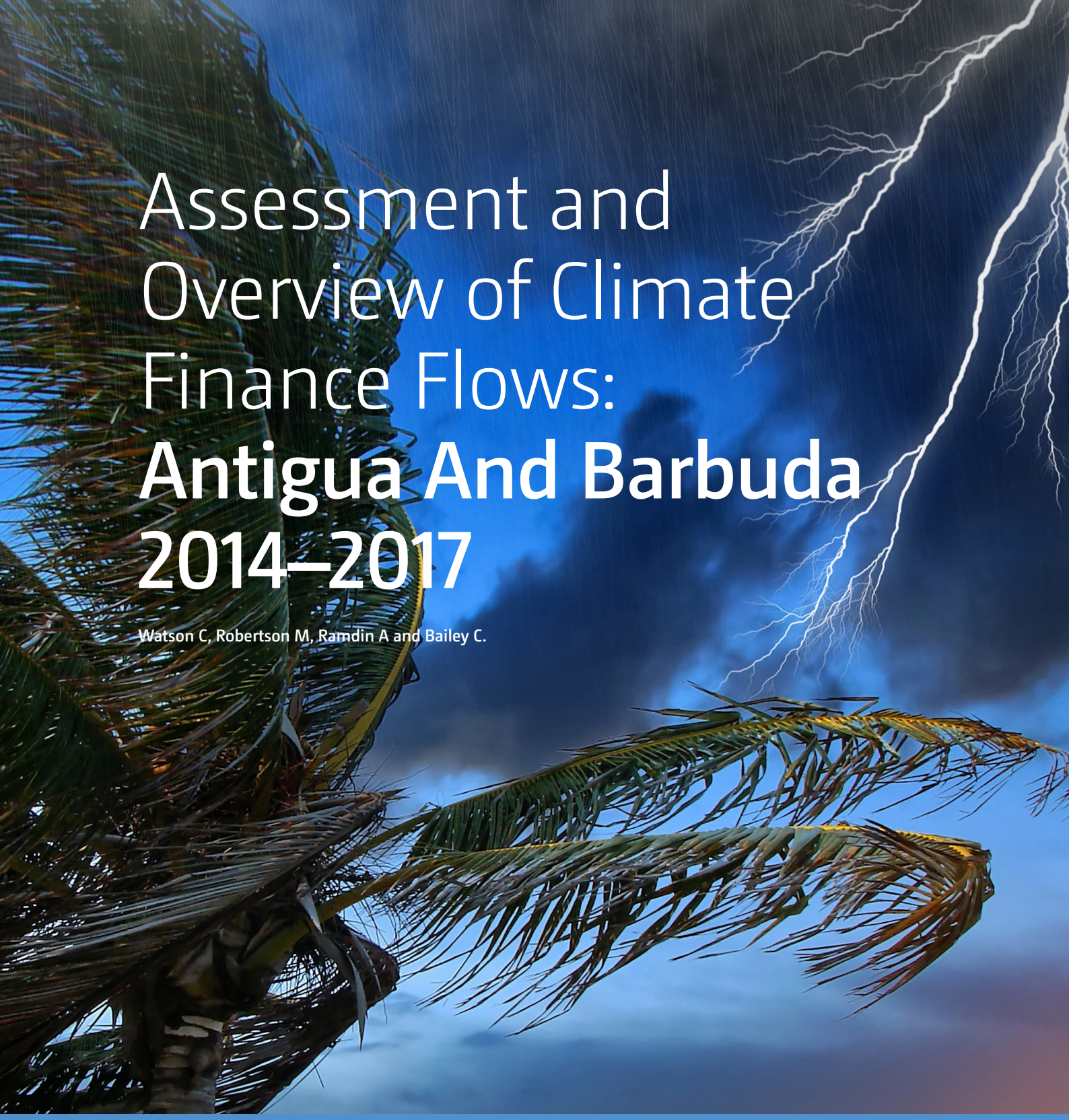


Assessment and Overview of Climate Finance Flows: **Antigua And Barbuda 2014–2017**

Watson C, Robertson M, Ramdin A and Bailey C.

United Nations
Climate Change

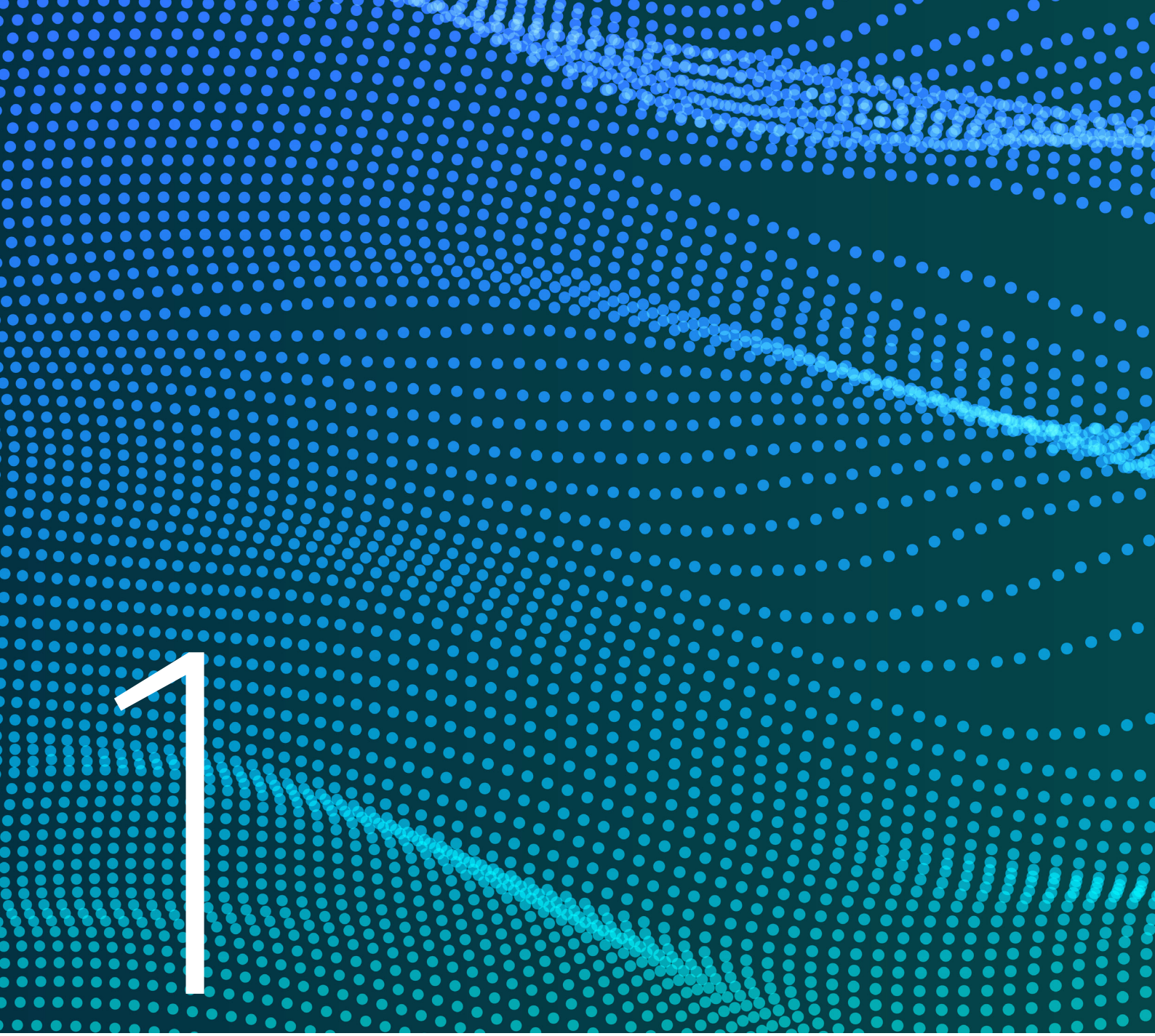
Image: Department of Environment Antigua

Acknowledgements

The authors are grateful for support and advice from Diann Black-Layne from the Department of Environment and Nadia Spencer-Henry, Gail Imhoff-Gordon, Cordella Weston, Tracelyn John-Spence and Natasha Watts of the Ministry of Finance and Corporate Governance. Comments from the Technical Advisory Committee were also appreciated. The authors gratefully acknowledge the financial support of the Needs-based Finance Project that made this report possible. All opinions expressed in this paper remain the authors' own.

Abbreviations and acronyms

AF	Adaptation Fund
APUA	Antigua Public Utilities Authority
CCRIF	Caribbean Catastrophic Risk Insurance Facility
CDB	Caribbean Development Bank
COFOG	classifications of the functions of government
COP	Conference of the Parties
CPEIR	Climate Public Expenditure and Institutional Review
DOE	Department of Environment of Antigua and Barbuda
ECCB	Eastern Caribbean Central Bank
E3G	Third Generation Environmentalism
FSB	Financial Stability Board
GCF	Green Climate Fund
GDP	gross domestic product
GEF	Global Environment Facility
GHG	greenhouse gas
GNI	gross national income
IADB	Inter-American Development Bank
IDA	International Development Association
IDFC	International Development Finance Club
IMF	International Monetary Fund
MDB	multilateral development banks
NDC	nationally determined contribution
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
NODS	National Office of Disaster Services
ODA	official development assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OECC DAC	Development Assistance Committee of the Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States
PSIP	Public Sector Investment Programme
RIRRP	Road Infrastructure Rehabilitation and Reconstruction Programme
RMI	Rocky Mountain Institute
SCCF	Special Climate Change Fund
SCF	Standing Committee on Finance
SIDS	small island developing State(s)
SIRF	Sustainable Island Resource Framework
SOE	State-owned enterprise
TCFD	Task Force on Climate-related Financial Disclosures
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WRI	World Resources Institute
XCD	East Caribbean dollars



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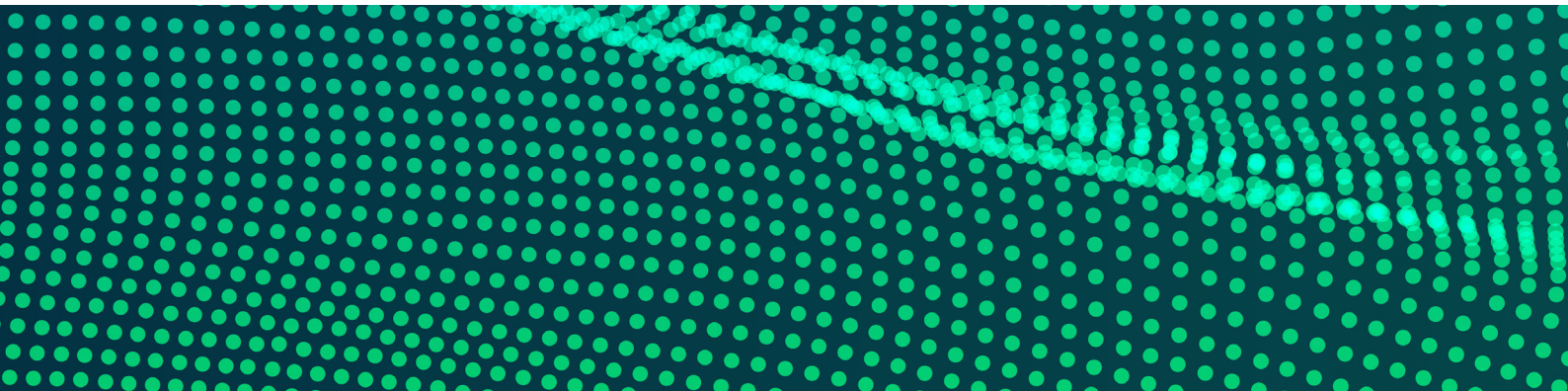
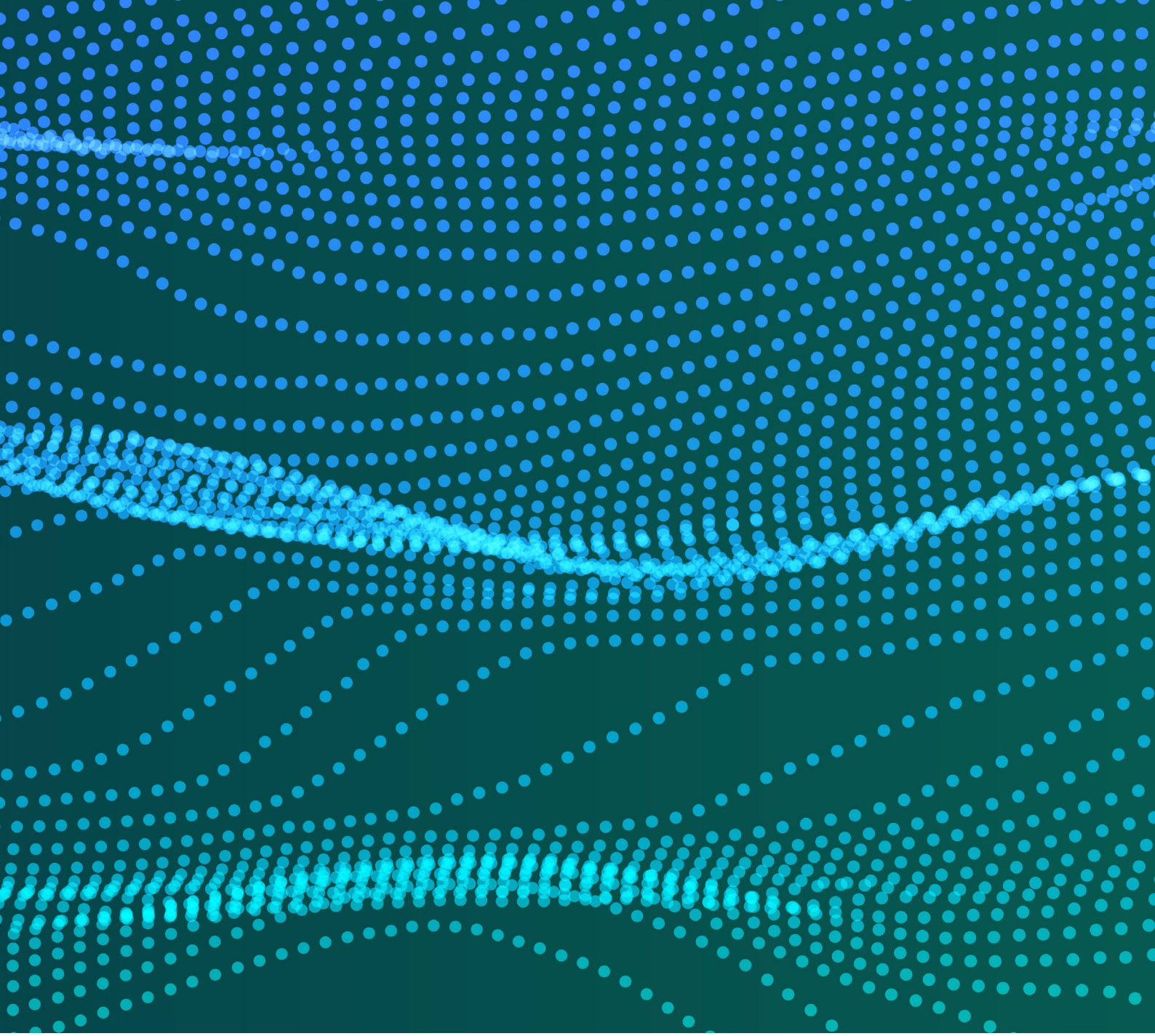
Executive Summary





Executive summary

Antigua and Barbuda is experiencing the physical adverse impacts of climate change. Future impacts are likely to include physical changes such as the increased severity and frequency of weather events including: hurricanes, flooding, severe drought, freshwater scarcity and rising sea levels. Policy changes as a result of climate change are also anticipated, including the pursuit of the country's ambitions towards net zero emissions by 2050 and a transition from fossil fuel to renewable energy generation in the energy and transport sectors. These physical climate risks and impacts of the transition will adversely affect the structure and actors in the real economy and the financial sector. Physical risks erode collateral and asset values in financial institutions, with a negative impact on insurance liabilities. Transition risks can lead to value reassessments by financial market participants as policies, technological advances or changes in public opinion occur, decreasing asset prices.

Antigua and Barbuda must work to adapt to these adverse impacts that are set to intensify. Despite the fact that country has only contributed to a very limited extent to the causes of climate change, it has high ambitions to serve as an early implementer of the long-term goals of the Paris Agreement. Antigua and Barbuda has articulated strong climate targets in its first NDC and intends to spur innovation and international action while showcasing the national development benefits of a strong climate action agenda.

The costs of not acting to adapt to climate change are likely to be high. It is worth recalling that immediate post-disaster estimates put physical asset destruction as a result of Hurricanes Irma and Maria in 2017 at XCD 367.5 million (USD 136.1 million).[1] Yet, meeting the financing needs of climate action in Antigua and Barbuda is challenging. There are many competing development and economic growth priorities, and spending for adaptation, mitigation and loss and damage response to climate change will be constrained by the country's high debt and recent graduation to high income status. While developed countries have an obligation, based on historical responsibility, under the UNFCCC to support climate action in developing countries, in particular SIDS such as Antigua and Barbuda, international grant and concessional public finance is insufficient to meet global needs. The scale and pace of the transition to low-emission, climate-resilient pathways requires substantial private investment and a shift in the way that domestic finance is spent. To this end, Antigua and Barbuda is committed to making all finance flows consistent with a pathway towards low-emission, climate-resilient development pathways. This is the third long-term goal of the Paris Agreement, without which adaptation and mitigation goals cannot be achieved.

1 This report has applied a fixed XCD to USD exchange rate of 2.7162. Since 1976, XCD has been fixed to USD at this rate. See **https://www.eccb-centralbank.org/news/view/the-eccb-observes-41st-year-of-ec-dollar-peg-to-us-dollar**

This report aims to provide an assessment and overview of Antigua and Barbuda's public and private finance flows relevant to climate change. In doing so, it identifies climate-related finance within budget spending and international climate finance receipts. It considers how private actors have engaged with, or are affected by, climate change and surveys the tools available to the Government to make all finance flows more consistent with climate actions. It is supported by the Needs-based Finance Project of the UNFCCC secretariat, which aims to support developing country Parties in achieving their goals and commitments in the context of the Paris Agreement. This report acts as a springboard for Antigua and Barbuda, and ongoing projects will continue to refine the methods within, and complement the results of, this report.

1.1. Climate-relevant public expenditure

This is the first assessment by the Government of Antigua and Barbuda of governmental expenditure as it relates to climate change. There are scattered datasets globally on budget spending and its climate relevance. The datasets on the impact of budgets on climate change, and vice versa, are even more limited. National governments are starting to undertake such assessments with a view to using information to inform and guide public financial management and, ultimately, reduce the fiscal risks that may occur as a result of climate change, such as liquidity constraints, changes in revenue streams and reallocation of spending.

Accounting for domestic climate finance for Antigua and Barbuda was carried out mainly using the CPEIR tool. The method can be broadly summarised as follows:

- **Step 1:** Understanding if expenditure is climate relevant in order to identify which actions are considered climate relevant for both mitigation and adaptation;
- **Step 2:** Identifying expenditures as climate -relevant in order to classify the climate and climate change expenditure in relevant ministries and departments;

Image: Raom Kagie

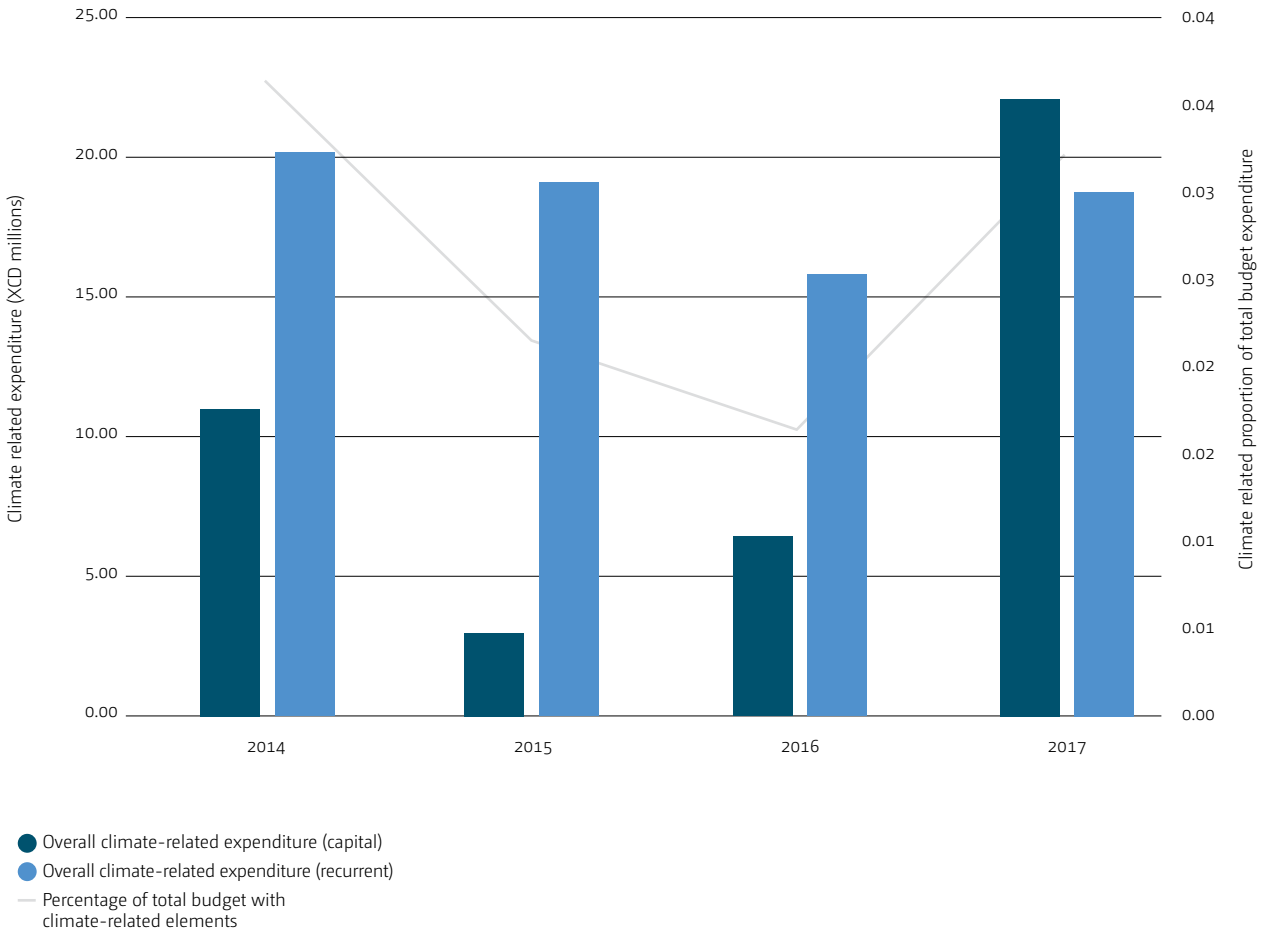
- **Step 3:** Weighting the climate-related expenditures in order to establish the proportion of the expenditure that is related to climate change. Only this proportion is then counted towards the total domestic public climate-related spending.

