices and can exacerbate balance of payment shocks and compromise fiscal sustainability. Increasing the share of renewable electricity generation to about half by 2050 percent would allow the country to meet more than half of its emission cuts commitments and bring wider economic benefits, as well.

Climate risks and natural disasters pose major threats to Jamaica's public infrastructure and there is considerable scope to strengthen climate-responsive public investment (Figure 1., Table 1., and Annex 2. for C-PIMA scores). Progress has been made in the development of a comprehensive climate change policy framework and in planning for disaster risk financing. But coordination across the central government and with municipal corporations is weak with no institution positioned strategically to lead either adaptation or mitigation related investments. The regulatory and oversight framework for public bodies does not promote consistency between their

[1] The INFORM Risk Index is a global, open-source risk assessment for humanitarian crises and disasters. https://drmkc.jrc.ec.europa.eu/inform-index.

climate-related investments and national climate policies even though individual public bodies are identified as contributors to the Nationally Determined Contribution (NDC). The Public-Private Partnership (PPP) framework is lacking a framework for allocation of climate risks between the government and PPP partners and investment project appraisal, and the project selection procedures do not integrate climate-related analysis based on a standardized methodology. Also, the climate-oriented infrastructure spending in the budget is not tracked and ex-post reviews or external audits of projects' climate outcomes are not conducted and climate impact is not integrated into public asset management.

Figure 1. Institutional Strength of C-PIMA Institutions in Jamaica



Source: IMF staff calculations.

On these grounds, the C-PIMA assessment makes eight high-priority recommendations which could improve climate-related public investment management (PIM) processes in Jamaica and support green and sustainable economic growth. They are:

- Improve the climate informed medium-term fiscal and budget framework to guide budget preparation.
- Strengthen the climate change strategic guidance of planning for capital budgeting.

- Revise the framework for private and public bodies participation in climate smart infrastructure.
- Develop climate change project appraisal and selection methodologies and apply them consistently to all projects, regardless of financing source.
- Enhance transparency on green and resilient investment projects in budget documentation.
- Introduce climate change arrangements for the ex-post evaluation of investment projects.
- Develop a climate smart asset register and ensure adequate funding for maintenance of assets.
- Ensure that the legal framework and staff capacity are supportive of climate change PIM reforms.

Table 2 provides an action plan for the implementation of these recommendations over the short and medium term, identifies responsible agencies and areas where additional technical assistance could be useful.

Table 1. Summary Assessment

Phase/Institution			Institutional Strength	Reform priority
PIMA Climate Change	C1	Climate-aware planning	**Medium.** MTF 2021-2024 and some sectoral plans are consistent with NDC. National Building Code explicitly addresses climate risks to public infrastructure while land use and physical planning regulations do not. Centralized guidance is not provided through guidelines or other resources.	Medium
	C2	Coordination between entities	**Low.** The Institutional framework for climate change is fragmented. No coordination between central and local governments for climate-sensitive investment planning. Oversight framework does not promote consistency between public bodies' climate-related investments and climate policies.	Medium
	C3	Project appraisal and selection	**Low.** Project appraisal and selection do not integrate climate-related analysis based on a standardized methodology. Climate impacts are not required to be reflected in PPP contracts.	High
	C4	Budgeting and portfolio management	**Low**. Climate spending is not identified in the budget. There is no requirement to undertake ex post reviews or external audits of the impact of projects on climate adaptation or mitigation. Asset registers do not require identification of climate vulnerability.	Medium
	C5	Risk management	**Medium.** A national disaster risk management strategy is not in place. A handful of ex ante financing mechanisms to drawn on to respond to natural disasters are in place. Fiscal risk analysis does not incorporate assessment of climate change risks to public infrastructure assets over the medium term.	High

Table 2. Action Plan

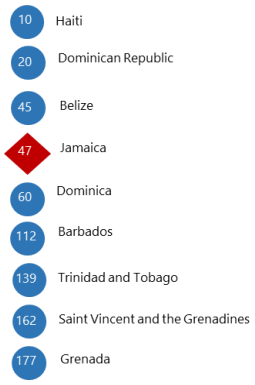
Recommendation	Inst.	Actions	2023	2024	2025	2026	Resp.	TA needs
1. Improve the climate informed medium-term fiscal and budget framework to guide budget preparation.	**C5**	Integrate disaster risks to public infrastructure assets and other climate-related risks in fiscal risk analysis.	X	X	X	X	MOFPS	X
		Finalize and approve the National Natural Disaster Risk Financing Policy to inform the selection of the most cost-effective financing mechanisms.	X				MOFPS	
2. Strengthen the climate change strategic guidance of planning for capital budgeting.	**C1 C2**	Develop centralized guidance on how to integrate climate change perspectives into sector-specific public investment planning.	X	X			PIOJ, MEGJC	X
		Integrate national climate objectives and climate-related major capital projects in sectoral plans as they are updated.	X	X	X	X	PIOJ, LMs	
		Revise the legislation on land use and physical planning to integrate a climate change perspective.		X	X		NAPA	X
		Introduce climate change' s capital investment related aspects in cross public sector coordination.	X	X	X	X	PIOJ, MEGJC, MOFPS, LMs	
3. Revise the framework for private and public bodies participation in climate smart infrastructure.	**C2 C3**	Finalize and approve the revised Public-Private Partnership (PPP) policy including climate change requirements into PPP arrangements from project design to contract management.	X				MOFPS, DBJ	
		Revise the PPP Standard Operating Procedure Manual to reflect these requirements.	X				MOFPS, DBJ	
		Integrate national climate objectives when developing a new overarching regulatory framework for public corporations.		X	X		MOFPS	X
4. Develop climate change project appraisal and selection methodologies and apply them consistently to all projects, regardless of financing source.	**C3**	Develop standardized methodology for climate change analysis in project appraisal.	X				MOFPS	X
		Establish a transparent process, with clearly defined and published selection criteria, including climate change criteria, for selection of projects for implementation.	X				PIOJ	X
5. Enhance transparency on green and resilient investment projects in budget documentation.	**C4 Cross cutting**	Gradually Introduce green budgeting identifying and tracking climate-related expenditures with Ministry of Finance and Public Service (MOFPS) quality review.	X	X	X	X	MOFPS, LMs	X
		Include the climate tags in the coding structure of the financial management information system (FMIS).		X	X		MOFPS	
		Interface the FMIS with the Public Investment Management Information System (PIMIS).		X			MOFPS	
6. Introduce climate change arrangements for the ex post evaluation of investment projects.	**C4**	Develop a methodology and requirements for ex post reviews of climate-relevant infrastructure projects with respect to adaptation and mitigation.		X			MOFPS,PIJO	X
		Conduct ex post reviews on climate outcomes of a selected number of major projects completed every year according to the new methodology.			X	X	MOFPS, LMs	
		Develop a methodology to conduct climate change audit of green and resilient infrastructure.			X		AG	X
		Include in the Auditor General (AG)' s work plan at least 2 climate change audit of a major public investment project each year.				X	AG	
7. Develop a climate smart assets register and ensure adequate funding for maintenance of assets.	**C4**	Develop a centralized register of infrastructure assets - indicating the values and condition of the assets including climate related information - and ensure that is updated on a regular basis to support determination of appropriate maintenance levels.	X	X	X		MOFPS, LMs	X
		Develop a standardized methodology for estimating current and capital maintenance needs including climate related risks.		X			MOFPS, LMs	X
8. Ensure that the legal framework and staff capacity are supportive of climate change PIM reforms.	**Cross cutting**	Revise the Financial Administration and Audit Act (FAA) to include climate change requirements throughout the project cycle.	X				MOFPS	X
		Develop a Climate Change Law to clarify, roles, responsibilities and coordination.		X			MEGJC, MOFPS	X
		Strengthen the Planning Institute of Jamaica (PIOJ) to provide more guidance on climate aware planning and preparation of public investments plans and projects from a climate change perspective.	X	X			PIOJ	X
		Enhance the capacities of the PIAB in the MoFPS to provide support to MDAs in project appraisal including for climate-analysis for project appraisal.	X	X			MoFPS	X
		Enhance the capacities of the Development Bank of Jamaica (DBJ) and the Public Enterprise Division in MoFPS to develop and supervise climate smart PPP arrangements.	X	X			MOFPS, DBJ	X
		Strengthen staff capacity on mainstreaming climate change into public investment management across the central government and municipal corporations.	X	X	X	X	LMs	X

I. CLIMATE CHANGE IN JAMAICA: CONTEXT

A. Climate Change and Public Infrastructure

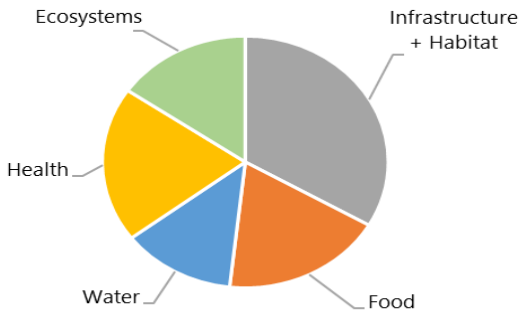
1. Jamaica's geographical and socio-economic characteristics make it highly vulnerable to the impacts of climate change. Jamaica ranks 47th out of 191 countries in the 2023 Inform Risk index (Figure 2). Average temperature levels in the country have risen steadily over the last several decades and are projected to increase further in the future. In a business-as-usual (BAU) global emission scenario (RCP 4.5),[2] Jamaica is projected to face a 1.54°C increase of mean temperature by 2100 relative to the 1986–2005 baseline.[3] This would likely result in increased frequency of prolonged high heat and drought. The frequency of tropical storms or hurricanes is expected to remain steady while their intensity will increase with extreme rainfalls, high wind speed, flooding, and increased damages.[4] Additionally, sea level is rising and threatening Jamaica's infrastructure and population that are concentrated in the coastal areas. According to the 2020 ND-GAIN Vulnerability Index,[5] climate change and natural disasters in Jamaica affect the costal, energy and transport infrastructure, as well as urban areas (buildings, water supply and sanitation, etc.) (Figure 3).

Figure 2. Natural Hazard Risk-Peer Selected Caribbean Countries (2020)



Source: 2023 INFORM Global Risks Index.

Figure 3. Composition of Vulnerability by Sector



Source: 2020 ND-GAIN Vulnerability Index.

2. Jamaica's high vulnerability to natural disasters poses substantial risk to the country's economic outlook. Jamaica has suffered high and sustained damages from natural disasters over the past several decades (Figure 4). Hydrometeorological events (floods, tropical storms, hurricanes etc.) have been the most prominent hazards in Jamaica. The number of storms passing by or directly

[2] Representative Concentration Pathway 4.5 (RCP4.5) is one of the GHG concentration trajectories adopted by the Intergovernmental Panel on Climate Change (IPCC) that corresponds to a realistic BAU GHG emission pathway.

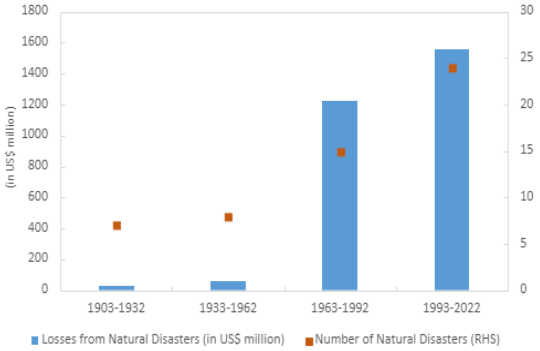
[3] Planning Institute of Jamaica. The State of the Jamaican Climate 2019: Historical and Future Climate Changes for Jamaica, draft March 2021.

[4] Planning Institute of Jamaica. The State of the Jamaican Climate 2019: Historical and Future Climate Changes for Jamaica, draft March 2021. The Intergovernmental Panel on Climate Change (IPCC). 2012. Managing the risks of extreme events and disasters to advance climate change adaptation.

[5] ND-GAIN Vulnerability Index assesses the vulnerability of a country to climate change risks by considering six life-supporting sectors: food, water, health, ecosystem services, human habitat, and infrastructure.

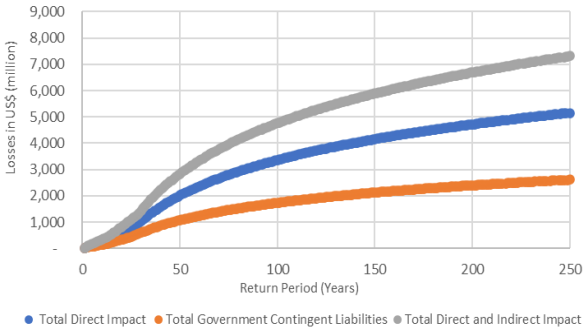
affecting Jamaica in the 2000s has been at its highest since 1940–1959.[6] Hurricanes Ivan (2004) and Dean (2007) caused damages of US$580 million and US$329 million each (or 8 and 3 percent of GDP, respectively). In 2010, tropical storm Nicole was an important reminder of a persisting vulnerability to natural disasters, causing damages of US$239 million (or 2 percent of GDP).[7] Looking ahead, the expected damages from the hydrometeorological events would also be significant. For one in 100 years type of event, the fiscal losses are expected to exceed US$ 1,729 million (roughly about 10 percent of GDP); in other words, there is one percent probability in any year that losses will exceed US$1,729 million from such an event (Figure 5).

Figure 4. Frequency and Damages of Natural Disasters (in US$ million)



Source: EMDAT 2022 Database.

Figure 5. Estimated Floods and Hurricane Events Risk Profile, Indicative Probability Curve



Source: 2019 WB Jamaica probabilistic risk modelling approach.

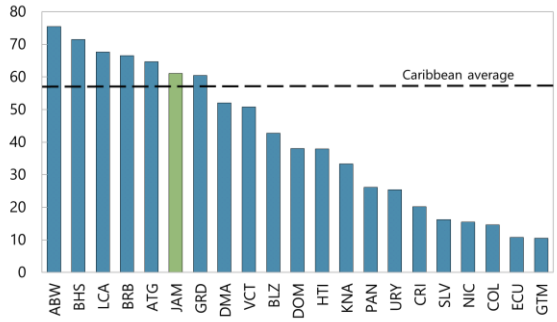
3. Climate change and natural disasters threaten Jamaica's external sustainability. The tourism sector is highly sensitive to the effects of climate change and tourism-related BOP inflows are equivalent to some 20 percent of GDP (Figure 6). Tourism dynamics also weigh heavily on economic outcomes given its interconnectedness with other sectors, such as the retail trade, construction, agriculture, and other services. Frequent, severe, and persistent natural disasters would likely sharply reduce tourist arrivals, devalue the capital base of the industry, affect the nature-based tourism assets on the island, disrupt the inflows of foreign exchange, and trigger unplanned fiscal expenditures. They would also impact other sectors of the economy, especially agriculture which already is coping with higher temperatures, rising sea levels, and volatile precipitation patterns[8] (Figure 7). Those impacts may result in lower agricultural productivity, further constraining availability and quality of food, energy, and water.

[6] The number of storms passing by or directly affecting Jamaica in the 2000s was 22. Planning Institute of Jamaica. The State of the Jamaican Climate 2019: Historical and Future Climate Changes for Jamaica, draft March 2021. The Intergovernmental Panel on Climate Change (IPCC). 2012. Managing the risks of extreme events and disasters to advance climate change adaptation.

[7] Macro Socio-economic and Environmental Impact Assessment of Damage and Loss caused by the March to June Rains 2017, Planning Institute of Jamaica (PIOJ), PIOJ Economic and Social Survey (2017), Third National Communication (2018).

[8] The Climate Change Policy Framework for Jamaica (2015) identifies agriculture as critically important for both mitigation and adaptation.