The sources of financial information for this analysis were the yearly budgets and development estimates for 2014–2017 and COFOG.

There are limitations to the approach taken in establishing these first estimates of Antigua and Barbuda's public spending that is relevant to climate change. A considerable amount of time is required to review budgets and appropriately record and weight expenditures; additional time would further refine the method, datasets and analysis. For example, the preparation of this report lacked the required time and resources to establish a government-wide working process that would agree by consensus on each step of the approach, including the definitions of adaptation and mitigation activities, the ministries or departments that would participate in the analysis, and establishing climate relevance weightings.

Results show that an annual average of 3 per cent (XCD 29.1 million, equating to USD 10.7 million) of the total budget for 2014–2017 is climate-relevant. This is comparable with, for example, findings from Bangladesh (4 per cent), Ghana (2 per cent) and Indonesia (4 per cent), though it is noted that countries apply their own nationally appropriate definitions and methods. For example, Indonesia only considered expenditures relevant to mitigation. Most climate-related public expenditure was found to be capital expenditure, while, in contrast, the budget as a whole has more recurrent spending (figure 1). The majority of spending was directed towards adaptation actions. National Office of Disaster Services reported the highest climate-related spending relative to overall budget size (66 per cent), followed by Department of Environment (49 per cent) and the Central Board of Health (38 per cent).

Figure 1 **Climate-related budget expenditure in Antigua and Barbuda 2014–2017**



While the identification of climate-related spending in the budget is positive, this means that for Antigua and Barbuda the climate relevance of around 97 per cent of the budget expenditure, an average of around XCD 1,093.3 million (USD 402.5 million) annually, remains unknown. Furthermore, the analysis is not able to capture off-budget spending. SOEs play a critical role in the key sectors of communication, utilities, energy and insurance in Antigua and Barbuda. For example, Antigua Public Utilities Authority is an SOE that is particularly relevant from a climate action perspective in Antigua and Barbuda, as it is responsible nationwide for the generation and distribution of electricity and water and for telecommunications.

There are ongoing projects in Antigua and Barbuda that will develop the methods applied and the ability to track climate-relevant budget spending in the long run. This includes through GCF Readiness Support for the programme entitled Accelerating a transformational pipeline of Direct Access climate adaptation and mitigation projects in Antigua and Barbuda, which aims to build monitoring and verification systems for climate finance flows.

1.2 International grant and concessional public climate finance

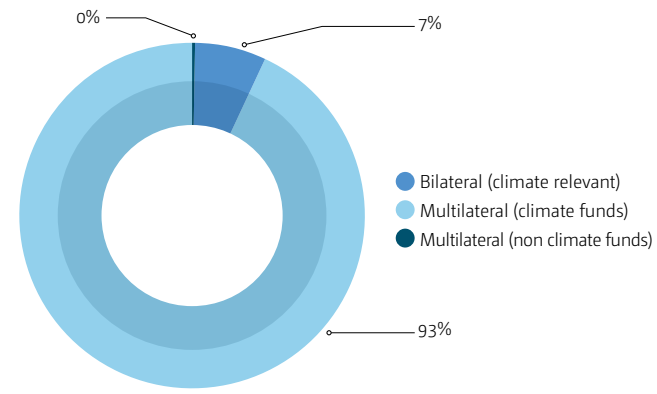
The Paris Agreement echoes the commitments first made in 2009 by developed countries to mobilise USD 100 billion a year, from both public and private sources, by 2020 to enable developing countries to respond to climate change. The Paris Agreement also highlights that the provision of scaled-up financial resources should take into account the needs of countries that are particularly vulnerable to the adverse effects of climate change, including SIDS, and calls for consideration of the need for public and grant-based resources for adaptation. Although there are many interpretations of what counts towards this USD 100 billion, there is most consensus regarding the relevance of multilateral climate change funds and bilateral routes for climate change actions this this regard. These are, by and large, channels for international public concessional finance flows. During 2017–2018, an annual average of USD 1.9 billion was committed to developing countries through multilateral climate change funds and around USD 30 billion was committed though bilateral routes for climate change actions in developing countries, often motivated by UNFCCC obligations.

Datasets for the assessment of international grant and concessional public finance flows for climate action in Antigua and Barbuda are taken from the project accounts ledgers of the DOE. A database of multilateral and bilateral funding was created, detailing the source, project title, description and length, financial support committed and received, and the type of financial instrument. Only loans or other concessional credit instruments are included. This created a time series of support received that was established using disbursed figures in the specified reporting year.

Findings show that Antigua and Barbuda received XCD 12.1 million (USD 4.5 million) during 2014–2017. This is an annual average of XCD 3.0 million (USD 1.1 million). Of this amount, 93 per cent was received through multilateral routes, including from the GCF, AF, SCCF and GEF Trust Fund (climate change focal area), which are all operating entities or special funds of the UNFCCC Financial Mechanism. Disbursed funding peaked in 2017, most likely following accreditation of the DOE to both the AF and GCF, which simplified access to these funds and directed resources to country institutions. A total of 64 per cent of disbursed international public finance is allocated to adaptation actions, whereas only 11 per cent is allocated to mitigation actions and 25 per cent is cross-cutting, with the majority of projects being grant-based (figure 2).

Figure 2 **International public finance support provided to Antigua and Barbuda in 2014-2017**

(a) multilateral and bilateral split



(b) thematic

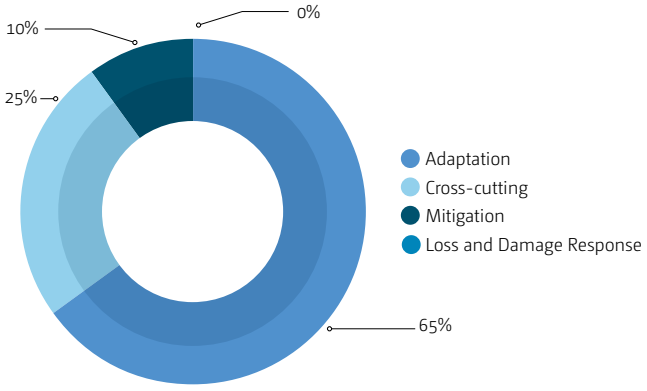


Photo Courtesy: Department of Environment, Government of Antigua and Barbuda

The assessment considers only the multilateral and bilateral climate finance flows managed by the DOE. This is, therefore, a minimum estimate of international public finance flows that support climate change mitigation and adaptation actions in Antigua and Barbuda. Extension of the analysis of international public concessional finance flows in Antigua and Barbuda could include analysis of the climate relevance of wider international public finance flows that are programmed by other ministries and departments. In the same period, 2014-2017, USD 102.4 million in ODA and other official flows is shown to have been disbursed to Antigua and Barbuda from OECD DAC members. The analysis could further consider if any of these flows are inconsistent with Antigua and Barbuda's climate objectives.

1.3 Private sector actors and climate change

Information on the investment of private sector actors towards climate change adaptation and mitigation is limited. Actions and their associated investments, particularly for adaptation, can be hard to identify, as they might be labelled as business continuity, emergency preparedness, forecasting or risk management. Identifying private finance that is relevant to climate actions can therefore be a difficult and time-consuming task.

Resources were not available to conduct in-depth tracking and quantitative estimation of investment incentives and flows of finance from private sector actors in Antigua and Barbuda. A qualitative analysis of private sector actors in the country was conducted.

The engagement of the financial sector in Antigua and Barbuda with climate change appears to be limited. The private sector is dominated by small, service-based companies, although large and foreign-owned companies dominate in the tourism and utilities sectors. Small-scale actors in fisheries and tourism are becoming increasingly aware of adverse climate change impacts and risks, largely as a result of the hurricanes they have faced. The main providers of commercial capital in the country are institutional investors, predominantly domestic and international commercial banks. While these are well-developed financial institutions, they have had limited engagement with climate change to date and have no clear climate change strategies in their operations or lending criteria. International banks that have operations in Antigua, have engaged with international voluntary-based initiatives, but this has had limited impact in the country as of yet.

Photo Courtesy: Department of Environment, Government of Antigua and Barbuda

As Antigua and Barbuda develops its national adaptation plan, it will continue to map relevant stakeholders in the private sector. This report also supports broader outreach with private sector actors, developing the language and narrative that will facilitate their engagement with climate change challenges and opportunities.

1.4 Consistency of all finance flows with climate objectives

The Paris Agreement broke new ground by including, as one of its three overarching long-term goals, a commitment to making finance flows consistent with a pathway towards low GHG emissions and climate-resilient development. This goal is critical in order to achieve the other two long-term goals, focused on adaptation and mitigation.

There is no international consensus as to how to define or measure progress towards consistency, nor is there an agreed framework for reporting information on progress to this end. Outside to the UNFCCC process, four broadly defined tools have been proposed that can be used by governments for assessing progress and further opportunities towards the consistency of financial flows with climate change objectives (figure 3). Applying a combination of tools such as financial policies and regulations, fiscal policy levers, public finance and information instruments, which are all tools with which governments are already familiar, is likely to stimulate private investment that is consistent with climate objectives.

Figure 3. **The four categories of government-led tools that can be applied to encourage the consistency of finance flows with climate ambitions**

			
Financial policies and regulations	**Fiscal policy levers**	**Public finance**	**Information instruments**
(primarily influence behaviour through force of law)	(primarily influence behaviour through price)	(primarily influence behaviour by shifting financial risk)	(primarily influence behaviour through awareness)
• lending requirements • accounting systems • mandates of supervisory authorities • standards • plans and strategies • disclosure requirements	• taxes • levies • royalties • price support or controls • public procurement • budget support	• grants • debt • equity • guarantees • insurance	• certification and labelling • transparency initiatives • corporate strategies • awareness campaigns • statistical services • scenario analysis and stress testing • standards • plans and strategies • disclosure requirements
(Where mandatory and enforced)	(including for establishment of public funds and finance institutions and state-owned enterprises)	(from public pension funds, sovereign wealth funds, and public finance institutions)	(where voluntary)

Source: Whitley et al. 2018. Making finance consistent with climate goals: insights for operationalising Article 2.1c of the UNFCCC Paris Agreement. ODI, WRI, E3G and RMI. Available at https://www.odi.org/sites/odi.org.uk/files/resource-documents/12557.pdf.

A survey was conducted with the Ministry of Finance and Corporate Governance and DOE to identify existing actions that act either towards or against the consistency of financial flows with climate change objectives, as well as proposing new actions that could be taken to further improve consistency of finance flows with climate objectives.

It was found that shifts in **financial policy and regulation** (monetary and prudential) would require discussions to be held at a subregional level. These appear nascent but with the potential to grow through the ECCB. A number of **fiscal policies** were identified. These predominantly support adaptation to climate change and are focused on risk retention. They also support the domestic response to loss and damage post-disaster for recovery and rehabilitation when resources are needed rapidly. Domestic **public finance** is being programmed to support climate change through the SIRF Fund, and the Climate Resilience and Development Fund, which is due to be established in the near future. As Antigua and Barbuda receives non-concessional public finance through development finance institutions such as CDB (which also channels finance through other development finance institutions to Antigua and Barbuda), steps are required to ensure that these wider public finance flows are consistent with Antigua and Barbuda's climate objectives. While few information instruments have been employed in Antigua and Barbuda, these may hold potential. The role of the Paris Agreement and the country's commitments under it are instructing concerted climate action in government actors.

1.5 Key messages emerging from the report

This report has taken a valuable first step towards understanding the links between climate change and finance in Antigua and Barbuda. It has stimulated discussion around the ways in which budget spending is supporting climate action and whether more could be done, the international provision of climate finance, the role of subregional financial actors regarding monetary and prudential regulation and the degree to which wider flows of finance in Antigua and Barbuda support or hinder the country's ambitious climate objectives laid out in its NDC. Four key messages have emerged:

1. It is unclear whether the remaining 97 per cent of budgetary expenditure which has not been identified as directly climate relevant is aligned with climate objectives. While 3 per cent of budget spending has been identified as being climate relevant, the degree to which the remaining 97 per cent is aligned with Antigua and Barbuda's NDC is unclear. Efforts to better understand how the budget influences climate change and how climate change adversely impacts on the budget would inform and make clear the pathways through which public financial management can catalyse climate action in Antigua and Barbuda.

2. Antigua and Barbuda has increased access to multilateral climate change funds. The country has successfully accessed a number of multilateral climate change funds. Multilateral climate finance from core climate funds will continue to have high importance in light of the country's graduation to high-income status. These sources of climate finance have enabled countries with this income status to meet the incremental costs of adaptation in development projects and plans funded by less concessional finance.

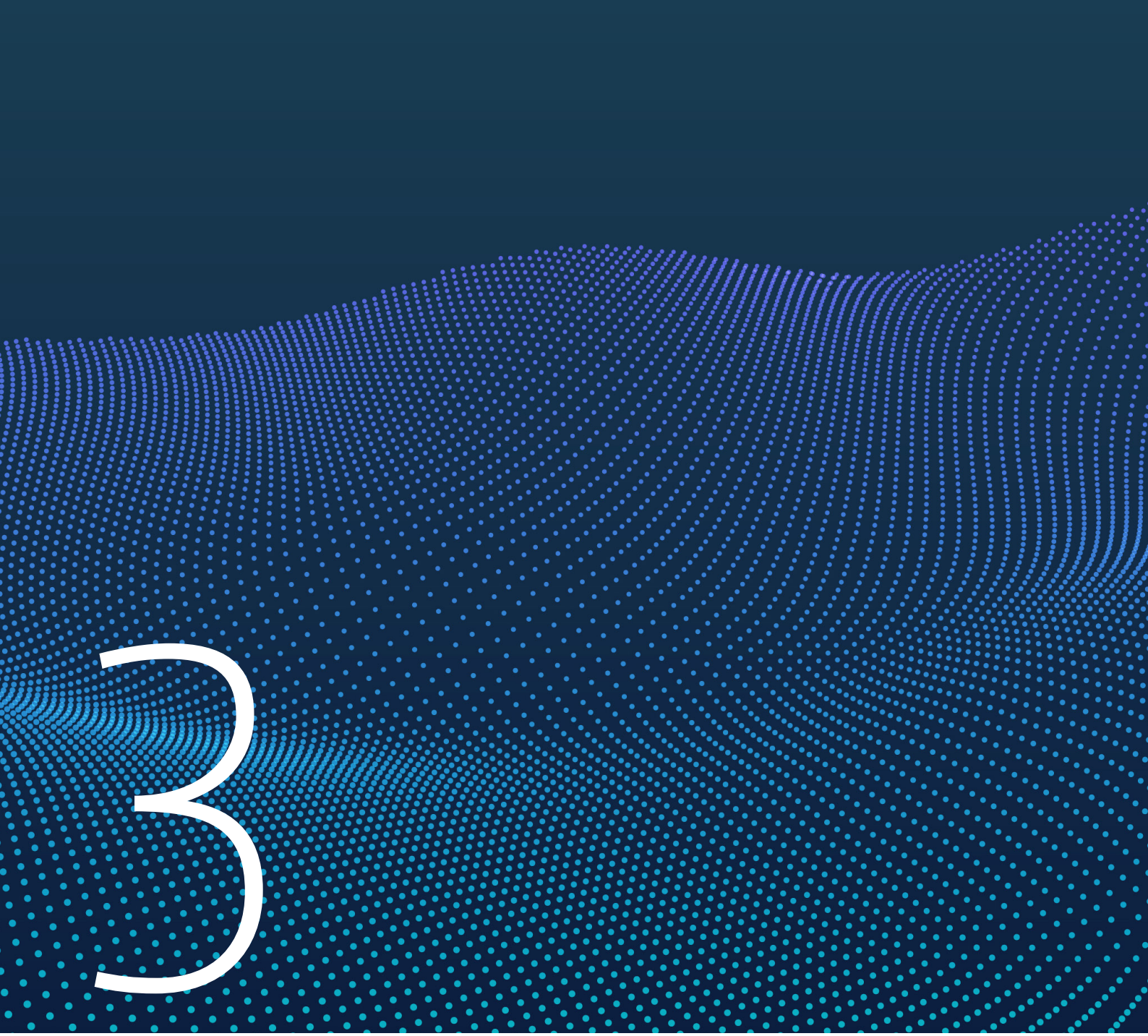
3. There is a need for stronger awareness and engagement of private sector actors in climate finance architecture. While there is rising awareness in some private sector actors of the issue, this does not appear to be universal and few, particularly in the finance sector, have developed climate change strategies or tools to guide investment. This is a gap to be addressed in the country's climate finance architecture, as private sector actors are able to provide not only capital but also expertise, innovative solutions and the ability to expand the assets and technologies available to mitigate and adapt to climate change.

4. The development of monitoring and tracking system could support the consistency of all finance flows with climate objectives. Antigua and Barbuda has been progressive in creating its first survey of the tools it has employed to encourage consistency between finance flows and its climate-change priorities. Methodological development and ongoing progress tracking are required, in particular to increase the amount of information on the climate risks faced by different actors and to use this information to inform the development of a climate finance strategy for the country.

This report has identified datasets gaps that currently hinder the understanding of finance flows and the incentives that drive them towards, or away from, climate change actions. The existence of methodological challenges and dataset gaps is not specific to Antigua and Barbuda. There is a wealth of ongoing and planned projects that are intended to continue to track budget expenditure, develop fiscal policies ex-ante and ex-post disasters and improve the climate finance readiness of the country. This report provides a basis for these studies, as well as a narrative and language to support ongoing and broadening engagement with relevant national stakeholders. Antigua and Barbuda is leading the way in ensuring its finance flows are consistent with its nationally determined objectives by recognising the benefit of progressing action in this domain.

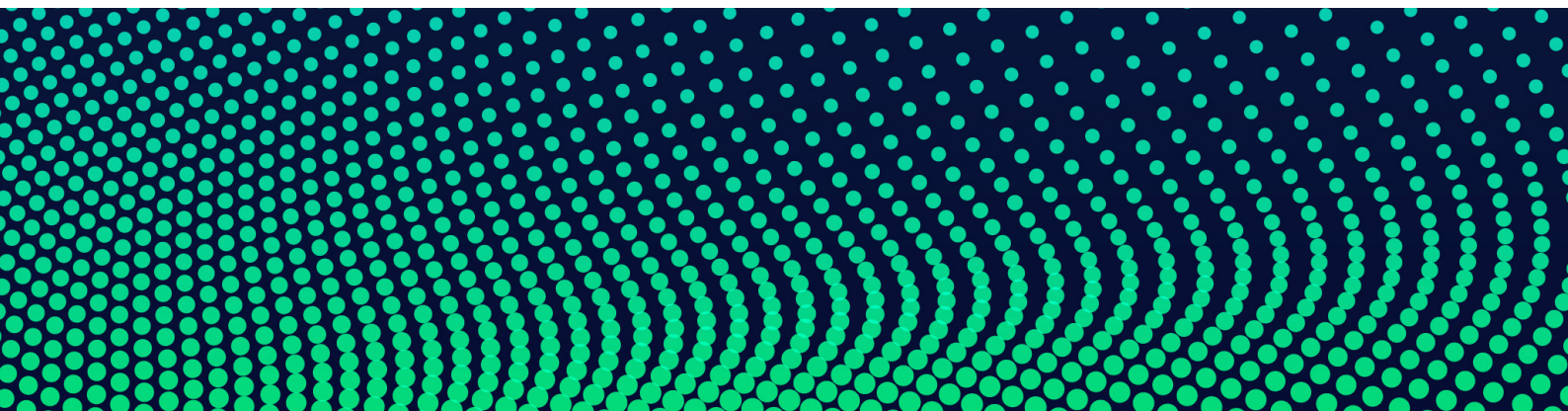
2

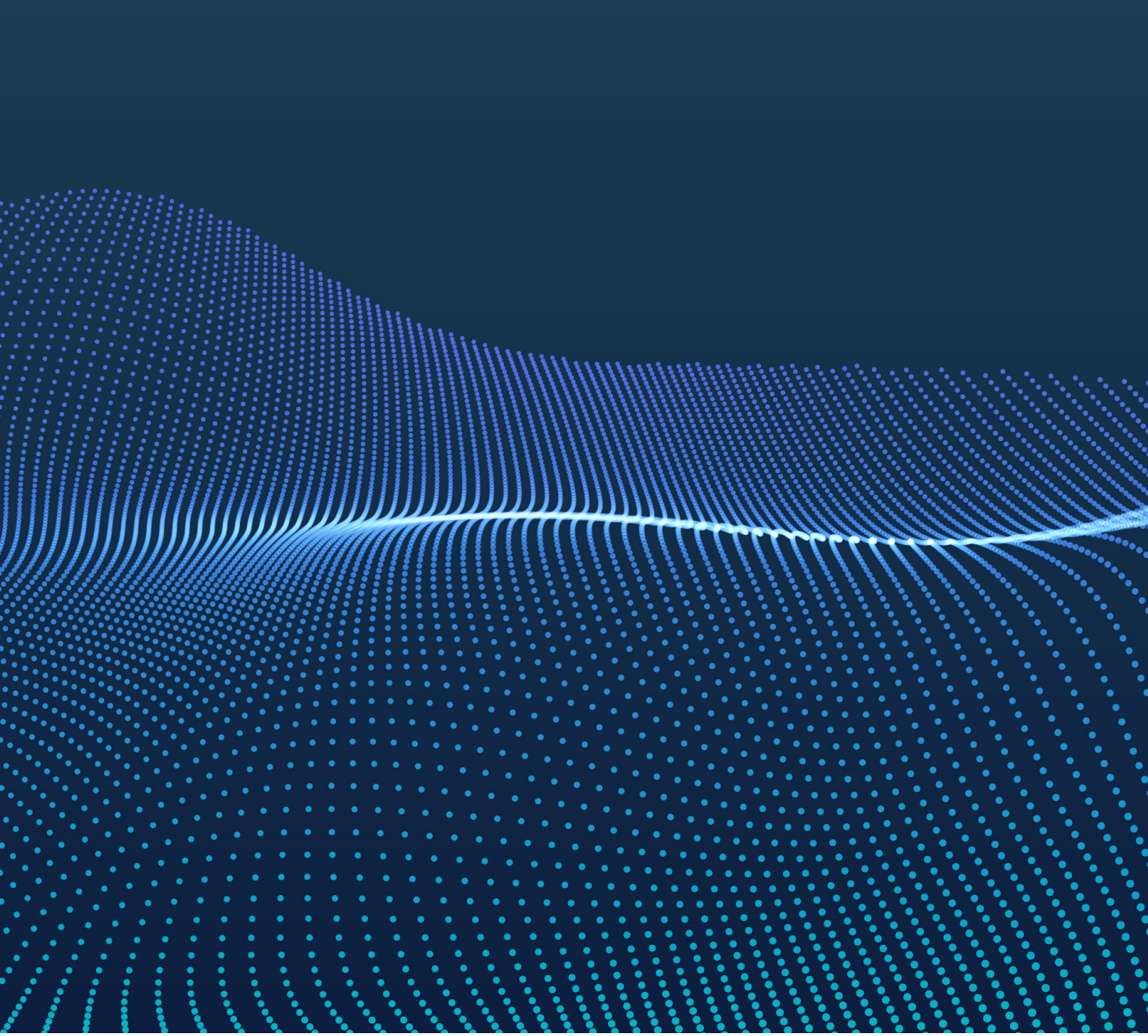
Contents



3

Introduction





Introduction

Climate change can undermine objectives towards the macroeconomic and financial stability of Antigua and Barbuda. Direct and indirect adverse impacts on the economy will be felt through physical change such as more intense and frequent weather events including: hurricanes, flooding, severe drought, freshwater scarcity and rising sea levels. These physical changes would, for example, have a direct adverse impact on mangroves and sea grass beds and, consequently, directly on the fishery sector of the economy, and also indirectly on the tourism and health sectors of the economy.[2] Policy changes, such as the proposed changes in the energy and transport sectors,[3] also affect the economy. These physical and transition climate risks are then transmitted to the financial sector. Physical risks erode collateral and asset values in financial institutions, with an associated negative impact on insurance liabilities. Transition risks can lead to value reassessments by financial market participants as policies, technological advances or changes in public opinion occur, decreasing asset prices.[4] There is a resultant need to ensure that the process of making finance flows consistent with climate objectives happens immediately and in a coherent manner, and that the adverse impacts of climate change are reflected in financing decisions across all sectors, actors and industries in the country if Antigua and Barbuda is to achieve its economic growth and development objectives in spite of a changing climate.