Figure 6. Tourism Receipts (2016–2021) (percent of total export receipts)



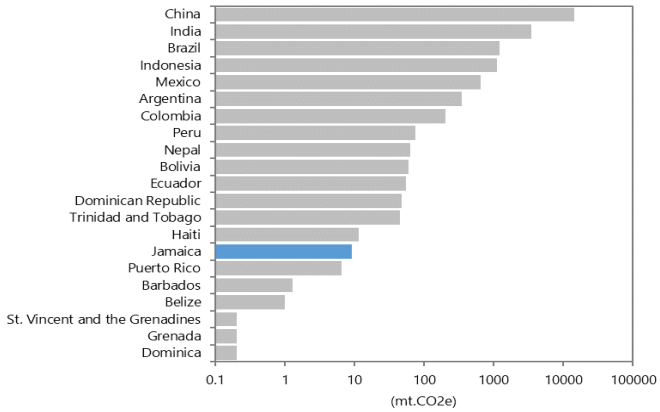
Source: WDI and IMF staff calculations.

Figure 7. Agriculture and Tourism (2016–2021) (percent of GDP)

Source: WDI and IMF staff calculations.

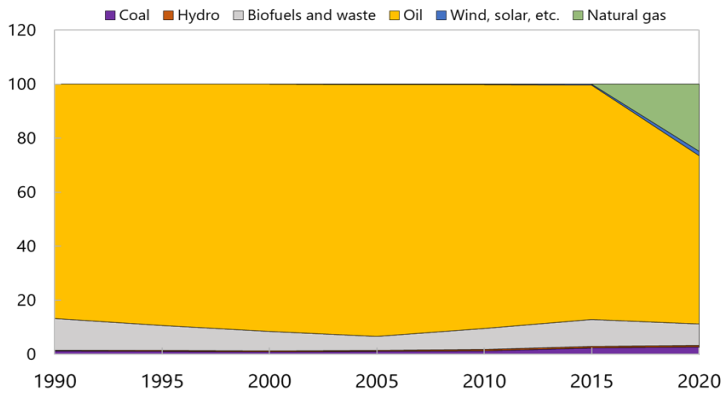
4. Jamaica's contribution to the world-wide greenhouse gases (GHG) emissions is insignificant but its dependence on fossil fuels imports for energy generation calls for a transition to renewables. In 2020, Jamaica contributed negligible amounts to total GHG emissions (Figure 8). However, Jamaica's dependence on fossil fuel imports exposes it to volatility in international commodity prices. This vulnerability can exacerbate balance of payment shocks and compromise fiscal sustainability. In FY 2021/22, fuel commodity imports represented 11 percent of GDP and were twice the level of Jamaica's goods exports. Over 85 percent of Jamaica's electricity production is derived from fossil fuel mostly heavy fuel oil (Figure 9). Mass public transportation is underdeveloped and there is over-reliance on cars and taxis, which leads to high per capita petrol consumption compared to regional peers. The high fuel import bill and the related inflationary pressures following the war in Ukraine highlight the need to expeditiously transition to renewable energy.

Figure 8. Country GHG Emissions (mt.CO2e)



Source: IMF-CPAT.

Figure 9. Energy Supply by Source (Percent of total)



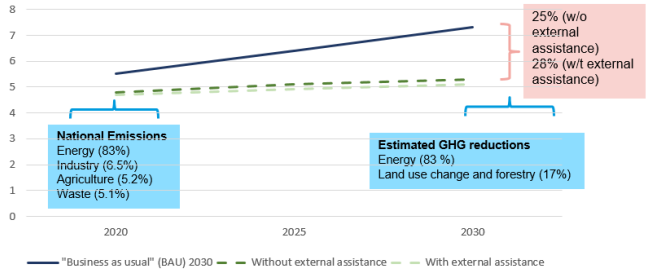
Source: IEA World Energy Balance.

B. Climate Change Objectives and Strategies

5. Over the past few decades Jamaica has developed a comprehensive policy framework which sets out an ambitious set of measures and targets to mitigate and adapt to climate change The Vision 2030 Jamaica-National Development Plan defines the country's long-term strategic development goals towards inclusive and sustainable growth. *The 2030 Vision rests on the foundation of three dimensions of sustainable development—social, economic, and environmental—as well as on equity and inclusiveness considerations.*[9] The Climate Change Policy Framework for Jamaica was promulgated in 2015 and recently updated in 2021, with the goal of creating a sustainable mechanism for integrating climate change considerations in governance systems (institutional arrangement, polices, plans, etc.).[10] The country submitted its Intended Nationally Determined Contribution (NDC) in November 2016 and ratified the Paris Agreement in April 2017, further signaling its commitment to enhance climate action. The initial NDC which was enshrined in the National Energy Policy (2009- 2030) highlighting the importance of national adaptation planning. In 2019, the government adopted the Integrated Resource Plan (IRP)—a comprehensive decision support tool and a road map for achieving Jamaica's objectives to *transition to renewable energy* over a 20-year period. In June 2020, Jamaica submitted an updated and more ambitious NDC.[11] In August 2021, Jamaica launched its NDC Implementation Plan.[12]

6. Jamaica is advancing with the adaptation and disaster financing policy as well. Jamaica is developing its first National Adaptation Plan (NAP) comprising a comprehensive adaptation implementation roadmap and investment plan. In addition, the authorities are developing a National Disaster Risk Financing Policy that provides a menu of financing options the Government can draw upon to respond readily to natural disasters.

Figure 10. Emission Trends (2020–2030)



Source: 2020 NDC.

7. The NDC targets emissions reductions of between 25.4 percent and 28.5 percent (with external assistance) relative to business by 2030 (Figure 10). About 80 percent of the reductions are expected to come from the energy sector through a large-scale ramp up of renewables in the power sector, as well as improved energy efficiency across all major energy consuming sectors. The rest will come from the land use change

[9] See: Jamaica's UN SDG page.

[10] The 2021 Climate Change Policy Framework has not yet been approved.

[11] The updated NDC targets emissions reduction of 25-29 percent relative to a business-as-usual scenario by 2030. This target is three times as ambitious that the one included in the First NDC submitted in 2015. The NDC addresses emissions from land use and forestry sector and commits to maintain at least 30 percent of the country land mass as forest.

[12] In August 2021 the authorities developed in collaboration with the WB and the NDC partnership, the NDC implementation plan. The Climate Change Division (CCD) in the Ministry of Economic Growth and Job Creation (MEGJC) will provide an update on commitments based on the NDC implementation plan. The next NDC implementation status is expected in FY2024.

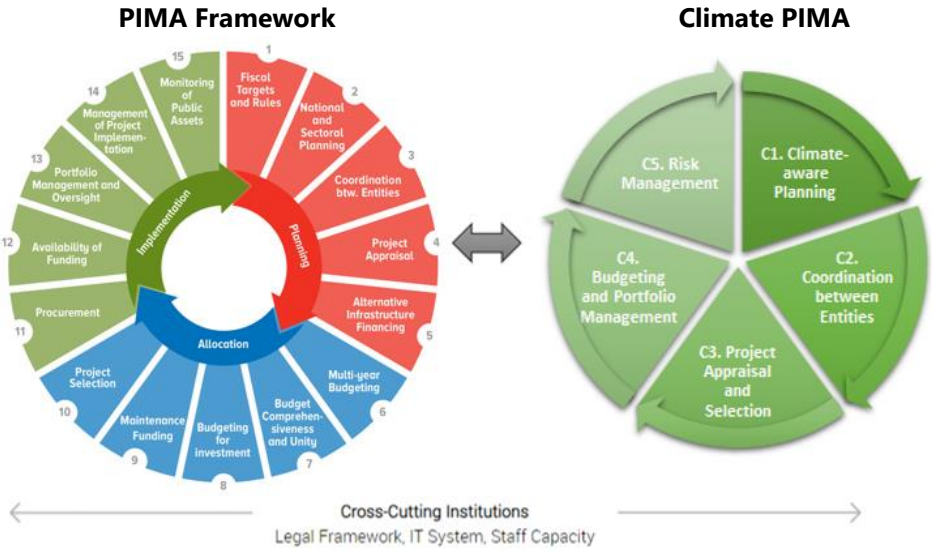
and forestry sector when measures such as the 'No Net Loss of Forestry' commitment and the tree planting are completed.

II. CLIMATE CHANGE PUBLIC INVESTMENT MANAGEMENT ASSESSMENT

A. The Climate Change PIMA Framework

8. The Climate Change Public Investment Management Assessment (C-PIMA) identifies and evaluates five key public investment institutions from a climate change perspective in the context of the existing PIMA framework. There is a close correspondence between the C-PIMA institutions (C1–C5) and PIMA institutions (1-15) illustrated by Figure 11. The C-PIMA's institutions C1–C4 combine elements from separate PIMA institutions and the institution C5 (risk management) in C-PIMA has no counterpart in PIMA. The detailed questionnaire and methodology of C-PIMA is in Annex 1.

Figure 11. PIMA and C-PIMA Institutions



B. Detailed Assessment and Recommendations

C1. Climate-aware planning *(Institutional Strength: Medium; Reform Priority: Medium)*

9. The first institution of the C-PIMA assesses whether public investment is planned from a climate change perspective. The purpose of this institution is to assess the extent to which public investment planning considers the need for climate change adaptation and mitigation in three dimensions. The first asks whether public investment strategies and plans are consistent with the government's climate objectives and expected outcomes. The second asks whether central government and/or sub-national government regulations require that spatial and urban planning

and building codes address climate risks. The third assesses the existence of centralized guidance on climate aware public investment planning.

10. In Jamaica, national and some sectoral plans are consistent with the government's climate change adaptation and mitigation objectives. Jamaica's Vision 2030 - National Development Plan is an antecedent to the first 2016 NDC but does not integrate climate adaptation and mitigation public investment projects. Though, the 2021-2024 Medium Term Socio-Economic Policy Framework (MTF) - the main mechanism for advancing the implementation of the Vision 2030 – reflects the goals of the updated 2020 NDC. Certain sectoral plans, such as the 2019 National Water Sector Policy and the 2017 National Forest Management and Conservation Plan are climate resilient. Also, the Ministry of Transport and Mining is revising their policies to integrate climate adaptation principles. Under the Towards a Comprehensive National Adaptation Planning Process in Jamaica (JA-NAP) project, funded by the Green Climate Fund (GCF), five sectors - the water, health, tourism, agriculture, coastal resources, and human settlement - are developing sector climate vulnerability assessments and subsequent sectoral adaption plans. There are sub-sectoral plans that target the planning of specific interventions formulated in the NDC, for instance, the Energy IRP. Major autonomous institutions and public companies, such as the Airports Authority of Jamaica, the Jamaica Urban Transit Company Ltd., and the Rural Water Supply Company Ltd. conduct investment planning in accordance/coordination with the NDC, the MTF and sectoral policies. The Planning Institute of Jamaica (PIOJ) is preparing the National Adaptation Plan (NAP) after having received approval from the GCF. The overall goal of the NAP project is to develop an inclusive, systematic, and participatory national adaptation planning and implementation framework for Jamaica by 2025. In addition, the Government of Jamaica (GOJ) plans to develop a long-term strategy for Low Carbon Emissions and Climate Resilient Development (LTS) with consideration of both mitigation and adaptation needs. Through its LTS, the GOJ will develop a more robust climate change strategy that considers mitigation and adaptation together in an integrated long-term planning framework to 2050.

11. The National Building Code addresses climate risks to public infrastructure, while there are gaps in the integration of climate-related risks into spatial planning. The National Building Code of Jamaica was adopted in 2018 and came into operation in January 2019. The code comprises the International Building Code (IBC) and 11 documents describing standards of specification. The IBC provides for construction material and construction practices that resist extreme weather events such as hurricanes, storm surges, floods, and landslide. The code also provides guidance for improving energy efficiency in public buildings. While the legal and regulatory foundation appears solid there is room for improvement as regards compliance at permitting and construction inspection stages. The overarching land use and physical planning and or urban and regional planning are regulated respectively by the 1966 Land development Act and the 1958 Town and Country Planning Act which do not include any provision related to climate change. An updated

National Spatial Plan (NSP) is at draft stage.[13] According to the National Environment and Planning Agency (NEPA), the entire island is now covered by at least one Provisional Development Order[14] which includes zoning information and hazard maps and are expected to inform resilient infrastructure and sustainable management and use of resources. Some parishes have a Climate Risk Atlas of Coastal Hazards and Risk as for instance Negril. In addition, the GOJ developed the 2020 Beach Access and Management Policy and the 2017 Costal Management and Beach Restoration guidelines that regulate costal developments.

12. There is no centralized guidance on climate-aware planning, though some initiatives are ongoing. The Climate Change Division (CCD) in the Ministry of Economic Growth and Job Creation (MEGJC) provides training for the Climate Change Focal Point Network responsible for mainstreaming of climate change into the work of other ministries. The CCD periodically issues a newsletter to ensure the focal points are up to speed on latest climate change issues and national and international developments .[15] The PIOJ is developing the Jamaica Systematic Risk Assessment Tool (J-SRAT) designed by the Oxford University and with the financial support of the Coalition for Climate Resilient Investment and the UK's Foreign Commonwealth and Development Office. The J-SRAT is a geospatial analysis platform that identifies hotspots of climate vulnerability across critical infrastructure that will help prioritize the planning of resilient capital investment. The J-SRAT system is under phase two implementation which comprises data interpretation and refinement before the system's roll out. In addition, in 2021 the PIOJ in collaboration with the University of the West Indies developed the 2019 State of the Jamaican Climate Report which could be used to inform resilience building efforts at the national and subnational level and allow for improved climate resilient planning and decision-making. The Jamaica Social Investment Fund (JSIF) is spearheading the development of a National Risk Information Platform (NRIP) – an initiative similar but broader than J-SRAT - which will allow all climate risk data to be uploaded and updated on a centralized platform.[16] The NRIP will allow users to download data relating to hazards, social, ecological, physical, and economic vulnerability and loss from natural and technological hazards. The platform would help national and local authorities to plan new climate resilient infrastructure investments and to prepare for reconstruction needs should a climate event happen. The platform will be managed by the Office of Disaster Preparedness and Emergency Management (ODPEM).

13. While climate goals are mainstreamed from the national and sectoral perspective reflecting them in land and spatial regulations and technical support to institutions on climate-aware planning is a medium reform priority. Overall, there is an adequate alignment between the various national and sectoral policies with respect to Jamaica's climate change

[13] The National Physical Plan 1970–1998 addresses the spatial structure of the island's physical and environmental resources in a comprehensive manner.

[14] A Development Order is a legal document that sets out the framework, guidelines and policies for planning and development in parishes and communities.

[15] The newsletter is called CC-Connect and the December 2021 issue is dedicated to the COP 26.

[16] The platform is an activity under the Disaster Vulnerability Reduction Project (DVRP) financed by the Government of Jamaica with a loan of US $30 million from the World Bank.

strategies. It is essential however that when the national and sectoral policies and strategies are updated, they include a list of climate smart capital investment. In the context of land-use and spatial planning, while climate risks are location-specific it is important to update the national policies and regulatory framework to reflects Jamaica's climate adaptation and mitigation priorities. It would be helpful to establish in the PIOJ a technical support function to institutions on climate-aware planning, capitalizing on the recent tools and databases developed.

C2. Coordination between entities *(Institutional Strength: Low; Reform Priority: Medium)*

14. This institution focuses on the coordination of decision making on climate related public investment across the public sector across three dimensions. They assess whether decisions on climate-related public investment are coordinated across (i) the central government, (ii) the general government (central government plus all sub-national government jurisdictions), and (iii) the public sector (the central government and public corporations).