The negative impact of Hurricanes Irma and Maria in 2017 illustrates the challenges facing Antigua and Barbuda. In its post-disaster needs assessment conducted immediately after Hurricane Irma and Maria, the World Bank estimated that the damaged or destroyed physical assets amounted to XCD 367.5 million (USD 136.1 million). The immediate associated economic losses, such as loss of income, higher operational costs and exceptional expenditure resulting from the need to address immediate adverse effects of the disaster, were estimated to amount to XCD 51.2 million (USD 18.9 million). The cost of reconstructing damaged infrastructure and physical assets, resuming production, service delivery and access was estimated at XCD 600.1 million (USD 222.2 million). The highest levels of damage were found in the housing and tourism sectors. The highest economic losses were experienced in the tourism sector, which alone accounts for 80 per cent of the country's GDP.[5] The combined immediate post-disaster estimates of loss and damage from the hurricanes were equivalent to about 9 per cent of the country's GDP (in current terms) in 2016 and the report concluded that "Hurricanes Irma and Maria will, therefore, have a significant negative impact on the overall performance of the national economy and likewise quality of life for the people of Antigua and Barbuda".[6] Climate change has contributed to the increased severity of extreme weather events such as hurricanes in Antigua and Barbuda. While there is no equivalent study that considers the negative impacts of Hurricanes Irma and Maria on Antigua and Barbuda's financial stability, there are real risks of divestitures or increased costs of capital as a result of these increasing risks.[7]

Climate change is a cross-cutting issue affecting many sectors and therefore requiring the engagement of most ministries and departments. As the national focal point for climate change, the DOE has the mandate to develop and implement projects and programmes supporting climate change adaptation and mitigation and addressing loss and damage from climate change. The DOE coordinated the country's first NDC, which included ambitious targets (see Annex I). These targets benefit from, and build on, the enabling environment established by the Renewable Energy Act (2015) and the Environmental Protection and Management Act (2019). In addition, there are climate-relevant energy and environment policies, such as the National Energy Policy and the Sustainable Energy Action Plan, and funds such as the SIRF Fund, which was established under national environmental law.[8] A new NDC will be developed during the first quarter of 2020 and will echo the commitments Antigua and Barbuda made in 2019 at the United Nations Secretary-General's Climate Action Summit to achieve net zero emissions by 2050 and to transition from fossil fuels to renewable energy.

2 CARIBSAVE Partnership. 2015. *Draft Vulnerability Impact and Adaptation Analysis in the Caribbean: National Vulnerability Analysis for Antigua and Barbuda*.

3 Government of Antigua and Barbuda. 2015. Intended Nationally Determined Contribution. Available at **https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Antigua%20and%20Barbuda%20First/Antigua%20and%20Barbuda%20First.pdf**

4 European Central Bank. 2019. Climate Change and Financial Stability, *Financial Stability Review May 2019*. European Central Bank. Available at **https://www.ecb.europa.eu/pub/financial-stability/fsr/special/html/ecb.fsrart201905_1~47cf778cc1.en.html#toc1**

5 Government of Antigua and Barbuda. 2015. *Intended Nationally Determined Contribution*. Available at **https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Antigua%20and%20Barbuda%20First/Antigua%20and%20Barbuda%20First.pdf**

6 World Bank. 2017. *Hurricane Irma Recovery Needs Assessment*. World Bank. Available at **https://www.gfdrr.org/en/publication/hurricane-irma-and-maria-recovery-needs-assessment-antigua-and-barbuda**

7 See UNEP. 2018. *Climate Change and the Cost of Capital in Developing Countries*. UNEP. Available at **http://unepinquiry.org/wp-content/uploads/2018/07/Climate_Change_and_the_Cost_of_Capital_in_Developing_Countries.pdf**

8 Government of Antigua and Barbuda. 2015. *Intended Nationally Determined Contribution*. Available at **https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Antigua%20and%20Barbuda/1/INDC_Antigua_Barbuda.pdf**

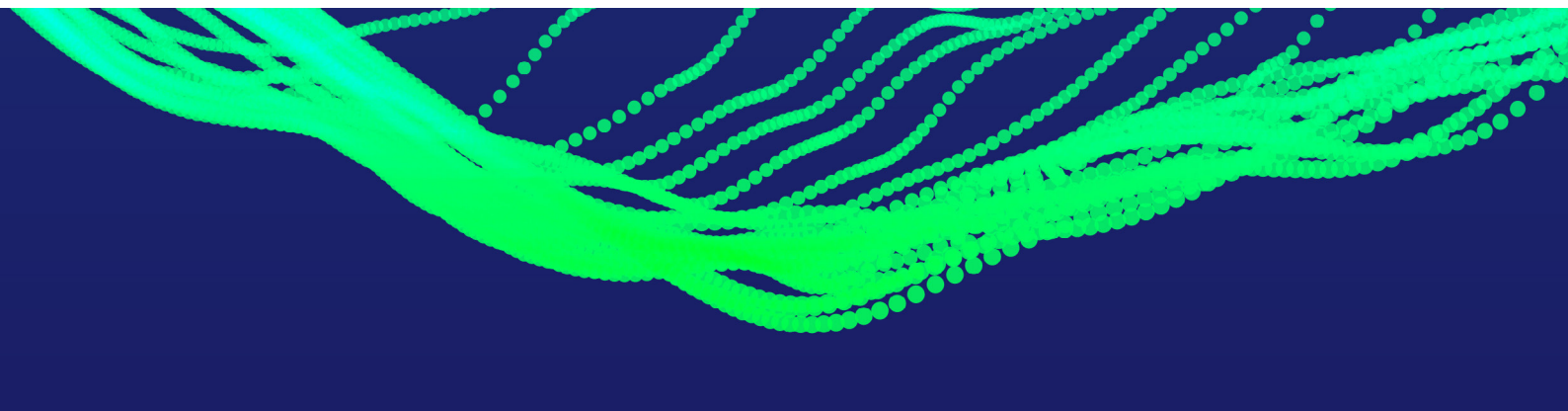

Image: Maxwell Ridgeway

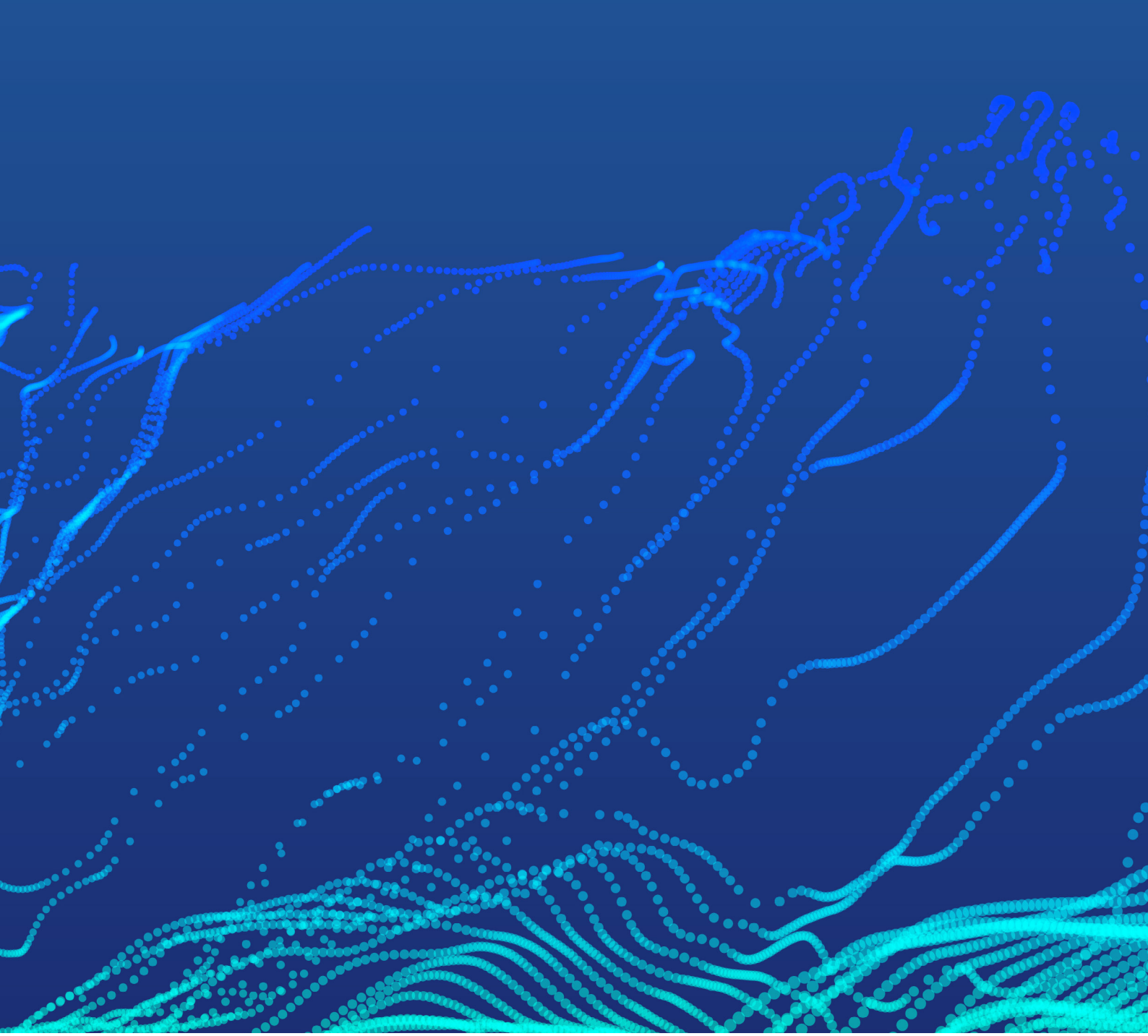
Antigua and Barbuda aims to serve as an early implementer of the long-term goals of the Paris Agreement, spurring on innovation and international action while showcasing the national development benefits of a strong climate action agenda.[9] The mobilisation of climate finance is central to the country achieving its mitigation and adaptation goals. The Needs-based Finance Project, which is intended to support developing countries in achieving their goals and commitments in the context of the Paris Agreement, is supporting this objective through this report. Through this work, the DOE aims to enhance its understanding of the existing public and private climate finance flows in the country and assess their implications, including in terms of composition, purpose and emerging trends relevant to the objectives in the Paris Agreement. Section 4 of this report considers the methods already used to assess climate finance and how these methods might evolve and improve over time. Section 5 presents results across key climate finance for all channels of domestic public, international public and private finance, and on the consistency of all finance flows. Section 6 assesses climate finance flows, considering total flows and aspects of the effectiveness of finance. It then considers the financial implications of physical climate risks in Antigua and Barbuda. This report acts as a springboard, and ongoing projects in Antigua and Barbuda will continue to refine the methods and complement the results of this report.

9 GCF. 2018. *Accelerating a transformational pipeline of Direct Access climate adaptation and mitigation projects in Antigua and Barbuda. GCF Readiness and Preparatory Support Proposal*. GCF. Available at **https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Antigua%20and%20Barbuda/1/INDC_Antigua_Barbuda.pdf**

4

Methods to assess climate finance





Methods to assess climate finance

4.1 Defining climate finance

4.1.1 How do we understand the term climate finance at the international level?

There is no internationally agreed definition of the term **climate finance**. The *2018 Biennial Assessment and Overview of Climate Finance Flows* of the SCF recognises this but uses climate finance to refer to "the financial resources dedicated to adapting to and mitigating climate change globally, including in the context of financial flows to developing countries".[10]

There are also differing definitions and eligibility for adaptation and mitigation finance. In general, mitigation finance is focused on slowing, reversing or halting GHG emissions and largely based on activities. Adaptation finance definitions are more varied, but focus on reducing current and expected effects of climate change, or reducing vulnerability to the current and expected adverse impacts of climate change. Eligibility of adaptation finance, however, often requires a link to be established with vulnerability and often considers only the financial resources associated with the components of projects that directly contribute to adaptation (i.e. only the incremental costs, as opposed to the total cost approach used for mitigation).[11]

Decision 1/CP.21 echoes the commitments first made in 2009 for developed countries to mobilise **USD 100 billion a year**, from both public and private sources, by 2020 in developing countries to respond to climate change.[12] To enable the adoption of the Copenhagen Accord in 2009, the definition of climate finance provided is kept deliberately loose, stating that "in the context of meaningful mitigation actions and transparency on implementation, developed countries commit to a goal of mobilising jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries.[13]

This funding will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance". [14]

As a result, there are multiple interpretations of what counts towards the provision of means of implementation and support and, ultimately, what counts towards the USD 100 billion, including aspects such as:

- **motivation**. This considers the objective of the finance and if, for example, finance that produces meaningful climate co-benefits but is not budgeted or programmed to target climate change specifically would count;
- **concessionality and source**. There is often greater value placed on public flows under the interpretation of the Convention and its principles, whereas higher concessionality levels places less of a burden of repayment on the recipient and are also more likely to align with recipient country needs and priorities;
- **causality.** This takes into account what can be considered to be mobilised by developed countries. Is it only the direct public finance that is mobilised that counts or should private finance mobilised in co-financing or through developed country climate change policy be included?
- **geographic origin**. This considers whether only finance mobilised in the developed North counts, or if finance mobilised in the global South might be included. Although this could lead to complications when money flows through MDBs where there is co-mingling of resources that include developing country contributions;
- **recipient**. This considers whether programmes implemented by an entity based in a developed country or multilateral entity would count, if providing in-kind support rather than cash, and whether programmes executed by governments of developed countries would be included.[15]

In addition to the USD 100 billion pledged, Parties committed at COP 21 to enhance support for minimising, averting and addressing **loss and damage** associated with the adverse effects of climate change under Article 8 paragraph 3 of the Paris Agreement, though little progress has been made in explaining the precise nature of this support in the international space.[16]

10 UNFCCC SCF. 2018. 2018 *Biennial Assessment and Overview of Climate Finance Flows Report*. UNFCCC. p. 21. Available at **https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf**
11 UNFCCC. 2018. 2018 *Biennial Assessment and Overview of Climate Finance Flows Report*. UNFCCC. See annexes B and C, p. 21 and p. 112, which include a state of play with respect to operational definitions of climate finance from key international institutions (correct as of June 2018). Available at **https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf**
12 FCCC/CP/2015/10/Add.1, para. 52 (or: Decision 1/CP.21)
13 Copenhagen Accord: Decision 2/CP.15 **https://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf**
14 FCCC/CP/2009/11/ Add.1, 2010 (or: Decision 2/CP.15). Available at **https://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf**
15 Bodnar, P, Brown, J and Nakhooda, S. 2015. *What Counts: Tools to help define and understand progress towards the $100 billion climate finance commitment*. WRI, Climate Policy Initiative and ODI. Available at **https://wriorg.s3.amazonaws.com/s3fs-public/climate-finance-tools-workingpaper.pdf?_ga=2.108590530.159194711.1540396155-1475230196.1534408559**
16 FCCC/TP/2019/1.

Recently, there has been a move to consider not only the finance that contributes to positive climate change action, but also the flows that are supporting high-emissions or maladaptive actions. This has culminated in Parties committing under the Paris Agreement to "**making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development**" (Paris Agreement, Article 2, para.1(c)). While there is no agreed framework by which to assess the degree to which financial flows can be considered consistent, proposals have focused around tools that governments have been able to apply, including: **financial policy and regulation, fiscal policy, public finance and information instruments**.[17]

There is a clear need not to confound the challenge of scaling up climate finance in the context of the USD 100 billion (Paris Agreement, Article 9) with the need for all financial flows to be consistent with the Paris Agreement temperature goals (Paris Agreement, Article 2, para.1(c)). At the same time, it is also possible that the two objectives could reinforce each other.

4.1.2 Defining climate finance in Antigua and Barbuda

For Antigua and Barbuda, **climate finance is considered as a means to an end**. This means that the country considers climate finance to be a time-bound concept, achieved when there is a low-emission, adapted global economy. In this way, it is insufficient to provide finance without fundamentally transforming systems, as called for in the *IPCC Special Report on Global Warming of 1.5 °C* both by contributors to, and recipients of, climate finance.[18] To add to this definition, climate finance is viewed as the financial resources used for: (a) adapting in anticipation for the adverse effects of climate change; (b) mitigating the cause of climate change; and (c) responding to the loss and damage associated with the adverse effects of climate change.

17 Whitley et al. 2018. *Making finance consistent with climate goals: insights for operationalising Article 2.1.c of the UNFCCC Paris Agreement.* ODI, WRI, RMI and E3G. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/12557.pdf**

18 IPCC. 2018. *Global Warming of 1.5°C.* IPCC. Available at **http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf**

Adaptation finance in Antigua and Barbuda might be considered that which supports a transition to a climate-adapted economy, including within the financial sector, households and businesses. This transition is an anticipatory one that is based on assessing the vulnerabilities and risk of expected negative climate change impacts and implementing measures which reduce these risks. For practical purposes of classification in this report, to allow greater comparability between channels and sources of climate finance, the definition of adaptation finance used is based on the definition of the *OECD D AC Rio Markers Climate Handbook*, as presented in tables 1–2 below and right.[19]

Table 1. **Organisation for Economic Co-operation and Development definition of the climate-change adaptation marker**

An activity should be classified as adaptation-related (score Principal or Significant) if:	It intends to reduce the vulnerability of human or natural systems to the current and expected impacts of climate change, including climate variability, by maintaining or increasing resilience, through increased ability to adapt to, or absorb, climate change stresses, shocks and variability and/or by helping reduce exposure to them. This encompasses a range of activities from information and knowledge generation, to capacity development, planning and the implementation of climate change adaptation actions.
Criteria for eligibility: An activity is eligible for the climate change adaptation marker if:	a) the climate change adaptation objective is explicitly indicated in the activity documentation; **and** b) the activity contains specific measures targeting the definition above. Carrying out an assessment of vulnerability to climate variability and change, either separately or as an integral part of agencies' standard procedures, facilitates this approach. To guide scoring, a three-step approach is recommended as a "best practice", in particular to justify for a principal score: · **Setting out the context of risks, vulnerabilities and impacts related to climate variability and climate change:** for a project to be considered as one that contributes to adaptation to climate change, the context of climate vulnerability should be set out clearly using a robust evidence base. This could take a variety of forms, including use of material from existing analyses and reports, or original, bespoke climate vulnerability assessment analysis carried out as part of the preparation of a project. · **Stating the intent to address the identified risks, vulnerabilities and impacts in project documentation:** The project should set out how it intends to address the context- and location-specific climate change vulnerabilities, as set out in existing analyses, reports or the project's climate vulnerability assessment. · **Demonstrating a clear and direct link between the identified risks, vulnerabilities and impacts and the specific project activities:** the project should explicitly address risk and vulnerabilities under current and future climate change as identified in the project documentation.

19 While the OECD DAC Rio markers on biodiversity, climate change mitigation and desertification were introduced in 1998, the fourth marker on climate change adaptation was only introduced DAC. The initial purpose of the Rio markers was to help members with the preparation of their national communication or National Reports to the Rio Convention. As part of the process, OECD DAC members were requested to indicate whether or not each development finance activity targeted environmental objectives. See *OECD. OECD DAC Rio Markers for Climate Handbook*. OECD, pp. 3–4. **https://www.oecd.org/dac/environment-development/Revised%20climate%20marker%20handbook_FINAL.pdf**

Mitigation finance in Antigua and Barbuda supports a reduction in GHG emissions by supporting the transition to a low-emission economy. For practical purposes of classification in this report, to allow greater comparability between channels and sources of climate finance, the definition of mitigation finance is based on the definition of the *OECD DAC Rio Markers Climate Handbook*:[20]

Table 2. **Organisation for Economic Co-operation and Development definition of the climate-change mitigation marker**

An activity should be classified as climate-change-mitigation related (score Principal or Significant) if:	It contributes to the objective of stabilisation of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG sequestration.
Criteria for Eligibility	The activity contributes to a) the mitigation of climate change by limiting anthropogenic emissions of GHGs, including gases regulated by the Montreal Protocol; **or** b) the protection and/or enhancement of GHG sinks and reservoirs; **or** c) the integration of climate change concerns with the recipient countries' development objectives through institution building, capacity development, strengthening the regulatory and policy framework, or research; **or** d) developing countries' efforts to meet their obligations under the Convention.

Antigua and Barbuda further recognises that a diversity of finance flows with differing objectives and conditions are needed to meet this complex challenge. Flows of climate finance in Antigua and Barbuda, therefore, encompass those of the large and heterogeneous private sector, as well as the domestic and international public sectors. Within this, finance of differing levels of concessionality is needed.