15. Decision making on climate related public investment is not coordinated accross central government. The organization of climate-related responsibilities is diffuse and delinked from public investment processes. The 2015 Climate Change Policy Framework - updated in 2021 but not yet approved - identifies the 2013 CCD in the MEGJC , the Climate Change Advisory Board (CCAB) and the Climate Change Focal Point Network as the key climate change institutions.[17] The CCD comprise 7 staff responsible for coordinating and managing the climate change policy but with no responsibilities for coordination of climate-related investments by other central government entities. The NEPA is responsible for the issuance of environmental permits for public sector investments, but the permits do not account for climate change impacts. The PIOJ has a critical, strategic, coordinating and enabling role in climate change adaptation planning and it revises the sectoral strategies/plans looking at potential environmental and hazard impacts. The PIOJ is also fine tuning, with the support of Canadian government an inventory of climate change development projects. The JSIF is managing the DVRP project. The ODPEM focuses mainly on risk prevention, emergency response and rehabilitation. The Development Bank of Jamaica in collaboration with the Public Enterprises Division of the Ministry of Finance and the Public Service (MOFPS) ensures integration of climate change into Public Private Partnerships (PPPs) arrangement. Finally, the Policy Expenditure Division in the MOFPS with the support of the Interamerican Development Bank (IADB) is working on climate budget tagging while the Public Investment Appraisal Branch (PIAB) in the MOFPS is mainstreaming climate into project appraisal.

[17] The Climate Change Advisory Board (CCAB) consists of representatives from academic institutions, civil society organizations, youth and relevant government ministries, departments, and agencies, duly approved by the Cabinet. Their main role is to provide advice to the Government of Jamaica on issues relating to climate change through the Minister with responsibility for climate change and annual reports to the Cabinet of Jamaica The Climate Change Focal Point Network is currently comprised of duly nominated representatives from government ministries, departments, and agencies that are charged with the responsibility of ensuring that climate change considerations are considered in the development and implementation of their respective sectoral strategies and actions, policies, plans, and programs.

16. The planning and implementation of the local government authorities' (Municipal Corporations (MCs)) capital spending is not coordinated with central government either in general or from a climate-change perspective. Though, under the JA-NAP umbrella project, the Local Climate Adaptive Living Facility (LoCAL) program plans to: (i) increase awareness and capacities for climate change adaptation at the local level and the integration of climate change adaptation into local government plans and budgets; and (ii) establish a performance-based climate resilience top-up financing mechanism.

17. The regulatory and oversight framework for public corporations does not promote consistency between their climate-related investments and national climate policies but public bodies are explicitly covered in the NDC. The 2012 amended Public Bodies Management and Accountability Act does not provide any indication about alignment of public bodies' infrastructure and national climate goals. However, in the NDC the public bodies are to play a critical role. The NDC is based on 16 commitments and the public bodies are named as key contributors to commitment 6 and 15 (Introduction of 136 low-carbon public transport buses and the Urban Transport Management System (UTMS)), 9 (Liquefied Natural Gas (LNG) in the Alpart Rafinery) and 12 and 16 (Reduced water distribution losses (Kingston) and National Appropriate Mitigation Action in water sector)[18]. In addition, climate considerations are also prominent in certain public bodies strategic plans as for instance the Rural Water Supply Company Ltd.

18. The coordination of decision making on climate related public investment across the public sector is an important element to ensure investments contribute to achieving Jamaica's climate change strategic objectives. The institutional set up for the climate change agenda needs to be streamlined. A process should be put in place to coordinate both mitigation and adaptation related investments. PIOJ needs to get a broader role covering coordination of climate-related investments from other central government entities and should provide the missing technical guidance in collaboration with MOFPS and the CCD (see also Institution C1). Considering the key role played by the public bodies in infrastructure development, and to capitalize on NDC, it will be critical to revise the legal and supervisory framework to ensure alignment between climate change policies and public bodies' capital investment.

C3. Project appraisal and selection *(Institutional Strength: Low; Reform Priority: High)*

19. This institution assesses whether project appraisal and selection include climate-related analysis and criteria across three dimensions. The first assesses whether the appraisal of major infrastructure projects requires that climate-related analysis to be conducted according to a standard methodology. The second assesses whether the PPP framework includes climate-related elements.

[18] The Jamaica Urban Transit Company Limited is a key contributor to the NDC commitments 6 and 15, the Jamaica Bauxite Institute (JBI) to commitment 9 and the National Water commission to commitments 12 and 16.

The third assesses whether climate-related elements are included in the criteria for selecting public investment projects.

20. The appraisal of major infrastructure projects does not require that climate-related analysis to be conducted according to a standard methodology. The Environmental Impact Assessment (EIA) regulations under the Natural Resources Conservation Authority (NRCA) Act do not provide specific guidance on climate change analysis.[19] Additionally, 2014 Financial Administration and Audit Act (FAA) (Section 48J and new Fourth Schedule) and its 2019 Financial Instructions and 2016 Public Investment Management System (PIMS) guidelines do not provide criteria for assessing the climate impacts of/on investment projects.[20] Nevertheless, the PIAB in the MOFPS developed a climate sensitive template for the Ministries, Departments and Agencies (MDAs) submission of the project concept and proposal. The template require screening for climate hazards - using the Caribbean Climate Online Risk & Adaptation Tool (CCORAL) – at a project concept stage, and for the projects prone to climate risks a climate impact assessment at a proposal stage, but no standard methodology to undertake such assessment is mandated.[21, 22] Projects funded by development partners such as the Caribbean Development Bank (CDB), the IADB and the World Bank (WB), undergo climate vulnerability assessment at an appraisal stage.[23]

21. The PPP framework does not include explicit consideration of climate risks allocation between the government and PPP partners, but a substantial reform is underway. In 2020 the IADB published an assessment of the integration of climate considerations into the PPP policy framework in Jamaica.[24] Based on this assessment, the Development Bank of Jamaica (DBJ), in collaboration with the Public Enterprise Division of MOFPS, is revising the PPP policy to include climate requirements into PPP arrangements from project identification to contract management stage. The revisions include a measure requiring the PPP's requests for proposals (RFP) and contract management to improve allocation of contingencies associated with natural hazards between the PPPs partners.[25] The GOJ will also adopt an IADB tool to incorporate the policy actions into PPP arrangements for climate sensitive PPPs.[26] The tool has been tested on two projects sponsored by the WB: the solid waste management project and the potable water treatment plant for Kingston and Saint Andrew., with encouraging outcomes.

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[19] According to the Jamaica Open Government Partnership: National Action Plan 2021–2023, the EIA regulations are being revised by the Ministry of Economic Growth and Job Creation (MEGJC).

[20] The MOFPS is currently revising the PIMS handbook and operational guidelines.

[21] PIAB is formerly the Public Investment Management Secretariat – PIMSEC.

[22] https://www.mof.gov.jm/about-us/public-investment-appraisal-branch/.

[23] Examples of these projects are: the Essex Valley Agricultural Development Project financed by United Kingdom Caribbean Infrastructure Fund through the CDB and the Rural Water Supply Improvement project finance by the CDB.

[24] IADB, June 2020, Improving Climate Resilience in Public Private Partnerships in Jamaica.

[25] The WB provided as well technical assistance to the GOJ on PPP risk insurance.

[26] IADB, 2020, Climate Resilient Public Private Partnership: A toolkit for Decision Makers.

22. No explicit climate-related criteria are applied to the selection of investment projects. There is no commonly agreed and standardized methodology for selection and inclusion of climate related budget-funded capital projects in the Public Sector Investment Program (PSIP). According to the 2016 PIMS guidelines, the PIAB is responsible for developing and maintaining a sound and transparent ranking of all projects which have been appraised and found feasible. Recently this responsibility has been assigned to the PIOJ which is working on adopting a set of selection criteria and related weights that might potentially include climate-related criteria.

23. Integration of climate change considerations in project appraisal and selection process is most urgently needed. The adoption of the CCORAL tool is an important step to enhance climate-sensitive project pre-appraisal. This was timely and appropriate and needs to be followed by adoption of a standard methodology for climate related analysis at appraisal stage. For the project selection, project prioritization criteria and the associated methodology could be defined with the integration of climate-related criteria. Training on the new project appraisal and selection framework should be planned for.

C4. Budgeting and portfolio management *(Institutional Strength: Low; Reform Priority: Medium)*

24. The purpose of this institution is to assess how the government's portfolio of climate-related public investment projects is managed, from budgeting for to management of completed projects. The three dimensions under this institution assess: (i) whether planned climate-related projects are presented in the budget and related documents and at what level of detail; (ii) whether the ex-post reviews of public investment projects consider climate change adaptation and mitigation outcomes; and (iii) whether the government's asset management policies and practices address climate-related risks.