Article 9 paragraph 4 of the Paris Agreement that highlights that **the provision of scaled-up financial resources should take into account the needs of countries particularly vulnerable to the adverse effects of climate change, including SIDS**. Article 9 paragraph 4 also urges the consideration of the need for public and grant-based resources for adaptation. This remains important for the response of Antigua and Barbuda to climate change, given its negligible contribution to the causes of climate change. It is further noted that the UNFCCC classifies Antigua and Barbuda as a Party not included in Annex I to the Convention (namely, a developing country Party), and therefore the country should receive support and funds under Articles 8 and 9 of the Paris Agreement, respectively. Antigua and Barbuda is also a middle-income country and, in 2020, will graduate to high-income status,[21] affecting its access to grant-based and highly concessional finance outside the Financial Mechanism (box 1).


Image: Hitoshi Namura

20 OECD. DAC Rio Markers for Climate Handbook. OECD, pp. 3–4. Available at **https://www.oecd.org/dac/environment-development/Revised%20climate%20marker%20handbook_FINAL.pdf**

21 World Bank, 2019. *World Bank Country and Lending Groups*. World Bank. Available at **https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups**

Box 1: Antigua and Barbuda's eligibility for non-climate concessional finance as a high-income country

IDA is the World Bank's fund for concessional support in pursuit of development objectives in the poorest countries. IDA is funded from contributions from the governments of member countries. Eligibility for IDA support depends on poverty established on a per capita basis. In 2020, the threshold is USD 1,175 per capita. However, IDA does continue to support some small island economies that are above this threshold but that lack the creditworthiness to borrow from the International Bank for Reconstruction and Development on market terms. Antigua and Barbuda does not qualify for IDA as, in 2018, its GNI per capita (in current USD) was USD 15,810 and it will be classified as a high-income country from the 2020 fiscal year onwards.

The same GNI per capita thresholds are applied by other major development banks, including the Asian Development Bank and the African Development Bank, and by the International Fund for Agriculture and Development. IADB has a higher income per capita threshold for graduation from the Fund for Special Operations concessional window, namely GNI below 2015 USD 2 834. The Development Bank of Latin American has no eligibility criteria nor graduation policy and the membership requirements for the European Investment Bank are not specified. CDB has eligibility requirements for membership but no graduation criteria.

Similarly, eligible recipients of ODA from OECD DAC are exclusively low- and middle-income countries, as based on GNI per capita. The list also includes all least developed countries. The list of possible recipients of the concessional finance is revised every three years and countries that exceed the income threshold for three consecutive years are removed. In 2020, Antigua and Barbuda is highly likely to be removed from the list of eligible countries, as it exceeded the high-income threshold in 2017–2018 and is expected to exceed the threshold once more in 2019.

Graduation to non-concessional assistance implies that a country is able to access international financial markets (see box 4). Most MDBs (and regional and subregional development finance institutions) require existing membership of a specific organisation or region if countries want to borrow non-concessional finance. In the case of IADB, a country needs prior membership of the Organization of American States or IMF. Antigua and Barbuda is, however, not a borrowing member of IADB in light of the additional requirements of the subscription of shares of the Ordinary Capital and the required contribution to the Fund for Special Operations. IADB, nevertheless, has a special arrangement with CDB whereby it finances countries that are members of CDB but not members of IADB. Antigua and Barbuda is among the top borrowers from CDB. The country is also eligible for different lending windows of the European Investment Bank, as well as those of IMF, the U.S. International Development Finance Corporation, the Organization of the Petroleum Exporting Countries Fund for International Development, the World Bank, and the Kuwait Fund for Arab Economic Development.

Sources: OECD, 2019. DAC list of ODA recipients. OECD. Available at http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/daclist.htm, OECD, 2019. DAC List of ODA Recipients Effective for reporting on 2020 flows. OECD. Available at: http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/DAC-List-of-ODA-Recipients-for-reporting-2020-flows.pdf, World Bank. What is IDA? World Bank, 2020. Available at http://ida.worldbank.org/about/what-is-ida, World Bank, 2019. The World Bank Data: Antigua and Barbuda. Available at: https://data.worldbank.org/country/antigua-and-barbuda, ODI. 2018. *A guide to multilateral development banks*: 2018 edition. ODI. Available at https://www.odi.org/sites/odi.org.uk/files/resource-documents/12274.pdf

For the Government of Antigua and Barbuda there is a conceptual separation between humanitarian, development and climate finance. Humanitarian finance originates from a sense of international cooperation in solving international problems of a humanitarian character. The impetus for support is therefore a moral responsibility for humankind. Traditionally ex-post, humanitarian finance largely funds the response to a variety of emergency situations that are much broader than climate change related events (e.g. earthquakes and tsunami). It is noted, however, that humanitarian efforts are increasingly considering ex-ante support. Development finance is funding which responds to the economic and developmental objectives of a country. While development finance should be cognisant of climate change and should not set a country on a high-carbon or maladaptive trajectory, the Government of Antigua and Barbuda sees the objectives of such finance to be beyond that of climate finance. Climate finance is narrower in scope and time-bound, considered to be purposefully seeking transformation until a point at which low-emission, climate-resilient economies have been achieved. While it might have humanitarian co-benefits, financial support for addressing climate change, specifically under the Financial Mechanism, is founded on principles of State responsibility for this common concern of humankind, such as Common but Differentiated Responsibilities and Respective Capabilities.[22]

For the Government of Antigua and Barbuda, finance to support loss and damage is also considered to fall under the climate finance umbrella. **Loss and damage response**

22 United Nations. 1992. *United Nations Framework Convention on Climate Change*. United Nations. Preambular paras. 3 and 6 and Article 3, para. 1. Available at **https://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change**

finance in Antigua and Barbuda is that which addresses the actual harm associated with the adverse effects of climate change, including extreme weather events and slow onset events. While an insurance premium might be considered adaptation finance, for example, the payout after an event would be considered loss and damage response finance. This report is focused on adaptation and mitigation responses and not on this third pillar of the climate change response. This decision was made owing to time and capacity constraints for this assessment and overview in the scoping and identification of loss and damage expenditure.

Anecdotally, the Government of Antigua and Barbuda however spends large amounts in addressing loss and damage associated with the adverse effects of climate change. This happens in response to both extreme weather events and slow onset events, when increases in spending on capital as well as recurrent expenditure are experienced. Such financing of a domestic loss and damage response reduces the fiscal space of a country and slows down ongoing development in order to address the immediate needs of the climate-related extreme weather event or slow onset event. Given that the government's income status funding for such a response is normally non-concessional, it incurs high costs. This creates further pressure on the country's economy and fiscal stability. There is a need for greater movement on the issue of financial support for responding to loss and damage within the UNFCCC regime.[23]

It is recognised that the **conceptual separations between humanitarian, development and climate finance are harder to achieve in practice than in theory**. Efforts will be made, therefore, to ensure separation, and no summation of the sources of finance is provided in this report to avoid any double counting.

The Government of Antigua and Barbuda is increasingly aware that the finance flows that are not consistent with climate change objectives need to be considered. This is in addition to those that are consistent, namely those that are either positive or neutral with respect to their impact on climate change actions. Antigua and Barbuda, therefore, seeks to develop a programmatic approach aimed at making finance flows consistent with a pathway towards low GHG emissions and climate-resilient development in line with Article 2, paragraph 1(c) of the Paris Agreement; the consistency of finance flows with low-emission, climate-resilient development pathways.

23 It is further noted that the UNFCCC includes a diverse set of activities and instruments under Article 8 of the Paris Agreement, not all of which are considered by Antigua and Barbuda to be loss and damage.

In particular, this is in response to an awareness of the increasing cost of capital under climate change and increasing public burden as a result of climate change and the associated risks to financial and macroeconomic stability, as well as the potential for capital flight in light of increasing climate risks.[24]

4.2 Measuring climate finance flows

4.2.1 International best practice for measuring and assessing climate finance flows

Globally, datasets on climate finance flows are neither consistent nor complete. There are limitations as a result of a lack of definitions and taxonomies of relevant actions, datasets availability and consistency, and lack of consensus on methods, for example. There remains value in the tracking of climate finance, however, as it supports an assessment of the areas that the finance is and is not reaching, the effectiveness of the finance and how its impact can be increased. It can also assess progress towards the obligations of developed countries to provide climate finance under the UNFCCC, despite datasets challenges.

The SCF was established at COP 16 in 2010, to assist the COP in relation to the Financial Mechanism under the Convention. One of the functions of the SCF is to assist the COP with the measurement, reporting and verification of the support provided to developing country Parties through activities such as the preparation of the biennial assessment and overview of climate finance flows which is one of the most comprehensive sources of methods and datasets for climate finance tracking and measurement'.

The 'Biennial Assessment and Overview of Climate Finance Flows' first considers methodological issues relating to the measurement, reporting and verification of climate finance. It considers finance under and outside the Convention, public and private, domestic and international, as well as impact reporting. It also provides an overview of global total climate finance, providing information on climate finance flows that are public and private, and domestic and international, and assessing public climate finance flows to developing countries, considering thematic and geographic distribution and elements of effectiveness for climate

24 As also noted in, for example: IMF, 2019. *Fiscal Policies for Development and Climate Action*. IMF. Available at, https://openknowledge.worldbank.org/handle/10986/31051 and UNEP. 2018 *Climate Change and the Cost of Capital in Developing Countries: assessing the impact of climate risk on sovereign borrowing costs*. UNEP. Available at **http://unepinquiry.org/wp-content/uploads/2018/07/Climate_Change_and_the_Cost_of_Capital_in_Developing_Countries.pdf**

finance. *The 2018 Biennial Assessment and Overview of Climate Finance Flows* was the first to refer explicitly to the consistency of finance flows with low-emission, climate-resilient development pathways (Paris Agreement, Article 2, para.1(c)).[25] A portion of each chapter was devoted to this topic, covering methods and metrics, datasets that may be relevant to tracking consistency in insurance, lending and investment decision-making processes and an assessment of ways in which regulatory, economic and information instruments could be taken into consideration to this end.

4.2.2 Methods applied to measure climate finance flows in Antigua and Barbuda

This document follows the lead of the *2018 Biennial Assessment and Overview of Climate Finance Flows*. It considers sources of climate finance, including domestic public, international public and private finance flows as well as the methods that have or could be applied to gather datasets (table 3). It also summarises key considerations of the consistency of finance flows with climate change objectives in Antigua and Barbuda.

4.2.2.1 Method to establish domestic public finance flows relevant to climate change in Antigua and Barbuda

In accounting for domestic climate finance for Antigua and Barbuda, *A Methodological Guidebook: Climate Public Expenditure and Institutional Review (CPEIR)* was used to identify and categorise climate expenditure.[26]

The CPEIR method was developed in 2012 and is a diagnostic tool used for assessing opportunities and constraints for integrating climate change concerns into the national and subnational budget allocation and expenditure process. A typical CPEIR analytical framework has three pillars: policy analysis, institutional analysis and climate public expenditure. The method proposes substantive stakeholder engagement and the process is conducted over a longer period.[27]

Table 3: **Summary of climate finance data sources and methods used in this report**

Theme	Source of datasets	Methods applied
Domestic public	Budgets and development estimates for 2014–2017 and COFOG.	CPEIR adapted for the Antigua and Barbuda context, building on UNDP, 2012 (see section 4.2.2.1).
International public	DOE project database; Project ledgers for 2014–2017.	Annually disbursed amounts received from multilateral and bilateral sources for Antigua and Barbuda's response to the adverse effects of climate change (see section 4.2.2.2.)
Private	Datasets unavailable. Qualitative analysis conducted through desk research.	See Section 4.2.2.3.
Consistency of all finance flows	Expert interview and survey.	Builds on the framework of government tools proposed by Whitley et al., 2018 (see section 4.2.2.4).

UNDP. 2015. *A Methodological Guidebook: Climate Public Expenditure and Institutional Review (CPEIR).* UNDP. Available at **https://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/democratic_governance/RBAP-DG-2015-CPEIR-Methodological-Guidebook.pdf**.; Whitley et al. 2018. *Making finance consistent with climate goals: insights for operationalising Article 2.1.c of the UNFCCC Paris Agreement.* ODI, WRI, RMI and E3G. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/12557.pdf**

25 UNFCCC SCF. 2018. *2018 Biennial Assessment and Overview of Climate Finance Flows*. UNFCCC, p. 8. Available at **https://https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf**

26 UNDP. 2015. *A Methodological Guidebook: Climate Public Expenditure and Institutional Review (CPEIR)*. UNDP, p. 4. Available at **https://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/democratic_governance/RBAP-DG-2015-CPEIR-Methodological-Guidebook.pdf**

27 UNDP. 2015. *A Methodological Guidebook: Climate Public Expenditure and Institutional Review (CPEIR)*. UNDP, p. 5. Available at **https://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/democratic_governance/RBAP-DG-2015-CPEIR-Methodological-Guidebook.pdf**

This report builds on the climate public expenditure analysis pillar of the CPEIR method to make initial estimates of the climate-relevant expenditure of Antigua and Barbuda's total budget. This report uses this method as a basis. This report cannot be considered a full CPEIR as it does not contain an analysis of the climate change policy framework in Antigua and Barbuda, nor does it analyse the roles, responsibilities and capacities of institutions in formulating, implementing and coordinating climate change responses. It will serve, however, as an initial point to strengthen Government-wide coordination, specifically ensuring the engagement of the Ministry of Finance and Corporate Governance and the involvement of the private sector, civil society and development partners.

Three broad steps have been taken in order to make first estimates of national budget spending that is climate relevant:

Step 1: Understanding if expenditure is climate relevant. The first step is to identify which actions are considered climate relevant for both mitigation and adaptation.

This step builds on the principles and practical definitions of climate finance, adaptation and mitigation for Antigua and Barbuda (see section 4.1.2 above). It develops the classification of climate expenditures by creating a nationally relevant typology, using policies and planning documents relevant to climate change in Antigua and Barbuda to create a specific classification of actions.

The most relevant climate variables and possible adverse impacts of climate change were first identified for Antigua and Barbuda. Table 4 contains the main climate variables and predicted change. It also presents the potential adverse impacts, including a list of sectors that face the greatest disruption from climate variability and climate change, and examples of investment and actions that would curb the onset, adverse impacts of climate change.

This understanding of Government expenditure as climate relevant is, however, limited to mitigating, curbing or bracing for future adverse impacts of climate change. Addressing these actual impacts would require additional Government expenditure. An understanding of this type of climate relevant expenditure is important in any climate action tracking exercise and a practical definition of loss and damage response finance would therefore become pivotal (see section 4.1.2).

Image: @Simply Antigua Barbuda

Table 4: **Climate variables and impacts in Antigua and Barbuda**

Climate variables	Climate variability	Climate impacts	Affected sectors	Example of investment/ actions
Temperature	More hot and dry days	Increased incidence of serious illness among the elderly, children and the poor; Increased heat stress in livestock; Increased energy demand and reduced reliability of energy supply.	Agriculture (crops), infrastructure and livelihoods.	Raise awareness; Improve building ventilation; Install of air conditioning units; Provide potable water.
Precipitation	Change in rainfall patterns; Drier periods and frequent droughts; More intense rainfall episodes leading to flooding.	Reduced income for farmers; Reduction of potable water sources, migration and loss of livestock. Increased chances of localised flooding; Increased soil erosion.	Agriculture (crops and livestock), water, energy, livelihoods, health and infrastructure.	Improve irrigation and water management; Use resistant crops and improve cropping systems; Fund community rainwater harvesting projects; Upgrade existing water supply infrastructure to minimise leakages.
Wind Events	Increased intensity of tropical cyclones (frequency not necessarily increased).	Wind-related damage.	Housing, livelihoods, health, agriculture (crops and livestock), infrastructure and energy.	Increase desalination capacity; Develop improved methodology for acquiring meteorological and hydrological datasets and establish a knowledge and data sharing platform; Investigate resistant crops and improve cropping systems; Raise roads and bury utility lines; Improve drainage systems; Update the Building Code to enhance climate resilience.
Sea Level Rise	Salinity intrusion and coastal erosion.	Destruction of coastal structures and coastline	Agriculture (crops), water, livelihoods, health, infrastructure, housing and tourism.	Increase desalination capacity; Equip the water sector with renewable energy, including off-grid backup energy storage.

Photo Courtesy: Department of Environment, Government of Antigua and Barbuda

The benefit of this nationally focused approach is that it allows datasets on expenditure to be appropriately grouped by theme: mitigation, adaptation, loss and damage response, or cross-cutting. It is acknowledged, however, that dataset availability does not currently allow for expenditure to be easily attributed to a specific theme beyond a certain level of detail and further work with individual ministries may be required to identify expenditure themes more accurately of expenditure. Evolving the national typology in Antigua and Barbuda where necessary and making linkages with future tracking of climate finance can also be beneficial. The typology, for example, aids the assessment of the alignment of climate finance flows with priority needs in Antigua and Barbuda.

Step 2: Identifying expenditure as climate relevant. The next step is to classify the climate and climate change expenditure in relevant ministries and departments.

In Antigua and Barbuda, the two major sources of financial information were the yearly budget and development estimates for 2014–2017 and COFOG datasets. Government ministries and departments were first assessed for their relevance to climate change responses in Antigua and Barbuda, using information from step 1, with the spending of ministries and departments that were not relevant to climate change in Antigua and Barbuda excluded from further analysis.

As in many countries, Antigua and Barbuda has no existing accounting definition for the functional classification of climate change-related expenditure within COFOG. It is also noted that the OECD COFOG does not include climate change. The recently revised *Ministry of Finance Chart of Accounts Book of the Government of Antigua and Barbuda Integrated Financial Management System (IFRMS)*[28] provides over 1,000 codes to classify budgets on an administrative, operational and functional (i.e. COFOG) basis. This updated publication has not excluded any previously used codes but has been updated to include new codes to be used for the 2019 budget cycle onward. Within the Charts of Accounts,[29] however, there is no direct indication of climate spending in Antigua and Barbuda (the terms 'climate' and 'climate change' were not used in the definition of any of the codes listed).

The analytical framework in Step 1 was applied to all the codes in the Charts of Accounts. This allowed the Government's Charts of Accounts to be reviewed to identify the relevant codes in the recurrent and capital budgets. It is acknowledged that this approach relies heavily on local knowledge and qualitative subjective judgements. This ultimately identified the ministries and departments that are most likely to have climate-related expenditure (table 5). Relevant codes were recorded, as well the department, programme, theme of spending and total amount. If the code contained components of both adaptation and mitigation, then an equal split between the two was assumed, as a lack of information prevented a more accurate breakdown.

28 Government of Antigua and Barbuda. 2018. *Ministry of Finance Chart of Accounts Book of the Government of Antigua and Barbuda Integrated Financial Management System (IFRMS),* Ministry of Finance, Government of Antigua and Barbuda.
29 The 'Charts of Accounts' hereinafter refers to the document referenced in footnote 28 above. This document is not available to the public.

Ministries and departments affected by climate variability and climate change, and rationale for their climate relevance

Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs	**Agriculture Headquarters**	Responsible for conservation management, development and monitoring of standards, tourism development and professional development.
	Agriculture Division	Responsible for training and assisting farmers and allocating State lands to farmers for agricultural purposes. Plots of up to 2 hectares (5 acres) can be leased out under the authority of the Chief Extension Officer. Also responsible in theory for stray animal control, although, under new legislation, the livestock division is responsible for the operation of the animal pound.
	Veterinary and Animal Husbandry	Responsible for increasing the production of animal products from the land and sea in order to achieve the greatest possible level of self-sufficiency, so that the level of food item importation can be reduced and foreign currency in the economy be retained. Raising productivity and income levels in the agriculture sector, in particular for small-scale farmers and their families, will ensure the production and distribution of food high in nutritional value at reasonable prices to consumers and ensure food security.
	Fisheries Division	Partly responsible for coastal zone management, including mangroves and wetlands that are included in marine protected areas. The Division is given powers under the Marine Areas (Preservation and Enhancement) Act (1972), to restrict fishing in certain areas and to preserve habitats, flora and fauna, natural beauty and shipwrecks in marine areas. The Division also undertakes regular monitoring of major beaches for erosion.
	Cotton Division	Responsible for providing seeds for cotton planting at a local and regional level, and for ensuring the most efficient ways of cultivating and planting cotton.
	Lands Division	Responsible for managing and controlling Government lands, including land reclamation, land use and the subdivision of land.
	Surveys Division	Provides citizens, ministries and agencies with precise mapping, geospatial datasets and services. The Division also provides and manages high-quality datasets to enhance sustainable development in Antigua and Barbuda.
	Development Control Authority	Regulates built development under the Physical Planning Act (2003), which provides for the granting or refusal of permission to develop land. Also responsible for implementing a Physical Development Plan with clear directives on further development of natural resources.
Ministry of Health, Wellness and the Environment	**Central Board of Health**	Responsible, for example, for enforcing environmental sanitation regulations, preventing the spread of infectious diseases, operating a mosquito control programme and the handling of liquid and solid waste.
	Department of Environment	Primarily responsible for coordinating the national environmental programme. Since its formation as a Division in 1996, its role has expanded in response to environmental issues relating to the Development Control Authority and the processing of Environmental Impact Assessments. The DOE is responsible for implementing environmental protection orders, developing and implementing national and international projects relating to environmental rehabilitation and protection. It coordinates commitments to the multilateral environmental agreements, develops environmental legislation and performs any other duties assigned by the Ministry or the Cabinet of Antigua and Barbuda, as defined in the Environmental Protection and Management Act (2019). It also collaborates with the Forestry Unit to address issues of land degradation under the national urban reforestation programme.

Ministry of Public Utilities, Civil Aviation and Energy	**Meteorological Office**	Responsible for providing information relating to Antigua and Barbuda's climate. This includes both recent and historical datasets, as well as forecasts and outlooks. It provides, for example, satellite datasets and weather almanacs.
Ministry of Public Works and Transportation	**Public Works and Transportation Headquarters**	Provides professional services in architecture, engineering and procurement.
	Works Division	Responsible for roads and drainage structures throughout the country. It has considerable influence on sedimentation management as part of road construction and maintenance as well as the management of floodwaters. The Director of Public Works is also responsible for the enforcement of the 1957 Beach Protection Act, which prevents the unauthorised removal of material from beaches or foreshores and allows for the granting of permits for these activities where appropriate.
Ministry of Social Transformation, Human Resource Development, Youth and Gender Affairs	**National Office of Disaster Services**	Responsible for managing the response to emergency and disaster situations that are outside the scope of the lead agency's resources and capacity and require multi-agency resources and coordination. NODS comprises four units: preparedness and response, recovery and mitigation, finance and administration, and Geographic Information System, database and emergency communication.

Source: *Government of Antigua and Barbuda Third National Communication*. UNFCCC, pp. 71–72. Available at **https://unfccc.int/resource/docs/natc/antnc3.pdf**

In order to identify loss and damage expenditure, one methodological approach is to correlate the occurrence of climate change related events (such as hurricanes and severe droughts) during the reporting year of the actual expenditures to determine the main recovery and rehabilitation costs of such loss and damage. Though it is acknowledged that attribution of events to climate change remains challenging. Table 6 outlines climate change loss and damage relevant capital and recurrent expenditure for Antigua and Barbuda after extreme weather events.