25. Climate-related public investment spending is not identified in the budget, but MOFPS has initiated a reform in this area. The IADB is providing technical assistance for the adoption of climate budget tagging. The proposal is to tag the climate mitigation and adaptation expenditures using the functional classification, adding a second level (sub function) to the function 'Environmental protection', with three functional categories such as mixed, mitigation and adaptation. The proposed classification is in line with the classification of the functions of government (COFOG). The MOFPS developed a 4-year implementation road map for the climate budget tagging reform. For now, the budget program 'Disaster Management' (called Program 005 and reclassified Program 015 in FY20/21) tracks natural disaster-related expenditures. The Disaster Management Program was allocated respectively US$10.2 and 50.4 million in FY2019/20 and FY2020/21.

26. There is no legal requirement or specific methodologies to undertake ex-post reviews or external audits of capital projects' impact on climate adaptation or mitigation outcomes. The FAA (new Fourth Schedule (I (b)) and the 2016 PIMS guidelines regulating ex-post assessment of the impacts and outcomes of investment projects do not refer to climate change reviews. Regarding ex-post audits, while the auditor general undertakes performance and financial audit of capital

projects the legislation regulating the function of the external audit does not refer to climate change audits.[27, 28]

27. There are no policies in place for estimating standard or climate risks related maintenance of assets. A comprehensive assessment management policy was approved in 2020 and till then only cars and furniture were subject to assets' management regulations. In compliance with the 2020 asset management policy, the Public Expenditure Policy Coordination (PXPC) Division within the MOFPS is in the process of identifying the public assets and setting up a centralized and comprehensive public asset inventory.[29] The identified assets should include geo-referenced information of their attributes and exposure to risks. A geo-referenced attributes (e.g., exact location, construction type, number of stories) should inform maintenance decisions and help prioritize the reconstruction and public works to address damages due to natural disasters. A geo-referenced inventory of public assets is also a key component in building an exposure database, which is integrated with hazard and vulnerability models to establish a fiscal disaster risk profile (Institution C5). Generally, the more accurate the inventory is, the more accurate the fiscal risk assessment. The Ministry of National Security purchased a public asset management information system that will be adopted and rolled out by the PXPC Division, and which will further improve the public asset management practices.

28. The progressing climate budget tagging should be accompanied by the introduction of climate related risks in the asset management policy and practices. Knowing which assets are vulnerable to climate change and adjusting maintenance planning and funding on that basis can have significant impact on reducing the long-term maintenance costs of infrastructure assets while increasing the life of the assets.

C5. Risk management *(Institutional Strength: Medium; Reform Priority: High)*

29. This institution assesses how the government identifies and manages its exposures to fiscal risks associated with public investment that could be impacted by climate change and natural disasters.[30] The three dimensions under this institution assess: (i) whether the government publishes a national disaster risk management strategy that incorporates the exposure of public infrastructure to climate-related disasters, (ii) whether the government has financing mechanisms in place to meet the costs of climate-related damages to public infrastructure, and (iii) whether the

[27] For instance, in the past the auditor general undertook the performance audit of the Jamaica Development Infrastructure project.

[28] Public Bodies Management and Accountability Act, 2001; Financial Administration Audit Fiscal Responsibility Framework Amendment Regulations 2015; and Financial Administration and Audit Act, 2011.

[29] During the mission the team was informed that the Ministry of Local Government and Rural Development is also developing a georeferenced asset inventory for the municipal corporations.

[30] Mitigation risks could arise from higher capital costs of low GHG-emitting public infrastructure, such as a higher capital cost of renewable energy integration. Mitigation risks also include 'transition risks', which are risks to the value of public infrastructure assets arising from changes in technology, markets and government policy in the context of the global and national climate commitments. Climate and disaster risks on public infrastructure must be systematically assessed and monitored, to facilitate adequate and effective risk mitigation.

government conducts fiscal risk analysis that considers climate-related risks to public infrastructure assets.

30. Jamaica does not have a national disaster risk management strategy that analyzes key climate risks to public infrastructure assets, but the existing disaster plans and acts, address these risks. The latest 1997 National Disaster Plan defines both the framework for disaster preparedness, operations and training and the government entities' disaster responsibilities. The Plan is complemented by the 2015 Disaster Risk Management (DRM) Act, which repealed the previous 1993 Act[31] and provides an overarching institutional and legal framework for disaster risk management and financing in Jamaica. Moreover, Output 14 of the Vision 2030 National Development Plan for the country provides useful analyses on the impact of extreme weather event on the economic and social activities, the link between disaster risk and climate change, and lists priority activities for disaster risk prevention, mitigation, and management. The provisions of the Vision 2030 National Development Plan on DRM are also further developed in the MTFs. In line with the DRM Act, the Office of Disaster Preparedness and Emergency Management (ODPEM) developed a Comprehensive Disaster Management program (CDM).[32] The CDM comprises preparation and execution of: (i) activities to minimize damage and amplify relief response; (ii) recovery and rehabilitation plans; and (iii) a mitigation phase when structural and non-structural measures are undertaken to limit the adverse impact of natural disasters, environmental degradation, and technological hazards.

31. Jamaica has a range of financing instruments to drawn on to respond to natural disasters comprising budget instruments, disaster risk insurance, parametric insurance, and a contingent line of credit from international financial institutions.

- **Contingencies Fund.** The Fund has been established under the Constitution and operationalized in Section 13 of the FAA to provide for unforeseen expenditure of any kind, including but not limited to disasters.[33] This is the main budget instrument for the GOJ to finance post-disaster expenditures. The aggregate ceiling of the Contingencies Fund was raised from J$100 million (US$652 thousand) to J$10 billion in 2019 (US$ 65.12 million), to provide space for expenses related to natural-disaster risk coverage. This was follwed by a two-stage capitalization totalling J$4.6 billion (US$30 million).
- **National Disaster Fund (NDF).** The Fund has been established under Part IX of the DRM Act. The NDF is intended for projects that mitigate, prevent, prepare for, respond to, and recover from emergencies and disasters and that provide financial assistance to households for relief and recovery from a disaster. The NDF is currently capitalized at US$ 2.2 million and has been

[31] Disaster Preparedness and Emergency Management Act of 1993.

[32] See: https://www.odpem.org.jm/comprehensive-disaster-management-cdm-strategy/.

[33] According to article 96 of the Constitution, and Section 13 of the 2012 FAA.

receiving an annual injection of around J$500 million (US$3.2 million). The authorities are considering shifting the focus of the NDF to local events and dedicating it to the preventive use.

- **Caribbean Catastrophic Risk Insurance Facility Segregated Portfolio Company (CCRIF-SPC).**[34] Jamaica is a member of the regional catastrophe insurance platform, the CCRIF. CCRIF offers its members quick-disbursing, parameter-based insurance cover against disaster hazards. Annual CCRIF insurance premia around US$16mn/year, are mostly financed through the development partners (for instance USAID) with the GOJ contributing a small but over time increasing share of the premia. In 2021, insured hazards were earthquakes, tropical cyclones and floods, with coverage up to US$ 248.7million.
- **CAT bond.** The country is the first small island state to independently sponsor a catastrophe bond with the assistance of the World Bank's Capital-At-Risk notes program.[35] The bond was placed in July 2021, securing US$185 million from capital markets.[36]
- **Rapid credit facilities**. Liquidity needs have been met through the IFIs in the past, including by relying on the IADB (US$ 285 million remain available) and the IMF's Rapid Financing Instrument disbursed in 2020 in response to COVID.

Currently, only a few public companies have public asset insurance. The key obstacle to development of a comprehensive insurance coverage for government assets is lack of an inventory of public infrastructure assets and their valuation. The GOJ is considering establishing a National Disaster Reserve Fund (NDRF) for catastrophic national level events to be defined in the FAA in relation to the impact as a percentage of GDP.[37] To optimize the existing disaster risk financing instruments, the MOFPS is in the process of finalizing the National Disaster Risk Financing Policy that will adopt a comprehensive financing approach including use of an expanded set of insurance instruments.