Photo Courtesy: Department of Environment, Government of Antigua and Barbuda

Table 6: **Possible climate change loss and damage relevant capital and recurrent expenditures in Antigua and Barbuda after extreme weather events**

Extreme Weather Event	Capital Expenditure	Recurrent Expenditure
Hurricanes	Rebuilding critical infrastructure, including public buildings, utilities networks, road network and ports of entry; Replacing vehicles or equipment; Cost of contractors for rebuilding or repairing damaged assets.	Salaries of the National Disaster Preparedness and Response Advisory Committee and first responders from the public sector; Salaries for the clean-up and waste disposal team from the public sector; Salaries for the rebuilding team from the public sector; Repayments for post-disaster relief debt obligations; Payments for repairing vehicles and equipment; Use of contingency funds of public department(s) for post-disaster relief.
Severe Droughts	Increasing capacity for water harvesting infrastructure; Increasing capacity for water desalination production; Expansion of irrigation systems; Maintenance of critical infrastructure, including public buildings, utilities networks, road network and ports of entry; Maintenance of heritage sites.	Repayments for post-disaster relief debt obligations; Use of contingency funds of public department(s) for post-disaster relief.
Flooding	Rebuilding critical infrastructure including public buildings, utilities network, roads network and ports of entry.	Salaries for the clean-up and waste disposal team from the public sector; Salaries for the rebuilding team from the public sector Use of contingency funds of public department(s) for post disaster relief.

It should be noted, however, that this approach to determining loss and damage climate-related budget expenditure has its limitations. It is only able to quantify:

(a) Direct government expenditure that results from loss and damage as opposed to the full cost of loss and damage, which would include indirect expenditures that result from loss and damage, such as efforts to recover or replace losses of biodiversity;
(b) A part of the economic cost that the Government faces after climate change related events, not including, for example, any costs of non-performing loans or other liquidity constraints an event may bring;
(c) Loss and damage from extreme weather events such as hurricanes and droughts but not slow onset events such as a rise in sea levels.

Another challenge of this method will be in understanding the response weightings, such as the time period over which the loss and damage response weighting should be applied to a recurrent expenditure. It needs to be decided whether the weighting should stop one year after the event or whether a decision should be taken individually for every event. The evidence required to inform such a decision would require detailed tracking of the time spent by Government officials on the loss and damage response as opposed to their regular planned work.

Step 3: Weighting the climate related expenditures.
Once classified as climate relevant, the proportion of the expenditure that is related to climate change is established by applying a weighting. It is only this proportion that is counted towards the total domestic public climate-related spending. *A Methodological Guidebook: Climate Public Expenditure and Institutional Review (CPEIR)* outlines two approaches in applying weightings.[30] The first, applied here, uses the CPEIR Climate Relevance Index and the second uses the benefit cost ratio approach. The two approaches are not mutually exclusive, however, and the establishment of benefit cost ratios requires a greater level of datasets than is currently available in Antigua and Barbuda. As such, identified climate-related expenditure is weighted according to a country-specific climate relevance index (table 7).

As it relates to weighting loss and damage response expenditure, the Climate Relevance Index methodological

30 UNDP. 2015. *A Methodological Guidebook: Climate Public Expenditure and Institutional Review (CPEIR)*. UNDP. Available at **https://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/democratic_governance/RBAP-DG-2015-CPEIR-Methodological-Guidebook.pdf**

Image: @Simply Antigua Barbuda

approach can be used in order to ascertain spending relevance to climate action. Establishing a general understanding of the baseline government spending if there were no climate related extreme weather or slow onset event is crucial for this. However, as previously mentioned, consideration of loss and damage response expenditure was deemed beyond the scope of this report owing to time and capacity constraints.

Table 7 **Antigua and Barbuda's Climate Relevance Index**

Scale	Activity Relevance	Rationale	Examples[31]
78.0 per cent	**Strongly**	**Activities that aim to deliver specific outcomes that improve climate resilience or contribute to mitigation**	• Energy mitigation (e.g. renewable energy, energy efficiency); • Disaster risk reduction and disaster management capacity; • Additional costs of changing the design of a programme to improve climate resilience (e.g. extra costs of climate proofing infrastructure, beyond-routine maintenance or rehabilitation) • Response to recent drought, cyclone or flooding, because it will have added benefits for future extreme events • Relocating villages to give protection against cyclones or rising sea level; • Healthcare for climate-sensitive diseases; • Building institutional capacity to plan and manage climate change, including early warning and monitoring; • Raising awareness about climate change; • Actions in order to meet the criteria of climate change funds (e.g. GEF and the Pilot Programme for Climate Resilience).
54.8 per cent	**Significantly**	**There is either a secondary objective to an activity related to building climate resilience or which contributes to mitigation, or a range of activities that are not easily separated but include at least some that promote climate resilience or mitigation.**	• Forestry and agroforestry that are motivated primarily by economic or conservation objectives, because these will have some mitigation effects; • Water storage, water efficiency and irrigation that are motivated primarily by improving livelihoods because these will also provide protection against drought; • Biodiversity and conservation, unless explicitly aimed at increasing resilience of ecosystems to climate change; • Livelihood and social protection programmes, motivated by poverty reduction, that build household reserves and assets and reduce vulnerability. These will include programmes to promote economic growth, including vocational training, financial services and the maintenance and improvement of economic infrastructure, such as roads and railways.
33 per cent	**Somewhat**	**Activities that indirectly contribute to adaptation and mitigation**	• Water quality improvement, unless the improvements aim to reduce problems from extreme rainfall events, in which case the relevance would be high; • General livelihood support, motivated by poverty reduction, that aim to build household reserves and assets and reduce vulnerability in areas of low climate change vulnerability; • General planning capacity, either at national or local level, unless it is explicitly linked to climate change, in which case the relevance would be high; • Livelihood and social protection programmes, motivated by poverty reduction, that aim to build household reserves and assets and reduce vulnerability. This will include programmes to promote economic growth, including vocational training, financial services and the maintenance and improvement of economic infrastructure, such as roads and railways.
16.5 per cent	**Implicitly**	**Activities that only have indirect or theoretical links to climate resilience**	• Short-term programmes (including humanitarian relief); • The replacement element of any reconstruction investment (the additional climate element would be considered separately as being highly relevant); • Education and health programmes that do not have an explicit climate change element.

31 Examples used to analyse the relevance of each programme taken from: UNDP. 2012. *A Methodological Guidebook: Climate Public Expenditure and Institutional Review (CPEIR)*. UNDP. Available at **https://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/democratic_governance/RBAP-DG-2015-CPEIR-Methodological-Guidebook.pdf**

4.2.2.2 Method to establish international grant and concessional public finance flows relevant to climate change in Antigua and Barbuda

Datasets for the assessment of international grant and concessional public finance flows for climate action in Antigua and Barbuda are taken from the project accounts ledgers of the DOE.

Relevant projects were selected on the basis of definitions as outlined in section 4.1.2 above, namely that they refer to adaptation and mitigation. Moreover, the international public finance assessed in this report did not include any provision for loss and damage response finance (as defined in section 4.1.2 above). A database was created that included the funding source, project title, description and length, financial support committed and received, and the financial instrument through which support was provided. The development of these tables reporting multilateral and bilateral climate finance flows for Antigua and Barbuda use the modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement.[32]

In establishing the climate relevance of multilateral and bilateral support, all projects and programmes of the multilateral climate funds are deemed to be 100 per cent climate relevant. For multilateral and bilateral projects and programmes that arise outside of the key multilateral climate change funds, the determination of climate relevance for each project and programme is guided by the scoring system in the *OECD DAC Rio Markers for Climate Handbook*.[33] This system outlines that an activity can be scored as 2, 1 or 0 on the basis of the extent to which the activity's objectives target the UNFCCC's objective of stabilising GHG emissions to a level that would prevent human interference with the climate. An activity scores 2 where climate action is the principal objective, 1 where climate action is a significant objective and 0 where there is no targeting of climate change at all within an activity. Antigua and Barbuda has broadened this guidance to include the overall objectives and key provisions of the Paris Agreement. The scoring system here is considered to apply to activities that target, for example, limiting emissions to 1.5 °C, increasing the ability to adapt to the adverse effects of climate change, making finance flows consistent with low-emission and climate-resilient development, and enhancing understanding, action and supporting with respect to loss and damage. For the purposes of establishing the amount of funding flowing to climate action, the climate relevance percentages for each maker are as follows: 2 = 100 per cent, 1 = 30 per cent and 0 = 0 per cent.

In order to create a time series from multilateral and bilateral sources, Antigua and Barbuda only recognises disbursed figures in the specified reporting year as 'support received'. Datasets on 'support committed' (i.e. an amount that is politically or legally committed by a support provider but has not been disbursed to the recipient) are only used as a point of reference in this assessment. Reporting years are based on calendar years (aligned with the budget process of Antigua and Barbuda). In order to make support provided comparable, a currency conversion rate is applied. This report has applied a fixed XCD to USD exchange rate of 2.7162.[34]

When considering the financial instrument of the support received, only loans or other credit instruments that are concessional are reported. Non-concessional flows of international public finance relevant to climate change are discussed in section 5.4.3 below.

It is noted that the DOE is a direct access accredited entity to the GCF and manages regional projects within the OECS region. Only the disaggregated amounts of this regional support that are for Antigua and Barbuda's benefit are used in this assessment, in order to avoid overinflating support received by Antigua and Barbuda and avoid double counting support received on a regional or global basis.

Owing to datasets and capacity constraints, the assessment only considers the multilateral and bilateral climate finance flows which are managed by the DOE. This is therefore a minimum estimate of international public finance flows that support climate change mitigation and adaptation actions. This assessment could be improved to consider the full extent of international grant and concessional public support to Antigua and Barbuda for climate change action through consideration of international grant and concessional public finance for Antigua and Barbuda received through all ministries and departments, including that which might be directed to other development priorities but could have climate elements. Arguably, all such finance should have climate risks in mind and a more sophisticated assessment could

32 In light of this, Antigua and Barbuda reaffirms the right to apply flexibility in relation to the implementation of the transparency framework's modalities, procedures and guidelines and for sits special circumstance as a SIDS to be taken into consideration in accordance with Articles 13, paras. 2–3 of the Paris Agreement.

33 OECD. *DAC Rio Markers for Climate Handbook*. OECD. Available at **https://www.oecd.org/dac/environment-development/Revised%20climate%20marker%20handbook_FINAL.pdf**

34 Since 1976, XCD has been fixed to USD at this rate. See **https://www.eccb-centralbank.org/news/view/the-eccb-observes-41st-year-of-ec-dollar-peg-to-us-dollar**

consider if any international public finance flows are inconsistent with Antigua and Barbuda's climate change ambitions (see also section 5.4.3 below).

Further relevant datasets and analysis could include **PSIP**, which reflects the activities undertaken by the Government of Antigua and Barbuda to facilitate development. While PSIP comprises public sector investment from the Consolidated Fund (from which recurrent and capital expenditure arises) it also includes public finance in the form of loans, grants or long-term lease arrangements that can capture international public finance flows. There are plans for PSIP to include climate aspects in annual reporting templates, though the degree to which this will be included and how the information will be used is yet to be clarified.

Datasets on Antigua and Barbuda's wider international public concessional finance receipts could be taken from, for example, the **Aid Atlas**.[35] Assessment of this database, which visualises datasets from the OECD Creditor Reporting System, could allow the identification of flows that contribute to climate action and also stronger analysis of the consistency of broader concessional flows with Antigua and Barbuda's climate objectives. It is noted, however, that, as Antigua and Barbuda graduates from middle- to high-income status in 2020, this will affect its access to concessional development finance and the nature of this wider international support is likely to shift (see box 1). Antigua and Barbuda does, however, remain a Party not included in Annex I to the Convention which means that it is still eligible for climate finance and support under climate change funds.

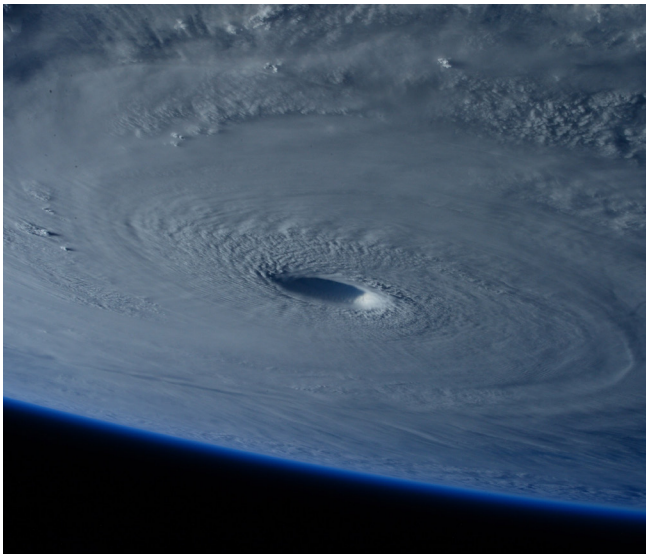


Image: Nasa/Unsplash

Photo Courtesy: Department of Environment, Government of Antigua and Barbuda

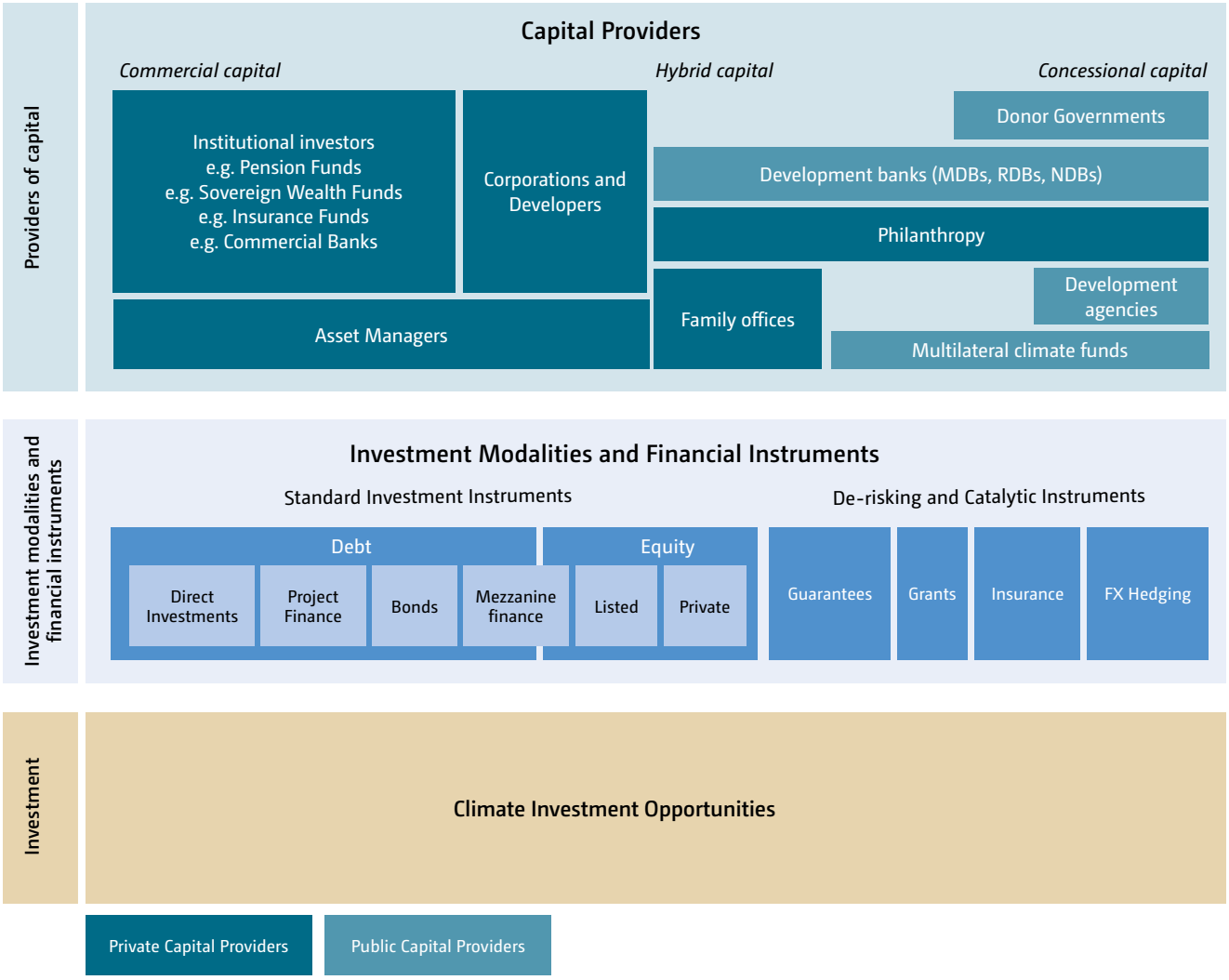
4.2.2.3 Methods considering private finance flows relevant to climate change in Antigua and Barbuda

The private sector is a diverse set of actors. It includes households, smallholders and small businesses, large companies, NGOs, foundations and charities, local financial institutions, financial intermediaries, funds and institutional investors.[36] Private capital is needed globally to meet the scale and pace of the low-carbon, climate-resilient transition needed. Private actors also bring expertise, innovative solutions and expand the assets and technologies available to mitigate and adapt to climate change.[37]

The system through which private capital is deployed is complex. There are many types of private actor with differing motivations that work through a variety of private financial intermediaries, resulting in a variety of modalities and financial instruments through which private capital is invested. This is explained in figure 4. Private capital largely comprises the savings of individuals and corporations. These savings are managed, pooled and invested through intermediaries including banks, portfolio management firms and pension funds. Private capital can be invested in equity or debt. Equity implies ownership in companies, often private listed companies, whereas debt implies a commitment to repay the capital with interest. The motivation for private investment is to realise a risk-adjusted return for the corporation or individual that provided the funds, although climate outcomes may be explicitly or implicitly included as motives or filters for investment.

35 The Antigua and Barbuda profile on Aid Atlas is available at https://aid-atlas.org/profile/all/antigua-and-barbuda/all/2002-2017?valueType=usd_commitment.
36 Whitley S, Canales Trujillo N and Norman, M. 2016. *Mobilising private finance for climate compatible development: A diagnostic tool for mapping incentives and investment*. ODI. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/10709.pdf**
37 Nakhooda, S. 2013. *The effectiveness of international climate finance*. London: ODI. Available at **https://www.odi.org/publications/7386-effectiveness-international-climate-finance**

Figure 4 **Types of capital providers, focusing on private capital**



Source: adaptated from Carter, L (2020). *The Ecosystem of Private Investment in Climate Action*. United Nations Development Programme, New York, NY, USA

There is often very little information on the response of private sector actors to climate change. Actions and their associated investments, particularly for adaptation, can be hard to identify, as they might be labelled as business continuity, emergency-preparedness, environmental vulnerability assessments, insurance, forecasting or risk management actions.[38] Identifying private finance of relevance for climate actions can therefore be a difficult and time-consuming task.

There are broadly two streams of dataset collections that are relevant for private finance flows for climate action. The first considers the private finance that is mobilised by public climate finance. The second is a more in-depth tracking and estimation of investment incentives and flows.

There are ongoing debates on how to define and measure the private climate finance mobilised through public interventions, mainly resulting from the difficulties in identifying the country of origin of private finance and defining the boundaries of what is mobilised, and the application of different attribution methods.[39] Work continues to develop methods and build convergence around these methods, for example through the OECD-led Research Collaborative on tracking private climate

38 Watson, C. 2016. *Financing our Shared Future: Navigating the humanitarian, development and climate finance agendas*. London: ODI. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/11228.pdf**

39 UNFCCC SCF. 2018. *2018 Biennial Assessment and Overview of Climate Finance Flows: Technical Report*. UNFCCC. Available at **https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf**

finance, while MDBs and IDFC have also developed approaches to establish co-finance and mobilisation.[40]

In estimating and tracking broader climate-related private finance flows at a global level, challenges are faced in identifying and coding the relevant investments in broader investment datasets. There are also often restrictions based on confidentiality as well as accounting issues. Bloomberg New Energy Finance collects project-level datasets on renewable energy investments and these primary finance flows account for a large proportion of the total climate finance estimates of the Climate Policy Initiative (and subsequently the biennial assessment and overview of climate finance flows). These datasets are then complemented by datasets from other sector and industry databases on primary project investment (i.e. primary investments into new productive assets). It is recognised that there are gaps in these databases and therefore in this approach, not least the constraints on sectoral coverage.

Private sector climate finance can also be estimated through foreign direct investment flows, where they are coded for their relevance to climate change (see section 4.2.2.1 above). However, foreign direct investment only includes cross-border private investment and the economy and sectoral classifications applied to datasets often do not allow sufficient analysis of their climate relevance.

Other methods are available to apply at a national or subnational level, where resources allow, to estimate private climate finance flows. Such studies are often highly context-specific and involve detailed interviews and investigations to identify relevant datasets, through the mapping of incentives, sources of capital and scales of support, for specific sectors and subsectors within sectoral and country context (e.g. climate objectives for the sector).[41]

In parallel with methods that assess the flows of private climate finance, it is worth highlighting the increased awareness of businesses impacts on climate change and the adverse impacts of climate change on businesses that are increasingly influencing investments (see section 6.4 below for more discussion of the adverse physical impacts of climate change).

40 UNFCCC SCF. *2018. 2018 Biennial Assessment and Overview of Climate Finance Flows: Technical Report*. UNFCCC. Available at **https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf**. Annex D provides a summary of methods to establish private finance mobilised.
41 Whitley S, Canales Trujillo N and Norman, M. 2016. *Mobilising private finance for climate compatible development: A diagnostic tool for mapping incentives and investment*. London: ODI. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/10709.pdf**

4.2.2.4 Methods considering the consistency of all finance flows with low-emission and climate-resilient pathways

Article 2 paragraph 1(c) of the Paris Agreement refers to making finance flows consistent with a pathway towards low GHG emissions and climate-resilient development. This is the third pillar of the Paris Agreement, without which the other two pillars focused on adaptation and mitigation cannot be achieved. There is, however, no international consensus as to how to or achieve consistency, nor an agreed reporting framework.[42] As debate progresses under the UNFCCC, it will need to acknowledge or provide flexibility to Parties to accommodate their national contexts. There is variation in the speed at which countries will have to transition away from fossil fuel investments, for example, and countries have varying financial system architecture and ability to make use of certain instruments that some might consider innovative (e.g. size, depth or appropriateness of their debt markets for employing green bonds).