32. Disaster risks related to public infrastructure assets are not compiled and published in the fiscal policy documents. The annual average fiscal cost of natural disasters in Jamaica for 2010–2017 was about 0.84 percent of GDP or around J$16 billion (US$121 million).[38] However, budget

[34] CCRIF's parametric insurance is different from traditional indemnity insurance as it makes payments based on the intensity of a natural hazard event (e.g., hurricane wind speed, earthquake intensity, and volume of rainfall), the exposure or assets affected, and the amount of loss calculated in a pre-agreed model. CCRIF does not need to wait for on-the-ground assessments of loss and damage–unlike with indemnity insurance–to make payouts. This enables the Facility to disburse funds to governments within 14 days of an event. A CCRIF policy is triggered when the modelled loss for a hazard event equals or exceeds the attachment point selected by the country and specified in the policy contract (like a deductible in a traditional insurance contract).

[35] https://www.worldbank.org/en/news/press-release/2021/07/19/world-bank-catastrophe-bond-provides-jamaica-185-million-in-storm-protection. The USAID provided US$5 million grant and US$14 million was leveraged from other donors.

[36] Under this program, the World Bank issues notes where some or all of the investors' principal may be at risk, such as catastrophe bonds (cat bonds) and pandemic bonds. https://treasury.worldbank.org/en/about/unit/treasury/ibrd/ibrd-capital-at-risk-notes

[37] The national level of the catastrophic event will be determined using as mode of computation the impact/damage of the event in percentage of GDP.

[38] WB, 2018, Advancing Disaster Risk Finance in Jamaica.

documents such as the fiscal policy papers and the fiscal risk statements[39], while identifying these natural disasters risks, do not quantify them and other climate-related and transition risks.

33. Integrating resilience building in the macroeconomic and fiscal planning is a high priority. Jamaica would benefit from developing a framework and methodologies for incorporating climate-related risks to public infrastructure asset in its fiscal risk analysis. A robust assessment of explicit and implicit contingent climate related liabilities would help to determine which of the insurance coverage instruments would be most suitable for Jamaica including selection of the most effective National Disaster Risk Financing Policy ex-ante financing mechanisms.

C. Cross-Cutting Issues

Legal framework *(Reform Priority: High)*

34. Over the past few decades Jamaica has developed a comprehensive climate change policy framework which has not yet been translated into an updated legal and regulatory framework (Table 3). The Vision 2030 National Development Plan provides analysis of the impact of extreme weather event on the economic and social activities and lists priority climate change mitigation and adaptation actions. The Climate Change Policy Framework for Jamaica promulgated in 2015 and recently updated in 2021 defines the institutional framework and processes for integrating climate change considerations in governance systems (policies, plans etc.).[40] The country submitted its first NDC in November 2016 and ratified the Paris Agreement in April 2017, further signaling its commitment to enhanced climate action. The initial NDC which was enshrined in the National Energy Policy (2009–2030) highlighted the importance of national adaptation planning. In 2019, the government adopted the IRP—a comprehensive decision support tool and a road map for achieving Jamaica's objectives to transition to renewable *energy* over a 20-year period. In June 2020, Jamaica submitted an updated and more ambitious NDC in terms of emission reductions and reflecting adaptation co-benefits. In October 2021, Jamaica launched its NDC Implementation Plan. Finally, the GOJ is developing the NAP. In terms of legal and regulatory framework, the Building Code establishes new guidelines for the construction of hurricane resistant building, including the use of hurricane straps and water tanks. The code also outlines the building standards for construction in the coastal zone, most prominently costal setbacks.

35. Strengthening of the legal and regulatory framework for PIM and climate change is a high priority. The relevant PIM FAA sections, which already cover all government entities at all levels, should mainstream climate considerations throughout the project cycle. An overarching Climate Change Law that defines clear roles and responsibilities for the implementation of Jamaica's climate policy and climate-related public investment, as well as guides the stakeholders across sectors on the climate agenda, would provide a strong legal foundation for the operationalization of the NDC and the developing NAP.

[39] The fiscal risk statement is an annex to the Fiscal Policy Paper.

[40] The Climate Change Policy Framework was updated in 2021 but not yet approved.

Table 3. Climate Change Legal Framework in Jamaica

Key policies, Laws, and Regulations	
• 2021-2024 Medium Term Socio-Economic Policy Framework (MTF). • 2021 updated NDC. • 2019 Integrated Resource Plan (IRP). • 2019 National Water Sector Policy. • 2017 National Forest Management and Conservation Plan. • 2016 First NDC. • 2015 Disaster Risk Management (DRM) Act. • 2015 Climate Change Policy Framework.	• 2009 Vision 2030 National Development Plan. • 1997 National Disaster Plan. • 1991 Natural Resources Conservation Authority (NRCA) Act. • 1966 Land Development and Utilization Act. • 1958 Town and Country Planning Act. • 1956 Beach Control Act.

Source: IMF.

Staff Capacity *(Reform Priority: High)*

37. Capacities in PIM and climate-sensitive PIM should be strengthened to allow institutions to fulfill their roles. The PIOJ capacity to provide more guidance on climate aware planning and preparation of public investments plans and projects from a climate change perspective should be strengthened. The capacities of the PIAB in the MOFPS should be enhanced to provide support to MDAs in project appraisal including climate-analysis for project appraisal as part of the feasibility studies. Currently, most of the MDAs and public bodies rely on external expertise to develop project feasibility studies. Support to the Public Expenditure Division of MOFPS should also continue to assure implementation of the climate budget tagging and its integration with the Financial Management Information System (FMIS). To strengthen the integration of climate risks in fiscal risk analysis, staff of the Economic Management Division and in particular, the Fiscal Policy Management Unit, would benefit from targeted capacity development and peer-to-peer training.

Information Systems *(Reform Priority: Medium)*

38. Development of a climate change budget tagging system is ongoing and should be supported by MOFPS applications. Climate budget tagging allows for the identification, measurement, and monitoring of climate-relevant public investment expenditures. Identifying and monitoring climate-related expenditures in the national budget system would support monitoring the implementation of the NDC and the developing NAP. Several countries have included the climate tags in the coding structure of their FMIS.[41] Countries that tag climate-related expenditures in their FMIS can track climate budget execution.

39. Development of information systems should advance together with the development of the Public Investment Management Information System (PIMIS). With the support of the WB, the MOFPS is developing an IT platform that will support the PIMIS. The PIMIS comprises three

[41] Examples of countries tagging climate in their FMIS systems are: Bangladesh, Ecuador, Ghana, Honduras, Indonesia, Kenya, Nicaragua, Pakistan, Philippines and Uganda.

modules: (i) the Government's Public Sector Investment Program (PSIP) collating electronic submission of project concept and project proposals for final selection and submission to the Cabinet; (ii) information collection and generation of the relevant reports; and (iii) capital investments portfolio analysis. The PSIP module is almost completed and includes the CCORAL tool. The system will be accessible to all MDAs and is to interface with the FMIS and the Jamaica InvestmentMap – a system where capital investments are geo-referenced and investment related information such as the responsible agency, the cost and status of implementation of the project, is made accessible to the public.[42]

[42] https://publicinvestmentmap.gov.jm/#/proyectos.