Outside to the UNFCCC process, four broadly defined tools have been put forward that can be used by governments to assess progress and further opportunities towards the consistency of financial flows with climate change objectives (see figure 5 below).[43] **Financial policies and regulations, fiscal policy levers, public finance** and **information instruments** are tools with which governments are already familiar. Applying a combination of these tools is further likely to stimulate private investment that is consistent with climate objectives.

There are isolated examples emerging as to how these tools are being applied to encourage investment in climate action as well as shifting investment away from high-emission actions.[44] Initiatives working in these areas are also gathering momentum. For example, NGFS could provide more information on best practices for climate risk management in financial institutions.[45] The Coalition of Finance Ministers for Climate Action could provide more information on public expenditure, budget allocations and carbon pricing, which will be important for understanding progress in the consistency of finance flows towards the objectives of the Paris Agreement.[46] The proposed framework is flexible enough to allow country interpretation but will also allow for some comparison of actions between countries or time periods.

42 Watson, C. and Roberts. L. 2019. *Understanding Finance in the Global Stocktake*. ODI and Independent Global Stocktake. Available at **https://www.odi.org/publications/16513-understanding-finance-global-stocktake**
43 Whitley et al. 2018. *Making finance consistent with climate goals: insights for operationalising Article 2.1.c of the UNFCCC Paris Agreement*. ODI, WRI, E3G and RMI. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/12557.pdf**
44 Climate Transparency. 2018. *Brown to Green: The G20 Transition to a Low-Carbon Economy*. Climate Transparency. Available at **https://www.climate-transparency.org/wp-content/uploads/2019/01/2018-BROWN-TO-GREEN-REPORT-FINAL.pdf**
45 See **https://www.mainstreamingclimate.org/ngfs/**
46 The Coalition of Finance Ministers for Climate Action. 2018. *Helsinki Principles*. The World Bank. Available at **http://pubdocs.worldbank.org/en/600041555089009395/FM-Coalition-Principles-final-v3.pdf**

Figure 5. **The four categories of government-led tools that can be applied to encourage the consistency of finance flows with climate ambitions**

			
Financial policies and regulations	**Fiscal policy levers**	**Public finance**	**Information instruments**
(primarily influence behaviour through force of law)	(primarily influence behaviour through price)	(primarily influence behaviour by shifting financial risk)	(primarily influence behaviour through awareness)
• lending requirements • accounting systems • mandates of supervisory authorities • standards • plans and strategies • disclosure requirements	• taxes • levies • royalties • price support or controls • public procurement • budget support	• grants • debt • equity • guarantees • insurance	• certification and labelling • transparency initiatives • corporate strategies • awareness campaigns • statistical services • scenario analysis and stress testing • standards • plans and strategies • disclosure requirements
(Where mandatory and enforced)	(including for establishment of public funds and finance institutions and state-owned enterprises)	(from public pension funds, sovereign wealth funds, and public finance institutions)	(where voluntary)

Source: Whitley et al. 2018. *Making finance consistent with climate goals: insights for operationalising Article 2.1.c of the UNFCCC Paris Agreement.* ODI, WRI, E3G and RMI, pp16. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/12557.pdf**

Image: UN Climate Change

The OECD has proposed the tracking of gross primary investments flows in new infrastructure and equipment and the refurbishment of such assets, as well as their underlying sources of finance. The proposed scope focuses on tangible fixed assets with a direct and significant impact on GHG emissions. The OECD notes, however, that both comprehensive and granular datasets are required and that "this is currently only the case for a very small sub-set of the targeted scope: project finance schemes and international development finance, which represent less than 2% of gross-fixed capital formation".[47]

In Antigua and Barbuda, a survey was conducted with the Department of Environment and the Ministry of Finance and Corporate Governance in order to catalogue and report on financial policies and regulation, fiscal policy levers, public finance and information instruments that are being applied that could be considered climate-relevant. For each section, information is requested regarding tools supporting low-emission, climate-adaptive finance flows and the existence of finance flows that are high emission or might be considered maladaptive. There is currently insufficient access to datasets in Antigua and Barbuda to apply the OECD method.

The survey is a first attempt at cataloguing and reporting tools relevant to the consistency of finance with climate objectives. There is room for further development of the method to assess Antigua and Barbuda's consistency of finance flows. It would be worthwhile establishing a process that would involve a greater number of relevant national stakeholders. The formation of a technical advisory group of key relevant stakeholders and broader stakeholder input would validate the approach as well as giving weight to the findings. Such a process may necessarily begin with sensitisation of the idea, where necessary, of the potential benefits and challenges of consistency of finance flows with climate ambitions, including strong links to fiscal policies[48] and financial stability.[49] It might progress to the country-level classification of activities contributing to, undermining or not impacting climate objectives. This in itself is a complex exercise, as noted by the OECD: "defining criteria…is a complex endeavour that has to take into account changing technological specifications and abilities as well as dynamic policy pathways, in the context of which activities are implemented".[50]

This report would be grounded in national realities and the country investment climate through the undertaking of further work. The nature of financial systems differs widely between countries, meaning that certain tools offer more potential than others. When reporting progress to the UNFCCC, for example, it would be useful to recognise this, and initial work might focus on key economic and development priorities at a country or sector level. This would serve a dual task of indicating where action is being taken and highlighting where greater action could be taken, in the context of the socioeconomic drivers and obstacles to operationalising certain tools in Antigua and Barbuda.

47 Jachnik, R, Mirabile, M and Dobrinevski, A. 2019. Tracking finance flows towards assessing their consistency with climate objectives, *OECD Environment Working Papers*, No. 146. Paris: OECD. Available at **https://www.oecd-ilibrary.org/environment/tracking-finance-flows-towards-assessing-their-consistency-with-climate-objectives_82cc3a4c-en**

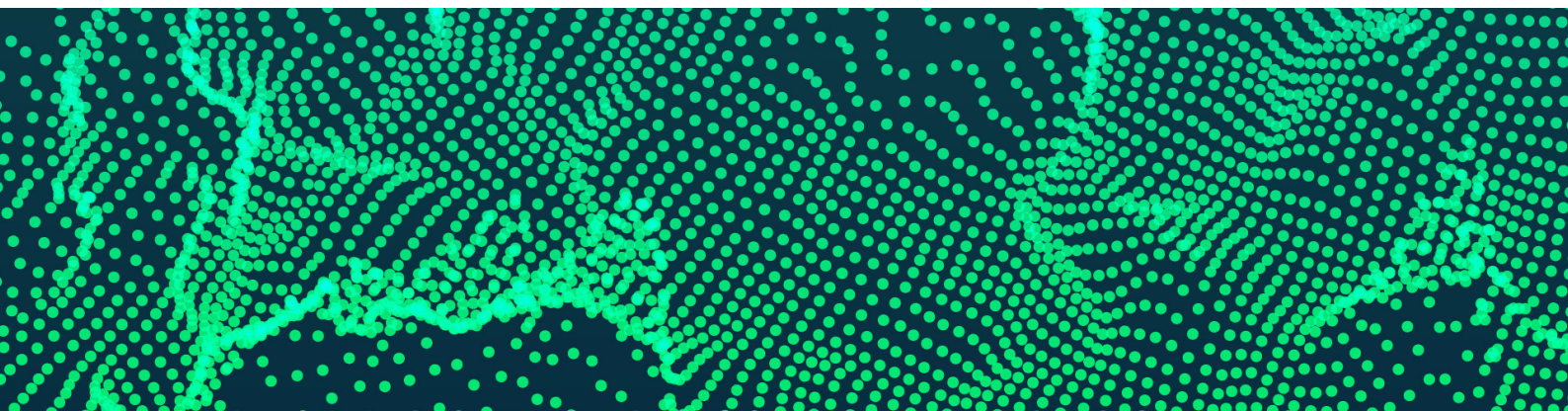
48 IMF. 2019. *Fiscal Policies for Paris Climate Strategies—from Principle to Practice*. IMF. Available at **https://www.imf.org/en/Publications/Policy-Papers/Issues/2019/05/01/Fiscal-Policies-for-Paris-Climate-Strategies-from-Principle-to-Practice-46826**

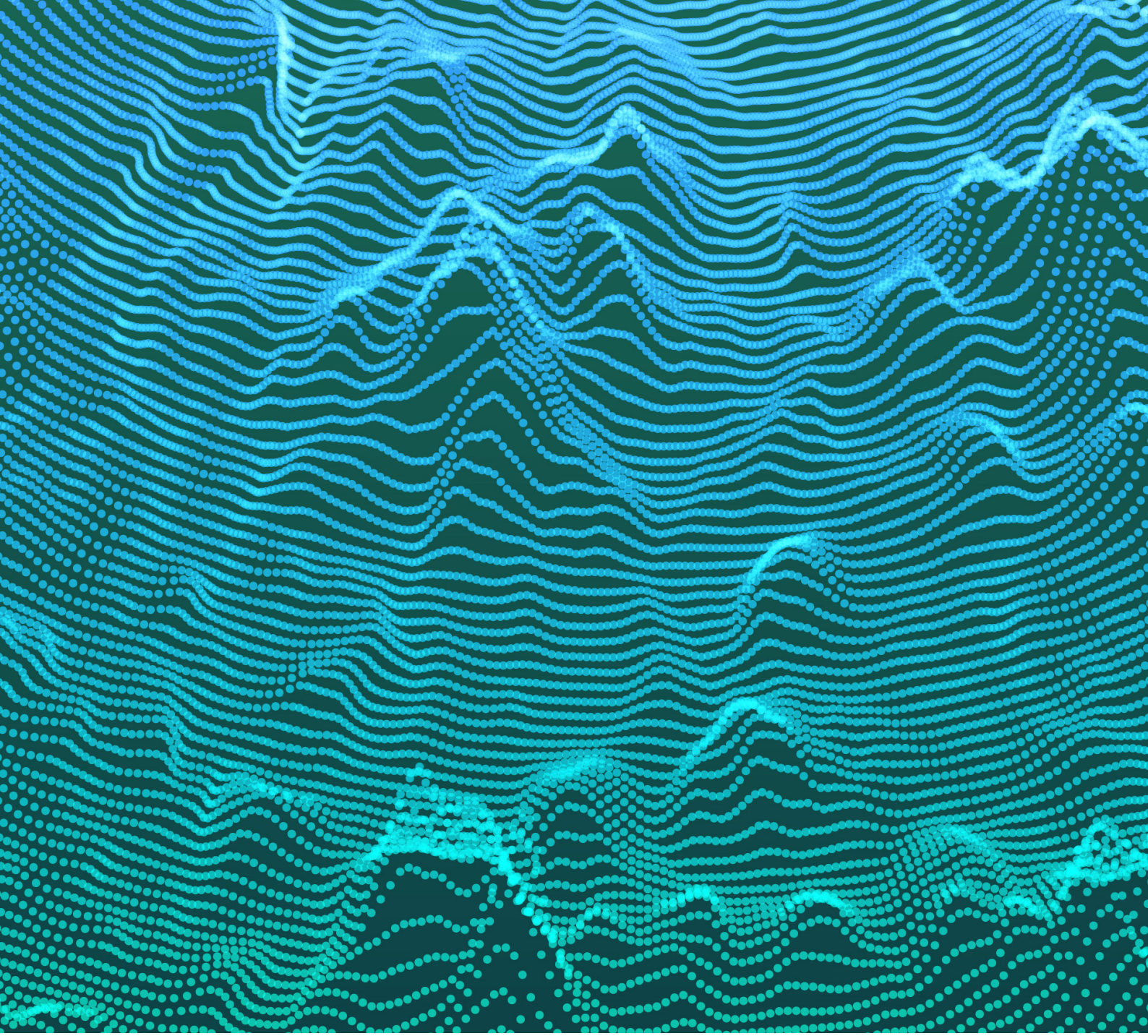
49 Giuzio, M. et al. 2019. Climate Change and Financial Stability, *Financial Stability Review*. European Central Bank. Available at **https://www.ecb.europa.eu/pub/financial-stability/fsr/special/html/ecb.fsrart201905_1~47cf778cc1.en.html#toc1**

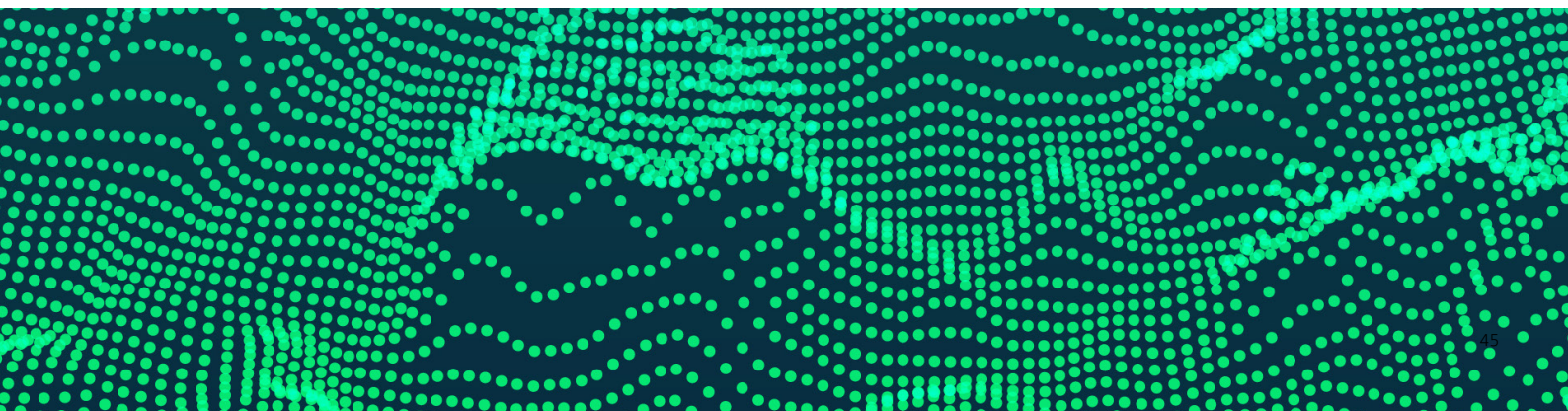
50 Jachnik, R, Mirabile, M and Dobrinevski, A. 2019. Tracking finance flows towards assessing their consistency with climate objectives, *OECD Environment Working Papers*, No. 146. Paris: OECD. Available at **https://www.oecd-ilibrary.org/environment/tracking-finance-flows-towards-assessing-their-consistency-with-climate-objectives_82cc3a4c-en**

5

Overview of climate finance







Overview of climate finance

4.1 Domestic public finance expenditure relevant to climate change in Antigua and Barbuda

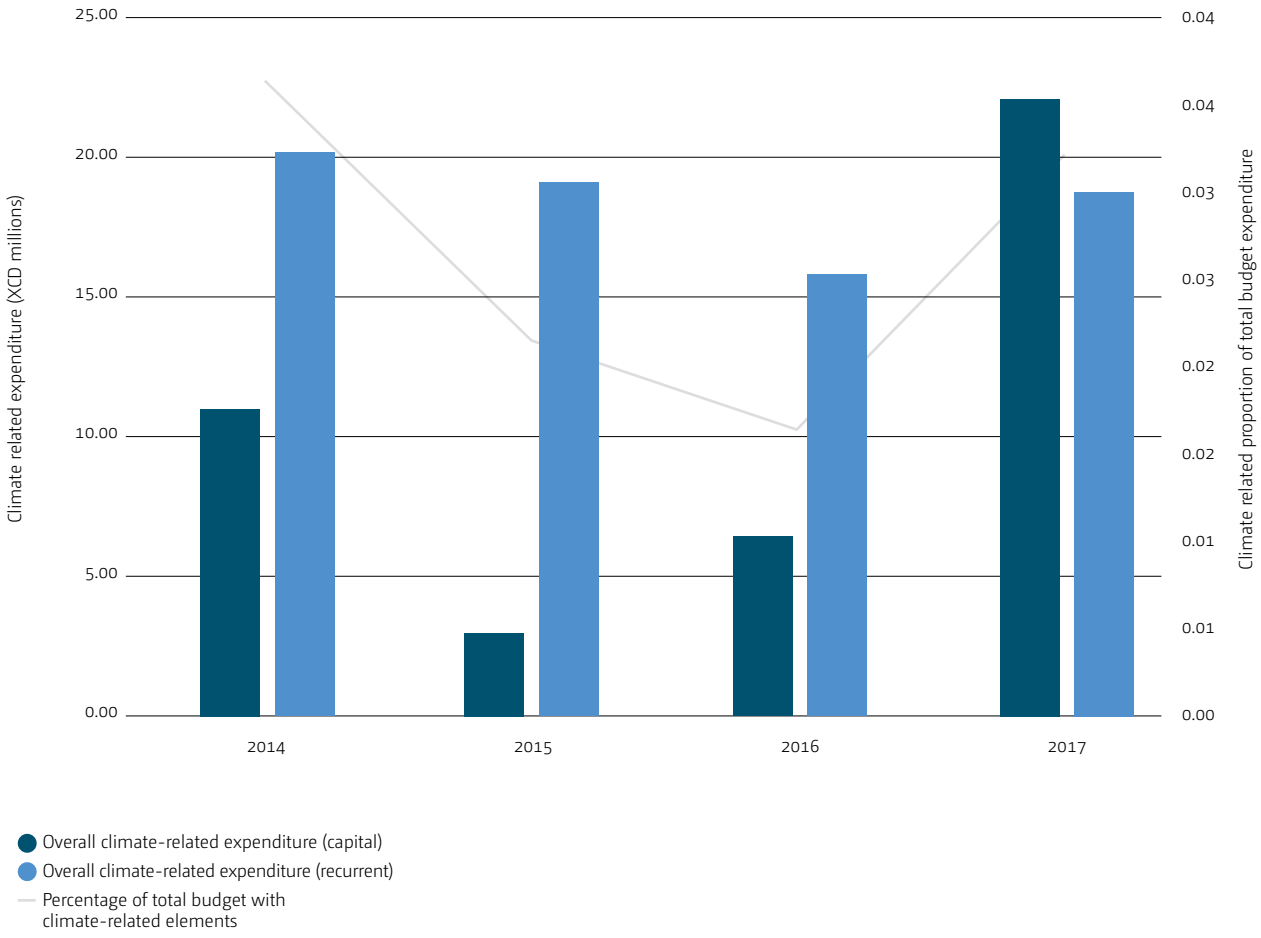
There are limited datasets globally on the amount and impact of domestic public finance for climate change adaptation and mitigation. This is despite the fact that "domestic climate expenditures by national and subnational governments are a potentially growing source of global climate finance".[51] *The 2018 Biennial Assessment and Overview of Climate Finance Flows* collates domestic climate public expenditure as reported through biennial update reports, CPEIRs and one-off case studies. It reports USD 18 billion across 17 developing countries.[52]

51 UNFCCC SCF. 2018. 2018 Biennial Assessment and Overview of Climate Finance Flows. UNFCCC, p. 8. Available at **https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf**
52 Argentina, Bangladesh, Bolivia (Plurinational State of), Cambodia, Chile, China, Colombia Guatemala, Honduras, Jordan, Nicaragua, Nigeria, Nepal, Pakistan, Philippines, Viet Nam and Zambia.

This report is the first systematic effort made by the Government of Antigua and Barbuda to assess governmental expenditure as it relates to climate change and disaster risk reduction. The sources of financial information were the yearly budgets and development estimates for 2014–2017 and COFOG.

The first objective of the study was to identify how much budget spending is related to climate action. Figure 6 illustrates that, for 2014–2017, an average of 2.66 per cent of the budget was climate relevant. This translates to an average of XCD 29.1 million (or USD 10.7 million). Further work on historical datasets and continuing this exercise for future datasets would help to establish a stronger trend in climate-related budget spending with more dataset points. It might further identify the peaks and more conclusively determine their causal links with climate-related weather events such as Hurricane Irma in 2017.

Figure 6. **Climate-related budget expenditure in Antigua and Barbuda for 2014-2017**



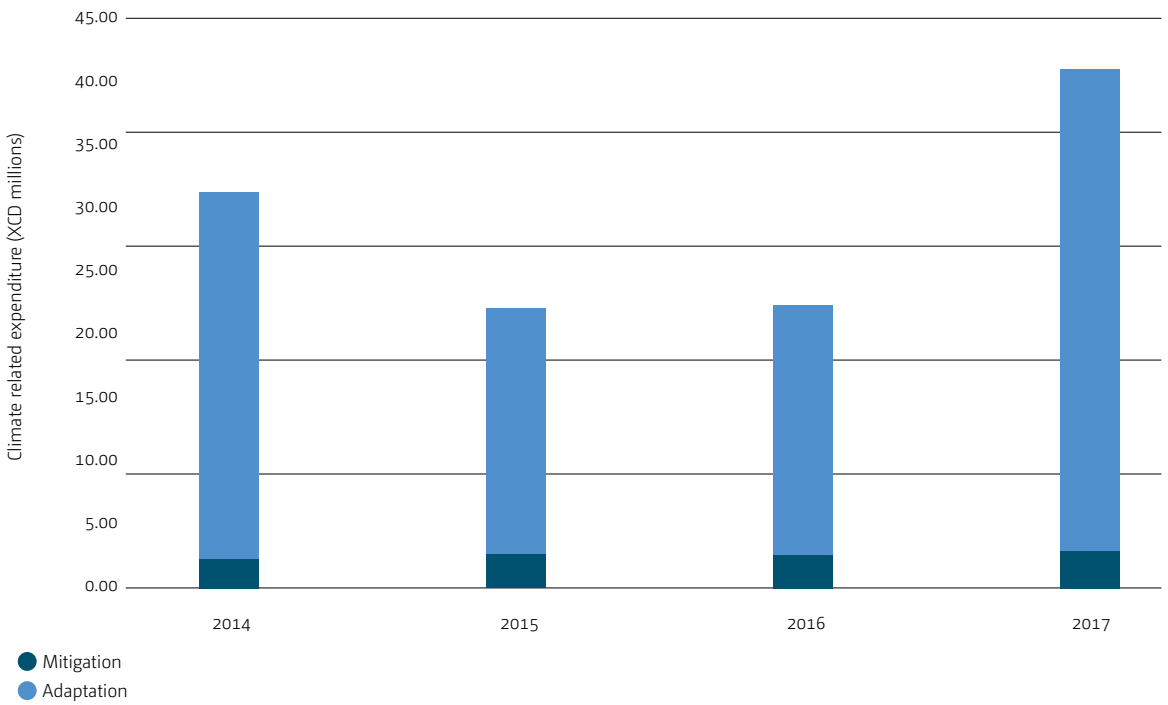
The total amount of climate-related expenditure can be broken down further into recurrent and capital spending. Closer inspection shows that an average of 17.3 per cent of capital expenditure was climate related, whereas only 1.7 per cent of recurrent expenditure was climate relevant in the four-year period analysed. This finding is useful in the context of overall budget expenditure, which contains much more recurrent than capital spending (see table 8 and annex III).

Table 8. **Summary of climate-related expenditure in Antigua and Barbuda by theme over time for 2014-2017**

Year	Adaptation-related budget expenditure (XCD million)	Percentage of adaptation-related budget expenditure		Mitigation-related budget expenditure (XCD million)	Percentage of mitigation -related budget expenditure		Climate-related budget expenditure (XCD million)	Total budget expenditure (recurrent and capital) (XCD million)	Percentage of budget with climate-relevance
		capital	recurrent		capital	recurrent			
2014	28.7	38.4	61.6	2.5	0.2	99.8	31.24	860.3	3.6
2015	19.1	15.8	84.2	3.0	1.9	98.1	22.18	1 030.5	2.2
2016	19.4	33.1	66.9	2.8	1.5	98.5	22.25	1 347.1	1.7
2017	37.8	58.6	41.4	3.1	0.7	99.3	40.93	1 270.4	3.2

Considering the share of public spending on adaptation and mitigation, figure 7 clearly shows that Antigua and Barbuda spends more on adaptation to climate change than on mitigation, which is appropriate given its climate change vulnerability status and that it is a Party not included in Annex I to the Convention. Over the four-year period, 90.2 per cent of all climate-related spending was on adaptation, which can be further divided as 84.7 per cent for recurrent expenditure and 99.7 per cent for capital expenditure.

Figure 7. **Climate-related spending by theme in Antigua and Barbuda for 2014-2017**



On a department and programme basis, most climate-related budget spending occurs through the Central Board of Health (45 per cent of total climate-related budget spending), followed by the Works Division (37 per cent). Both have expenditure that is 100 per cent related to adaptation. The Department of Agriculture (45 per cent), DOE (23 per cent) and the Meteorological Office (14 per cent) have the highest mitigation-related expenditures. Smaller amounts are then budgeted by other departments (figure 8) but this spending varies by year (table 9).

Analysing the climate-related expenditure relative to total department expenditure, instead NODS has the highest relative spending rate, with over 66 per cent of spending being climate relevant, followed by DOE (49 per cent) and the Central Board of Health (38 per cent) (table 9 and annex III).

Figure 8. **Climate-related spending by department and theme in Antigua and Barbuda for 2014–2017**

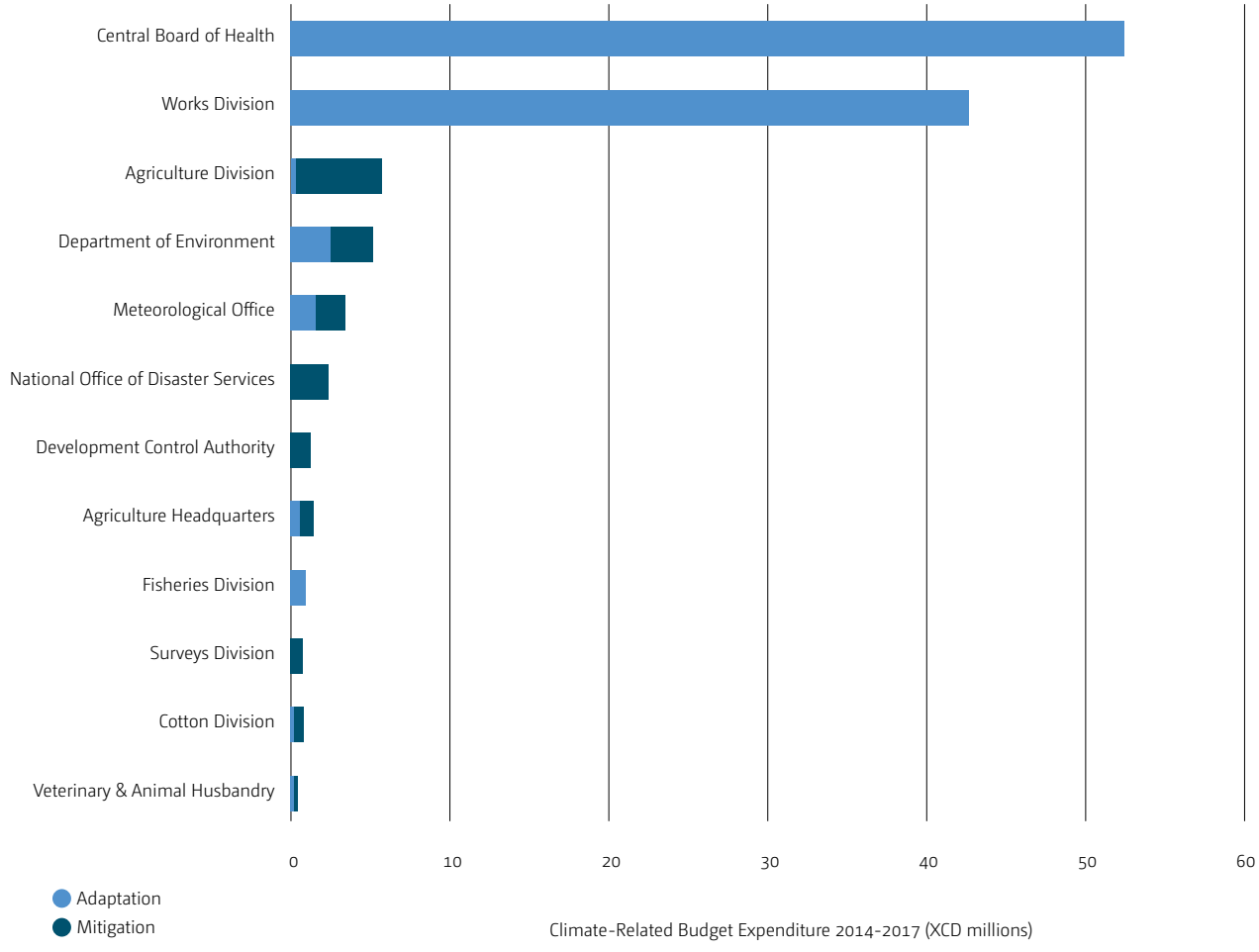


Table 9. **Summary of climate-related expenditure in Antigua and Barbuda by department, relative to total spending for 2014–2017**

Ministry	Department(s)*	Percentage of total budget that is climate-relevant				
		2014	2015	2016	2017	Total (2014–2017)
Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs	Agriculture Headquarters	7.8	9.1	7.4	7.1	7.9
	Agriculture Division	26.3	28.1	30.0	25.8	27.5
	Veterinary and Animal Husbandry	7.0	6.6	6.3	6.4	6.6
	Fisheries Division	16.8	17.2	15.6	16.0	16.4
	Cotton Division	20.2	23.6	21.9	25.6	22.8
	Surveys Division	16.5	16.0	13.2	16.4	15.5
	Development Control Authority	38.8	29.0	34.0	36.4	34.5
Ministry of Health, Wellness and the Environment	Central Board of Health	36.1	39.5	39.1	37.9	38.1
	Department of Environment	49.2	50.0	48.4	49.8	49.3
Ministry of Public Utilities, Civil Aviation and Energy	Meteorological Office	38.8	39.0	36.2	32.8	36.7
Ministry of Public Works and Transportation	Works Division	13.3	4.6	4.4	21.4	10.9
Ministry of Social Transformation, Human Resource Development, Youth and Gender Affairs	National Office of Disaster Services	73.5	73.1	26.3	75.5	62.1

This analysis only includes central government funds, but there is also public expenditure that is not included in the Government budget. **SOEs** play a critical role in the key sectors of communication, utilities, energy, insurance and services in Antigua and Barbuda,[53] for example, and receive off-budget spending.

State-owned **APUA** is an SOE that is particularly relevant from a climate action perspective. It is responsible for nationwide generation and distribution of electricity and water and for telecommunications. It was created by the Public Utilities Act (1973) and has no obligation to publish financial information in the public domain. Off-budget payments to APUA are irregular and based on capital expenditure needs so are difficult to analyse. APUA is, however, highly relevant to the climate change response in Antigua and Barbuda, as electricity generation is currently near 100 per cent fossil fuel based. Antigua Power Company Limited, a private company, supplies around 80 per cent of the power generated in Antigua and Barbuda whereas APUA is responsible for power generation, transmission and distribution of electricity in Antigua and Barbuda and purchases most of the power from Antigua Power Company Limited through a power purchase agreement. Antigua and Barbuda intends to move towards 100 per cent reverse osmosis for the national water supply, in light of longer and more frequent droughts,[54] which will require a substantial supply of electricity. While Antigua and Barbuda's climate action priorities rest in adaptation to climate change, although its contribution to creating that climate change has been negligible, the reduction in emissions is encapsulated in the country's NDC, with implications for energy and water that clearly relate to APUA activities (see annex I). Recent

53 Ashe, P. 2012. *Governance in Antigua and Barbuda: A qualitative case study of five State Owned Enterprises*. University of Phoenix. Available at **https://pqdtopen.proquest.com/doc/1220696386.html?FMT=AI**

54 GCF. 2017. *Country Programme: Antigua and Barbuda*. GCF. Available at **https://www.greenclimate.fund/document/antigua-and-barbuda-country-programme**

provisions to APUA for establishing two reverse osmosis plants amounted to off-budget spending of XCD 30 million between 2016 and 2017.

Other statutory bodies that might be considered relevant for directing finance towards climate actions, or away from climate-inconsistent actions, include the Antigua and Barbuda Investment Authority, Financial Services Regulatory Commission, Central Housing and Planning Authority, Antigua and Barbuda Social Security Board and State Insurance Corporation.

Another programme that might be of relevance for public domestic climate finance in Antigua and Barbuda is **PSIP**. It includes all public sector investment, whether funded from the Consolidated Fund (the source of funding for recurrent and capital expenditure) or from loans, grants or long-term lease arrangements (including international public finance) to facilitate development. PSIP can also include special project groups functioning on behalf of the public sector and Government-owned companies as well as projects managed by statutory bodies, although it has not recorded any statutory body projects to date.[55] Analysis of PSIP, therefore, could be a way to complement findings on budget expenditure and public domestic finance flows relevant to climate change in Antigua and Barbuda. Additional relevant funding could be contained within this programme and in associated dataset collection processes that could elaborate climate-consistent and climate-inconsistent spending, but also consider private co-financing, namely the mobilisation of private finance for climate action as a result of public investment, if and where used. PSIP does not currently have a database, but serves as a compilation of information that is shared annually, illustrating the projects that have been approved under the budget.

55 Economic Policy and Planning Unit Ministry of Finance and the Economy, Government of Antigua and Barbuda. 2006. *Guidance Document for the Development of Investment Proposal Submissions.* Government of Antigua and Barbuda.

5.2 International grant and concessional public finance flows relevant to climate change in Antigua and Barbuda

Globally, datasets on the international provision of climate finance are relatively more transparent and available than that flowing through other channels. This section reports on the annually disbursed amounts received through multilateral and bilateral sources for Antigua and Barbuda's response to the adverse effects of climate change. These datasets are gathered from the project account ledgers of the DOE for 2014–2017.

Total disbursements across 18 projects and programmes for the period amounted to XCD 12,114,993 (USD 4,513,097). This amounts to an annual average of XCD 3,028,748 (USD 1,128,274); however, disbursements in 2017 were significantly higher than in the previous four years (table 10 and annex IV). It is noted that the datasets are not complete, as datasets are not available on annual disbursements for certain projects (this can happen, for example, when the project is not on the accounts of the DOE) and improvements in future reporting would be beneficial. All but two projects are considered to be 100 per cent climate relevant, with only 30 per cent of the total project amount for these two projects are included in this analysis.

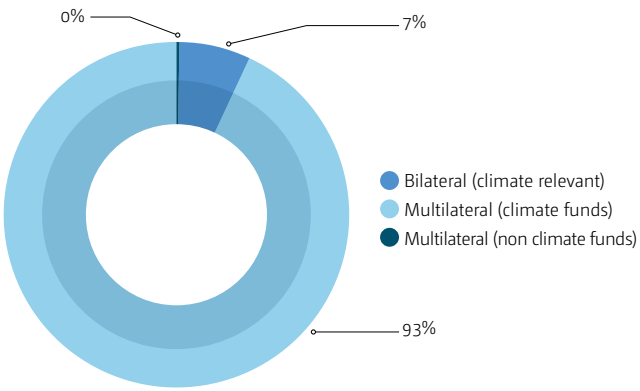
Table 10. **Financial support disbursed to Antigua and Barbuda relevant to climate change from international grant and concessional public sources**

		Number of projects	2014 (USD)	2015 (USD)	2016 (USD)	2017 (USD)	2014–-2017 (USD)
Channel of finance	Climate specific – bilateral	4	–	–	–	311 614	**311 614**
	Climate specific – multilateral	12	211 476	454 323	217 713	3 301 252	**4 184 764**
	Other – multilateral	2	–	–	–	16 718	**16 718**
Type of support	Adaptation	3	24 732	–	29 681	2 850 987	**2 905 400**
	Cross-cutting	11	137 269	160 845	188 033	630 213	**1 116 359**
	Mitigation	4	49 475	293 478	–	148 384	**491 337**
Total		18	211 476	454 323	217 713	3 629 585	**4 513 097**

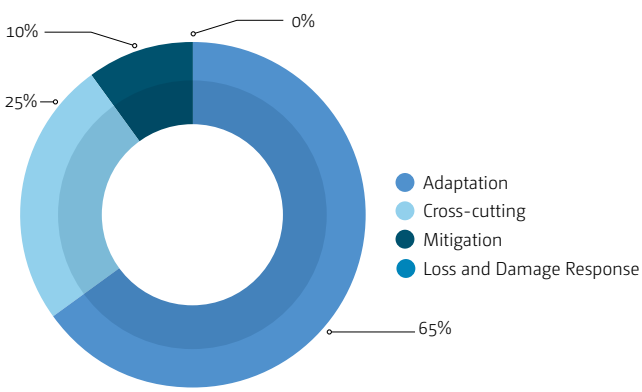
Figure 9 illustrates that 93 per cent of international public finance disbursed to support climate change actions for 2014-2017 was multilateral in nature. The majority of multilateral climate finance comes from key multilateral climate change funds, including GCF, AF, SCCF and the GEF Trust Fund (climate change focal area). Over half (64 per cent) of disbursed international public finance is programmed for adaptation actions, only 11 per cent for mitigation actions and 25 per cent is cross-cutting. This cross-cutting finance predominantly supports climate finance readiness, capacity-building and transparency, whereas the bilateral cross-cutting finance supports resilience in the water and energy sectors. Moreover, none of the 2014-2017 international public finance was committed or disbursed for loss and damage response (as defined in section 4.1.2. above). Of the total commitments made through the projects that were active between 2014 and 2017, 40 per cent of the programmes and projects focused on adaptation, 16 per cent on mitigation and 44 per cent were cross-cutting in nature.

Figure 9. **International public finance support provided to Antigua and Barbuda in 2014-2017**

(b) multilateral and bilateral split



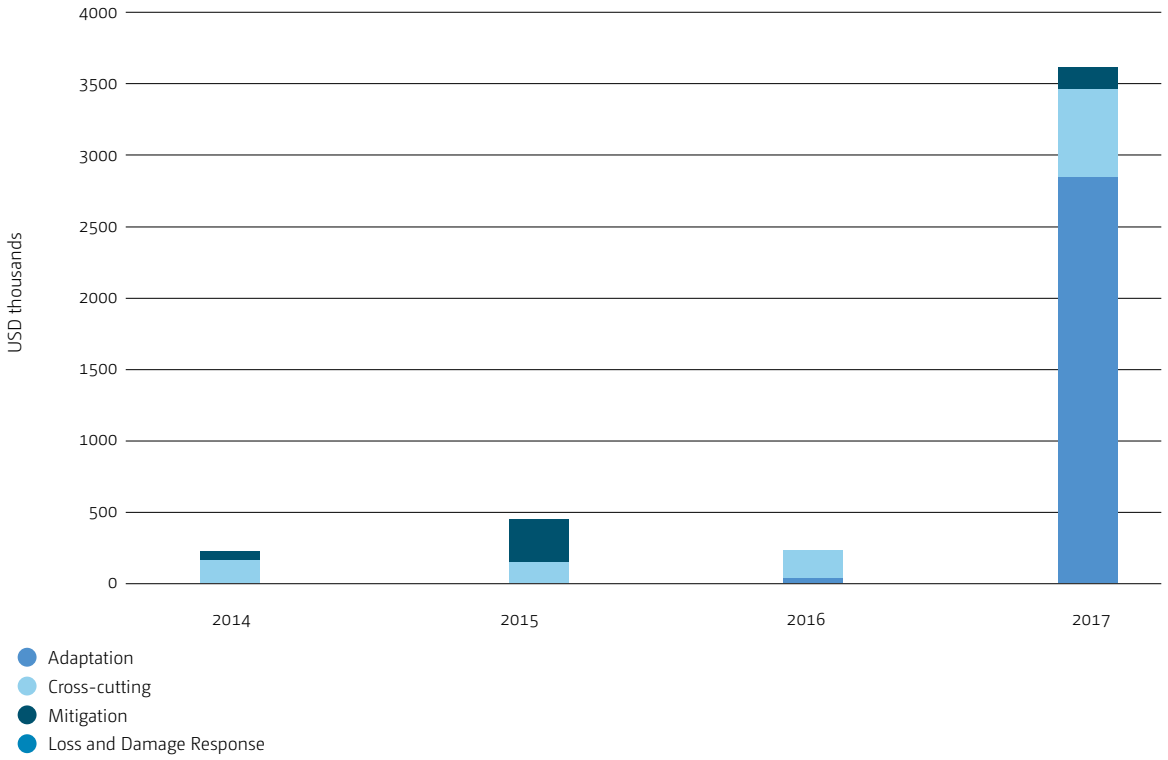
(b) thematic



There is variation in the nature of projects and programmes, particularly by theme, over time (figure 10). The average length of a project or programme is three years and ranges from 12 to 60 months. Project size ranges from XCD 0.60 million (USD 0.22 million) to XCD 40.7 million (USD 15 million) with total committed values of projects active in the period 2014–2017 of XCD 123,109,377 million (USD 45,324,121 million). A total of 17 of the 18 projects are grant-only financing. The only project offering a concessional loan (at 2 per cent interest) is a XCD 40.7 million (USD 15 million) bilateral project to build resilience in the water sector through solar and wind energy, but disbursements of committed finance are yet to be received for this project.

As noted in section 4.2.2.2 above, the analysis of international public concessional finance flows in Antigua and Barbuda could be extended. This would include more detailed research as to whether any wider international public finance flows that arrive in other ministries and departments have climate relevance. For example, they may be linked

Figure 10. **International grant and concessional public finance disbursed by theme 2014-2017 to Antigua and Barbuda for climate action**



primarily to health but might include aspects of resilience or mitigation, such as solar panels or water efficiency systems. The analysis could further consider if any of the wider public flows are inconsistent with Antigua and Barbuda's development objectives (see also section 5.4.3 below).

5.3 Private finance flows relevant to climate change in Antigua and Barbuda

In the absence of datasets on private investment and resources to complete detailed mapping, a high-level overview of the nature of the private sector in Antigua and Barbuda and its engagement with climate change is provided in this section.

Antigua and Barbuda's private sector is primarily service-based and dominated by small companies. These include hotels, restaurants and property rental and real estate companies. According to the World Bank's 2010 enterprise survey,[56] 70 per cent of small companies have adopted a sole proprietorship or partnership ownership structure. The tourism and utilities sectors, however, are dominated by larger companies, which are mostly foreign owned.[57]

Raising capital through the stock market, through shares held in public equity, is not a common practice in Antigua and Barbuda because of the small-scale nature and ownership structure of private firms. Only three companies in Antigua and Barbuda are listed as reporting issuers to the Eastern Caribbean Securities and Exchange,[58] namely Antigua Commercial Bank, Antigua Brewery Ltd. and Antigua Printing and Publishing Ltd. While listed companies are increasingly expected to disclose their climate risk exposure and carbon emissions and plans to reduce emissions and manage risks, as encouraged by TCFD,[59] this is not currently a required practice for these institutions.

56 World Bank and the International Finance Corporation. 2011. *Enterprise Survey: Antigua and Barbuda Country Profile 2010*. Washington D.C.: World Bank and the International Finance Corporation. Available at **http://documents1.worldbank.org/curated/en/514511468210262661/pdf/922920WP0Box380gua0and0Barbuda02010.pdf**

57 The Special Studies Unit (SSU), Sir Arthur Lewis Institute of Social and Economic Studies (SALISES) 2013. *Compete Caribbean OECS Project Private Sector Assessment and Donor Matrix Report for Antigua and Barbuda*. University of the West Indies, Cave Hill.

58 Eastern Caribbean Securities Regulatory Commission, 2019. Public companies. Eastern Caribbean Securities Regulatory Commission. Available at **https://www.ecsrc.com/cauth/users/companies**

59 TCFD was designed to support companies with voluntary and consistent financial risk disclosures on the physical, liability and transition risks associated with climate change for investors, lenders, insurers and other stakeholders. See FSB. 2019. *Task Force on Climate-related Financial Disclosures: 2019 Status Report*. Basel: FSB. Available at **https://www.fsb.org/2019/06/task-force-on-climate-related-financial-disclosures-2019-status-report/**

The majority of Antigua and Barbuda's private sector consists of small, unlisted companies that are largely service-based and have had a limited level of engagement with climate finance. Owners of small businesses and sole traders in the fisheries and agriculture sectors have demonstrated concern, however, as they are directly affected by the adverse impacts of climate change.[60] The tourism sector is also engaging more strongly with climate change as the climate risks for the sector are manifesting themselves.

Institutional investors[61] are the main providers of commercial capital in Antigua and Barbuda. The financial sector in Antigua and Barbuda is one of the second largest in the Eastern Caribbean,[62] as it accounts for one fifth of the region's deposits, assets and loans. The sector is dominated by both domestic and international commercial banks. There are three large foreign commercial banks, principally headquartered in Canada and in the Caribbean region, namely Scotiabank (Scotiabank failed to sell A&B holdings to Republic Bank[63] in their recent exit plan[64]), Royal Bank of Canada and CIBC First Caribbean International Bank. There are also three national banks, namely — Antigua Commercial Bank, Caribbean Union Bank and Eastern Caribbean Amalgamated Bank, and six credit unions. Antigua and Barbuda also has a successful citizenship by investment programme, which raises funds for development, real estate and business development. These financial institutions are relatively well developed, as depositors and borrowers have access to a diversified range of financial services.