Annex 1. C-PIMA Questionnaire

		Scoring Rubric		
QUESTION		1 = To no or a lesser extent	2 = To some extent	3 = To a greater extent
		NOT MET	PARTIALLY MET	FULLY MET
C1. Climate-aware planning: Is public investment planned from a climate change perspective?				
C.1.a	Are national and sectoral public investment strategies and plans consistent with Nationally Determined Contribution (NDC) or other overarching climate change strategy on mitigation and adaptation?	National and sectoral public investment strategies and plans are not consistent with NDC or other overarching climate change strategy.	National public investment strategies and plans are consistent with NDC or other overarching climate change strategy for some sectors.	National and sectoral public investment strategies and plans are consistent with NDC or other overarching climate change strategy for most sectors.
C.1.b	Do central government and/or sub-national government regulations on spatial and urban planning, and construction address climate-related risks and impacts on public investment?	Central government and/or sub-national government regulations on spatial and urban planning, and construction do not address climate-related risks and impacts on public investment.	Central government and/or sub-national government regulations on spatial and urban planning, or construction (through building codes) addresses climate-related risks and impacts on public investment.	Central government and/or sub-national government regulations on spatial and urban planning, and construction (through building codes) address climate-related risks and impacts on public investment.
C.1.c	Is there centralized guidance/support for government agencies on the preparation and costing of climate-aware public investment strategies?	There is no centralized guidance/support for government agencies on the preparation and costing of climate-aware public investment strategies.	There is centralized guidance/support for government agencies on the preparation of climate-aware public investment strategies.	There is centralized guidance/support for government agencies on the preparation and costing of climate-aware public investment strategies.
C2. Coordination between entities: Is there effective coordination of decision making on climate change-related public investment across the public sector?				
C.2.a	Is decision making on public investment coordinated across central government from a climate-change perspective?	Decision making on public investment is not coordinated across central government from a climate-change perspective.	Decision making on public investment is coordinated across budgetary central government from a climate-change perspective.	Decision making on public investment is coordinated across all central government, including externally financed projects, public-private partnerships (PPPs) and extra-budgetary entities, from a climate-change perspective.
C.2.b	Is the planning and implementation of capital spending of subnational governments (SNGs) coordinated with the central government from a climate-change perspective?	The planning and implementation of capital spending of SNGs is not coordinated with the central government from a climate-change perspective.	The central government issues guidance on the planning and implementation of capital spending from a climate-change perspective and information on major climate-related projects of SNGs is shared with the central government and is published alongside data on central government projects.	The central government issues guidance on the planning and implementation of capital spending from a climate-change perspective, information on major climate-related projects of SNGs is shared with the central government and is published alongside data on central government projects, and there are formal discussions between central government and SNGs on the planning and implementation of climate-related investments.

C.2.c	Does the regulatory and oversight framework for public corporations ensure that their climate-related investments are consistent with national climate policies and guidelines?	The regulatory and oversight framework for public corporations does not promote consistency between their climate-related investments and national climate policies and guidelines.	The regulatory and oversight framework for public corporations promotes consistency between their climate-related investments and national climate policies and guidelines.	The regulatory and oversight framework for public corporations requires that their climate-related investments be consistent with national climate policies and guidelines.
C3. Do project appraisal and selection include climate-related analysis and criteria?				
C.3.a	Does the appraisal of major infrastructure projects require climate-related analysis to be conducted according to a standard methodology with central support?	The appraisal of major infrastructure projects does not require climate-related analysis to be conducted according to a standard methodology.	The appraisal of major infrastructure projects requires climate-related analysis to be conducted according to a standard methodology.	The appraisal of major infrastructure projects requires climate-related analysis to be conducted according to a standard methodology, and a summary of appraisals is published or subject to independent external review.
C.3.b.	Does the framework for managing longer-term public investment contracts, such as Public-Private Partnerships (PPPs), explicitly address climate-related challenges?	The referred framework does not include explicit consideration of climate change for risk allocation or contract management.	The referred framework includes explicit consideration of climate change with respect to how risks are allocated between the parties in infrastructure contracts.	The referred framework includes explicit consideration of climate change with respect to how risks are allocated between the parties in infrastructure contracts, and contract managers in government departments and agencies are mandated to address climate-related challenges.
C.3.c.	Are climate-related elements included among the criteria used by the government for the selection of infrastructure projects?	Either there are no explicit selection criteria or climate-related elements are not included among the criteria used by the government for the selection of projects for financing.	Climate-related elements are included among the criteria used by the government for the selection of all major budget-funded projects, and the criteria are published.	Climate-related elements are included among the criteria used by the government for the selection of all major projects, including externally financed projects, projects financed by extra-budgetary entities, and PPPs, and the criteria are published.
C.4 Budgeting and portfolio management: Is climate-related investment spending subject to active management and oversight?				
C.4.a.	Are planned climate-related public investment expenditures, sources of financing, outputs and outcomes identified in the budget and related documents, monitored, and reported?	Planned climate-related public investment expenditures are not identified in the budget and related documents.	Some planned climate-related public investment expenditures are identified in the budget and related documents, including investment expenditures funded externally, by extra-budgetary entities, and PPPs.	Most planned climate-related public investment expenditures, sources of financing, and outputs and outcomes are identified in the budget and related documents, including investment expenditures funded externally, by extra-budgetary entities, and PPPs, and expenditure on these projects is monitored and reported.
C4.b.	Are ex-post reviews or audits conducted of the climate change mitigation and adaptation outcomes of public investments?	No ex-post reviews or audits are conducted of the climate change mitigation and adaptation outcomes of public investments.	Ex-post reviews or audits are conducted for selected major public investments of either the climate change mitigation or adaptation outcomes.	Ex-post reviews or audits are conducted and published for selected major public investments of both the climate change mitigation and adaptation outcomes.
C4.c.	Do the government's asset management policies and practices, including the maintenance of assets, address climate-related risks?	Neither the government's asset management policies and practices nor methodologies for estimating the maintenance needs of climate change-exposed infrastructure assets address climate-related risks.	Methodologies prepared by the government for estimating the maintenance needs of some climate change-exposed infrastructure assets address climate-related risks.	Methodologies prepared by the government for estimating the maintenance needs and associated costs of most climate change-exposed infrastructure assets address climate-related risks, and government asset registers include climate-related information of these assets.

C5. Risk management: Are fiscal risks relating to climate change and infrastructure incorporated in budgets and fiscal risk analysis and managed according to a plan?				
C5.a.	Does the government publish a national disaster risk management strategy that incorporates the potential impact of climate change on public infrastructure assets and networks?	Either there is no published national disaster risk management strategy, or the strategy does not identify the key climate-related risks to public infrastructure assets and networks.	The government publishes a national disaster risk management strategy that identifies the key climate-related risks to public infrastructure assets and networks in terms of hazards, exposure, and vulnerability.	The government publishes a national disaster risk management strategy that identifies and analyses the key climate-related risks to public infrastructure assets and networks in terms of hazards, exposure and vulnerability, and includes the government's plans to mitigate and respond to these risks.
C5.b.	Has the government put in place ex ante financing mechanisms to manage the exposure of the stock of public infrastructure to climate-related risks?	The government has not put in place any ex ante financing mechanisms to manage the exposure of the stock of public infrastructure to climate-related risks.	There is an annual contingency appropriation in the budget or other financing mechanisms that is available to meet the costs of climate-related damages to public infrastructure.	There is an annual contingency appropriation in the budget and other financing mechanisms that are available to meet the costs of climate-related damages to public infrastructure.
C5.c.	Does the government conduct and publish a fiscal risk analysis that incorporates climate-related risks to public infrastructure assets?	The government does not conduct a fiscal risk analysis that incorporates climate-related risks to public infrastructure assets.	The government conducts and publishes a fiscal risk analysis that incorporates a qualitative assessment of climate-related risks to public infrastructure assets over the medium term.	The government conducts and publishes a fiscal risk analysis that incorporates a quantitative assessment of climate-related risks to public infrastructure assets over the medium term and policies to mitigate these risks, and a qualitative assessment of the risks that may arise over the long-term.

Annex 2. C-PIMA Detailed Scores for Jamaica

Score	Low	Medium	High
	1	2	3
Color			

C1. Climate-aware planning	
C1.a.	**National and sectoral planning**
C1.b.	**Land use and building regulations**
C1.c.	**Centralized guidance on planning**
C2. Coordination between entities	
C2.a.	**Coordination across central government**
C2.b.	**Coordination with provincial and local governments**
C2.c.	**Oversight framework for public corporations**
C3. Projection appraisal and selection	
C3.a.	**Climate analysis in project appraisal**
C3.b.	**PPP framework including climate risks**
C3.c	**Climate consideration in project selection**
C4. Budgeting and portfolio management	
C4.a.	**Climate budget coding**
C4.b.	**Ex post review of projects on climate outcomes**
C4.c.	**Asset management**
C5. Risk management	
C5.a.	**Disaster risk management strategy**
C5.b.	**Ex ante financing mechanisms**
C5.c.	**Fiscal risk analysis including climate risks**