The engagement of the financial sector in Antigua and Barbuda with climate change appears to date to have been limited. As the adverse financial impacts of climate change are not yet affecting local financial institutions directly, the three national banks do not appear to have clear strategies for addressing climate change, whether within their operations or in their lending criteria. Of the international banks that have operations in Antigua, some have engaged with international initiatives, but these does not appear yet to have reached operations in Antigua and Barbuda. As providers of commercial capital, institutional investors and commercial banks in particular could focus on the opportunities associated with lending, for example, to renewable energy projects in Antigua and Barbuda, or develop products that encourage investment in climate actions. Globally such investments have included green mortgages, green deposits and green bonds.[65] Commercial banks at a global scale are also increasingly aware of reducing their exposure to high-carbon assets, such as companies involved in coal exploration and mining.[66]

5.4 Consistency of all finance flows with low-emission and climate-resilient pathways

Datasets on the consistency of finance flows in Antigua and Barbuda with a pathway to low-emission and climate-resilient development were elicited through a survey conducted by the Department of Environment and with the Ministry of Finance and Corporate Governance. It considered financial policy and regulation, fiscal policy, public investment and information instruments, seeking to identify existing actions that either support or hinder Antigua and Barbuda's climate change objectives, as well as proposing new actions that could be taken to further improve consistency of finance flows with climate objectives.

5.4.1 Financial policy and regulation and climate change in Antigua and Barbuda

Financial policies refer to "policies related to the regulation, supervision, and oversight of the financial and payment systems, including markets and institutions, with the view to promoting financial stability, market efficiency, and

60 The Fisheries Division in Antigua and Barbuda has expressed interest in climate risk insurance and fisherfolk have expressed adoption of climate-smart practices, including disaster preparedness, safe vessel berthing, reduction of carbon emission and sustainable fisheries. Food and Agriculture Organization of the United Nations. 2018. *Assessment of Insurance Needs and Opportunities in the Caribbean Fisheries Sector. FAO Fisheries and Aquaculture Circular No. 1175*. Rome: Food and Agriculture Organization of the United Nations. Available at **http://www.fao.org/3/ca2199en/CA2199EN.pdf**

61 An institutional investor refers to an organisation that pools and manages the savings of small investors, investing on their behalf. See UNDP. 2011. *Catalyzing Climate Finance: A Guidebook on Policy and Financing Options to Support Green, Low-Emission and Climate-Resilient Development*. UNDP. Available at **https://www.researchgate.net/publication/264118778_Catalyzing_Climate_Finance_A_Guidebook_on_Policy_and_Financing_Options_to_Support_Green_Low_Emission_and_Climate_Resilient_Development**

62 **http://www.commonwealthofnations.org/sectors-antigua_and_barbuda/business/banking_and_financial_services/**

63 The GoAB refused to sell the country's Scotiabank holdings to Republic Bank and expressed interest in buying the country's holding with assistance from a local consortium. See: **https://business.financialpost.com/news/fp-street/scotiabank-scraps-sale-of-antigua-and-guyana-banks-for-now-amid-regulatory-and-political-pushback**

64 The Bank of Nova Scotia exited nine Caribbean territories in 2019 owing to poor economies of scale and high risk. The CEO in his comments stated that the Bank's strategy was "to focus on those markets with significant scale". The impact of financial risk was also highlighted as a reason for the withdrawal as the CEO further stated that "upon closure of Bank of Nova Scotia in these countries, there would be an expected increase in financial strength of the institution by 10 basis points". See **https://business.financialpost.com/news/fp-street/update-2-scotiabank-to-exit-nine-countries-in-caribbean-shake-up**

65 UNEP Finance Initiative. 2007. *Green Financial Products and Services: Current Trends and Future Opportunities in North America*. UNEP. Available at **https://www.unepfi.org/fileadmin/documents/greenprods_01.pdf**

66 Buckley, T. 2019. *Over 100 Global Financial Institutions are Exiting Coal, With More to Come.* Institute for Energy Economics and Financial Analysis. Available at **http://ieefa.org/wp-content/uploads/2019/02/IEEFA-Report_100-and-counting_Coal-Exit_Feb-2019.pdf**

client-asset and consumer protection".[67] For most countries, the oversight responsibility for the financial sector is shared among several agencies. Bank regulation and supervision may be assigned to the central bank or divided among several government departments or ministries for example. Financial policies include, but are not limited to, monetary policy that refers to the various tools that a central bank can use for influencing money market and credit conditions and for pursuing its monetary policy objectives.[68] Central banks are the institutions responsible for conducting monetary policy, and may be known in some countries as monetary authorities, a currency board, or be a system of central banks in a multinational central bank arrangement. [69] Prudential policy focuses on the supervision of the activities of financial sector actors, for example ensuring that they hold sufficient capital and have adequate risk controls in place.

There was no financial or monetary policy influencing financial flows by rule of law identified in Antigua and Barbuda.[70] ECCB,[71] through its Monetary Council, manages all monetary policy linked to the Eastern Caribbean Economic and Currency Union. The *ECCB Strategic Plan 2017–2021* makes it clear that climate change is a core issue for SIDS[72]. It also highlights the adverse impact of Hurricanes Irma and Maria on economic growth forecasts. Climate resilience is contained within its vision for socioeconomic transformation. ECCB, unlike some other central banks, also has a mandate embodied in the Eastern Caribbean Central Bank Agreement Act of 1983,[73] which is to promote stability, development and integration in addition to managing monetary and financial stability issues.

There are no specific next steps for action at ECCB level outlined in the *ECCB Strategic Plan 2017-2021*. However, the **OECS Commission**, largely responsible for political coordination in the subregion, is aware of the climate change issues faced in the region. The OECS Commission has a memorandum of understanding with the ECCB which shares the vision of the *OECS Development Strategy 2019–2028*.[74] The strategy includes many climate-related actions, including the implementation of climate change resilience programmes in the tourism sector (largely focused on lowering energy consumption and shifting to renewable energy sources), the use of climate-resistant agricultural crop varieties and the development of high-quality climate datasets. It also clearly notes the continued reliance on imported fossil fuels, that leads to "significant leakage of financial resources and energy insecurity" despite significant renewable energy potential in the region. [75] Most relevant to this report, it suggests that OECS will "formulate and implement a policy, strategy and action plan for the mobilisation of financial and other resources to address climate change"[76] though the status, process and deadline for this is not clear. This suggests that Antigua and Barbuda, through its seat on the Board of the ECCB, or through the authority of the Prime Minister, may be able to influence the resulting policy, strategy and action plan of the OECS.

ECCB is responsible for regional monetary policy and there is also a national **Financial Services Regulatory Commission**. This is a statutory body that is independent from the Government and is responsible for regulating and supervising non-bank financial institutions, including insurance companies, money transfer agencies and credit unions, and offshore banks. The Financial Services Regulatory Commission does not appear to have considered climate change in its activities to date.[77]

Two monetary policy instruments were identified through the survey that support Antigua and Barbuda in its response to climate change:

- ECCB has a short-term facility that provides debt finance post-disaster to support liquidity. ECCB provides each country member with an amount calculated on the

67 OECD, 2019. *Glossary of statistical terms. Code of Good Practices on Transparency in Monetary and Financial Policies, Part 1—Introduction*, Approved by the IMF Executive Board on July 24, 2000. OECD. Available at **https://stats.oecd.org/glossary/detail.asp?ID=4469**
68 Monetary policy is that relating to relating to the money supply: the amount of money in circulation, its rate of growth, and interest rates.
69 IMF. 2000. *Supporting Document to the Code of Good Practices on Transparency in Monetary and Financial Policies Part 1—Introduction. Appendix III Glossary of Key Terms*. IMF. Available at **https://www.imf.org/external/np/mae/mft/sup/part1.htm**
70 There are a variety of instruments that can be applied by financial regulators including enhanced supervisory review and market discipline (including risk disclosure, risk assessments and stress testing), as well as enhanced capital and liquidity requirements (including liquidity and lending limits and differentiated reserve requirements), and broader green finance principles that open the discussion around alignment of prudential and climate change objectives in the national finance architecture. See: D'Orazio, P and Popoyan, L. June 2019. Fostering green investments and tackling climate-related financial risks: Which role for macroprudential policies? *Ecological Economics*. 160: pp. 25–37. Available at **https://www.sciencedirect.com/science/article/abs/pii/S0921800918309601**
71 ECCB is owned by six sovereign states(Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines) and two overseas territories of the United Kingdom of Great Britain and Northern Ireland (Anguilla and Montserrat).
72 ECCB. Strategic Plan 2017–2021. *Transforming the Eastern Caribbean Currency Union Together*. ECCB. Available at **https://eccb-centralbank.org/files/documents/Stategic_Plan/ECCB_Stategic_Plan_2017%20Revised%202.2.18.pdf**
73 Antigua and Barbuda, Commonwealth of Dominica, Grenada, Montserrat, Saint Christopher and Nevis, Saint Lucia, and Saint Vincent and the Grenadines, Eastern Caribbean Central Bank Agreement Act (5 July 1983). The consolidated version of the ECCB Agreement showing law as at 31 January 2016 is available at **https://www.eccb-centralbank.org/files/ECCB%20Agreement%20-%2031%20Jan%202016_1.pdf**

74 OECS. 2018. *OECS Development Strategy: Shaping Our Shared Prosperity*. OECS. pp113. Available at **https://oecs.org/en/oecs-development-strategy**
75 OECS. 2018. *OECS Development Strategy: Shaping Our Shared Prosperity*. OECS. Available at **https://oecs.org/en/oecs-development-strategy**
76 OECS. 2018. OECS Development Strategy: Shaping Our Shared Prosperity. OECS. pp125. Available at **https://oecs.org/en/oecs-development-strategy**
77 See the FSRC website at **https://www.fsrc.gov.ag/index.php/home/about-us**

basis of the profit made by the ECCB and, traditionally, profits were received by Antigua and Barbuda as an income stream. However, since the increase in incidence of climate events, these funds are now held and used as a buffer in times of need and are in the region of XCD 30 million, with debt available from the buffer provided for a one-year period at an interest rate of 6.5 per cent;

- ECCB, through the Monetary Council, sets an interest rate floor for banks, which is a minimum interest rate on savings. This was recently reduced from 3 to 2 per cent. This low savings rate encourages banks to loan more and build up their assets. This rate, however, is not for climate specific investments and so encourage investment in general.

There were two further policies identified through the survey that Antigua and Barbuda could potentially use to support finance flows into climate action and away from actions inconsistent with climate change objectives:

(a) A policy to ensure that the Social Security Fund, through which public pensions are paid, is consistent with climate change objectives. Ensuring that the pension funds are not invested in high-emission, maladaptive actions would support global climate action while also reducing the exposure of the pension funds to climate change risks (covering physical, transition and also liability risks).[78] Pension funds are obliged to invest in low-risk assets but also have patient capital owing to their long-term investment horizons. This latter characteristic makes them ideal for financing climate investments, many of which have high upfront costs and so require longer timespans before returns are generated.[79] An investment committee of the Social Security Board has recently been tasked with researching the wealth management of the public pension fund in Antigua and Barbuda. The current legislation governing the types of investment in which the Social Security Fund can invest does not take climate change into consideration. As the Social Security Board is a statutory body, any change to its statutes would need to be passed through Parliament. It is noted that the civil service pension, for which the Antigua and Barbuda Treasury is responsible, is not a fund and therefore does not make investments.

(b) A policy to require the consideration of climate financial risk in primary project financing. Section 40 of the Environmental Protection and Management Act (2019) requires strategic impact assessments to be conducted. As the DOE has the specific power to require another government entity to prepare a strategic impact assessment for any policy, plan or project where there are links to the environment., the Environmental Protection and Management Act (2019) might allow the DOE to require, for example, climate risk assessments or climate stress testing.[80]

5.4.2 Fiscal policy and climate change in Antigua and Barbuda

Fiscal operations are "actions taken by the government to implement budgetary policies, such as revenue and expenditure measures, as well as issuance of public debt instruments and public debt management".[81] Fiscal policies, including taxation, expenditure and contingent financing, are believed to be an underused tool for aligning financial resources towards achieving the aims of the Paris Agreement. The World Bank, for example, has suggested a blend of environmental tax reforms that would finance resilience and offer pre-finance contingency funds to address any increase in the impacts of disasters.[82] The issuance of public debt instruments is covered in section 5.4.3 below, identified specifically as public investment, given the critical role of public finance in crowding in private capital.

The survey identified 10 fiscal policies that were relevant from a climate change perspective. Most are related to risk financing, rather than to risk reduction or residual risk management, and are therefore adaptation actions.

With respect to risk reduction, the survey identified that value added tax exemptions have recently been introduced for shutters. These can reduce the damage costs in the event of a hurricane, but can be prohibitively expensive for some households, particularly in times of low liquidity, such as before a hurricane is due to hit when households prioritise on stocking up on essential goods.

78 Asset Owners Disclosure Project. 2019. Pensions in a changing climate. London: ShareAction. Available at **https://aodproject.net/wp-content/uploads/2019/01/AODP-PensionsChangingClimate.pdf**

79 UNDP. 2011. Catalyzing Climate Finance.: A Guidebook on Policy and Financing Options to Support Green, Low-Emission and Climate-Resilient Development. UNDP. Available at **https://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/democratic_governance/RBAP-DG-2015-CPEIR-Methodological-Guidebook.pdf**

80 Stress testing is a form of supervisory review that evaluates the resilience of the financial system to adverse shocks. Climate stress testing can identify which financial institutions are exposed to emission-intensive assets or highly climate vulnerable assets that can reduce brown investments (high-carbon or maladaptive). This information allows for better capital allocation and can also be a precursor to other instruments.

81 IMF. 2000. Supporting Document to the Code of Good Practices on Transparency in Monetary
and Financial Policies Part 1—Introduction. Appendix III Glossary of Key Terms. IMF. Available at **https://www.imf.org/external/np/mae/mft/sup/part1.htm**

82 The World Bank. 2019. Fiscal Policies for Development and Climate Action. World Bank. Available at **http://documents1.worldbank.org/curated/en/340601545406276579/pdf/133156-REPLACEMNET-PUBLIC.pdf**

With respect to risk retention (such as contingency and reserve funds, ex-ante contingent credit and ex post borrowing), the survey identified that:

- The Caribbean Union Bank, a domestic commercial bank, offers ex-ante contingent credit through an overdraft facility that is triggered by a natural disaster. It offers XCD 15 million at a 15 per cent fixed interest rate. Antigua and Barbuda made use of this tool following Hurricane Irma in 2017, though it did not use the full amount available;
- CDB offers ex-post borrowing through a facility where loans are repaid over the year following a disaster. The interest rate on the lending is the typical ordinary capital rate, in the range of 4–5 per cent. Two types of loans are available: one to service the additional loans held with CDB and the other a natural disaster facility where detailed justifications and invoices are required (the limit for this second type of loan is around XCD 500,000);
- Antigua and Barbuda also uses ex-post budget reallocation in the event of a disaster. There is no provision for this in the Finance Administration Act (2006), however, and an ongoing project is working to address this. To date, this facility has not been used and instead there have been reallocations between instruments available under regulation.

With respect to risk transfer and pooling (such as multi-country sovereign disaster insurance, insurance of public assets and catastrophe bonds), the survey identified that:

- Multi-country sovereign disaster insurance is offered by CCRIF, which pools regional risk, at a sovereign level, and makes use of capital markets to mitigate cash flow problems after disasters. It is a parametric insurance facility, where insurance payments are triggered by substantial deviation from risk models rather than reporting of losses. CCRIF reports that Antigua and Barbuda received USD 6,794,875 in 2017 following Hurricane Irma. CCRIF currently offers tropical cyclone and excess rainfall policies to Antigua and Barbuda and plans to expand its offerings.[83]

- All government buildings in Antigua and Barbuda are insured by State insurance. The State Insurance Corporation used to be a statutory body but is now part of National Assets Management Company Ltd. The cost of the insurance is in the region of XCD 7 million annually.

With respect to fiscal policies that build energy security and reduce emissions, the survey identified that there are value added tax exemptions in Antigua and Barbuda for renewable energy.

For cross-cutting fiscal policies, towards both adaptation and mitigation:

- An environment levy on cars was introduced in 2002 by the Environment Division (now the DOE). In 2017, the revenues raised from this levy were in the region of XCD 3.4 million. These revenues are not earmarked for a specific purpose and return to the Consolidated Government Fund. There have historically been many exemptions to the levy, but efforts are currently under way to reduce or prevent these;
- The National Solid Waste Management Authority, which is responsible, for example, for managing landfill and separating waste, has bottle and can and cruise ship levies in place. These revenues are raised by, and return to, the National Solid Waste Management Authority;
- From March 2020 onwards, there will be a tourism accommodation levy in Antigua and Barbuda. This will be at least USD 3 per guest per night, depending on the cost of the accommodation, and is likely to support the national Climate Resilience and Development Fund (see section 5.4.3 below).

No high-emission or maladaptive fiscal policies were highlighted through the survey. Antigua and Barbuda has no known fossil fuel resources, however, and therefore relies almost exclusively on imported fossil fuels for energy. Heavy fuel oil is imported for electricity generation, gasoline and diesel for transport and liquefied petroleum gas for cooking. This dependence is reflected in the country's national emissions, of which 84 per cent came from the energy and transport sector in 2015. This is not uncommon in SIDS, which are typically net importers of fossil fuel.

In light of Antigua and Barbuda's historically low level of responsibility for climate change, this is considered a maladaptation rather a high-carbon action. The reliance on fossil fuel imports, however, requires significant domestic revenue and raises debt which constrains fiscal space and increases uncertainty owing to fuel price fluctuations. Fossil fuel imports in 2014 were valued at USD 165.4 million, which is equivalent to 13.7 per cent of Antigua and Barbuda's GDP. In addition, consumers in Antigua and Barbuda pay among the highest electricity prices in the world: in excess of USD 0.40 per kWh.

High electricity rates in Antigua and Barbuda inhibit adaptation strategies, such as energy-intensive seawater

83 CCRIF was developed and made operational in 2007 by the World Bank, with grant funding from Japan, and the multi-donor trust fund was capitalised by Bermuda, Canada, the European Union, France, Ireland, the United Kingdom, the World Bank and CDB, as well as through membership fees paid by participating governments. In 2014, CCRIF became a segregated portfolio company owned, operated and registered in the Caribbean. See **https://www.ccrif.org/en/about-us**

desalination. They also inhibit the provision of essential services, disadvantage small businesses and low- and middle-income households and inhibit economic growth. Working with SIDS to advance alternative systems, such as renewable energy, will both reduce emissions and support the structural economic shifts that are needed to confront climate change in the long term.[84]

Six new fiscal policy ideas were identified by the survey. These are not elaborated in detail here, but a high-level overview is provided that might stimulate further conversations in Antigua and Barbuda:

(a) Sustainable public procurement. Public authorities are major consumers of construction, food and catering services, and vehicles and other transport, for example. The choices made through procurement for more climate-compatible goods and services will increase the demand for such products and encourage green market development.[85] The Ministry of Finance and Corporate Governance is running a project, financed by Canada, to explore post-disaster public financial management procedures and the next stage is to document procedures that will support the identification of direct costs in budget spending;
(b) A levy on airplanes. Initial discussions were held with the International Aviation Transport Authority at COP 25. It is likely, however, that identification of the adverse impacts of airlines in Antigua and Barbuda at a national level would be required before discussions with the International Aviation Transport Authority are furthered;
(c) A levy on carbon or setting a carbon price has been discussed at the national level. These discussions have focused on the context of phasing out fossil fuel, transitioning to electric vehicles and considering the existing high level of taxation on cars. In this context the feasibility of a carbon levy or carbon price is not clear;
(d) The World Bank is considering offering a catastrophe facility, which could be relevant to Antigua and Barbuda. The facility would be triggered by an event, such as a storm and would be an OECS facility so, if an event occurs, the access to finance would be more than that available if the facility were for a single country. It is therefore expected to have higher payouts than CCRIF;
(e) Debt relief is seen as an innovative or alternative solution to generating finance for climate action. It would see national debt cancelled in exchange for financing actions on climate change.[86] For Antigua and Barbuda, a country that is heavily indebted, for example owing in excess of USD 110 million to the Paris Club creditors, this could increase capacity to respond to physical climate risks by expanding the country's ability to take on further debt financing for climate adaptation;
(f) Initial discussions have been held on issuing green or blue bonds. Bonds are a form of debt usually issued by corporations, governments or other institutions to raise capital. They have fixed income, determined by the level of risk (often identified by a credit rating) and are tradeable on capital markets. Green bonds have been developed specifically to fund renewable energies, energy efficiency and clean transportation but have also been used for forestry, water projects and resilient infrastructure. Blue bonds fund ocean-friendly activities. However, substantial efforts would be required to issue bonds and discussions at a national level are still at an early stage.

5.4.3 Public investment and climate change in Antigua and Barbuda

Public finance influences investment behaviour by lowering the cost or risk-taking of capital. Note that, for this report and in the survey, a narrow definition of public finance was used that excluded expenditures through fiscal policy (see section 5.4.2 above) and public budgets (see section 5.1 above). The public finance focus in this section is the expenditure from Antigua and Barbuda's majority Government-owned financial institutions and funds. For example, while the public resources used to establish or capitalise a public fund or institution would be captured under use of public budgets and fiscal policy, the grants, loans or guarantees disbursed by those public funds or institutions and the rules governing that disbursement would be captured under the category of public finance. Public finance targets barriers to climate investments and can catalyse private investment while its parallel provision of technical assistance can build capacity and pipelines to projects. Concessional public finance, including grants, is also central to supporting research and innovation, capacity-building and the provision of public goods, such as investments in adaptation, that the private sector may be unwilling or unable to undertake.

84 Government of Antigua and Barbuda. 2015. Intended Nationally Determined Contribution. Available at **https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Antigua%20and%20Barbuda/1/INDC_Antigua_Barbuda.pdf**

85 See: OECD. 2015. Going Green: Best Practices for Public Procurement. OECD. Available at **http://www.oecd.org/gov/public-procurement/Going_Green_Best_Practices_for_Sustainable_Procurement.pdf**

86 Fontaine, T. 2019. Design of a debt for climate adaptation swap initiative and growth generation strategy for the Caribbean region. Economic Commission for Latin America and the Caribbean.

Antigua Barbuda Development Bank, whose operations are underpinned by the Antigua and Barbuda Development Bank Act (1974),[87] has a mandate to support national development objectives. It is currently being restructured and could contribute to national climate change objectives in the future.

Public investment in Antigua and Barbuda also includes the SIRF Fund, the granting and on-lending financial mechanism of the DOE.[88] The SIRF Fund is intended to provide finance to implement the Environmental Protection and Management Act (2019), in particular for adaptation, mitigation and loss and damage response projects, and to mobilise private sector financing at both the household and small business level. It can be financed through domestic funding (such as national park entry fees, pollution charges, taxes and levies) and international funding, as the SIRF Fund acts as an implementing entity for bilateral and multilateral funding sources. The SIRF Fund can be accessed by the public and private sectors and non-governmental and community organisations in Antigua and Barbuda, as well as other OECS Member States. It is intended that the private sector, in particular the tourism sector, will be engaged through consultations under the GCF Readiness and Preparatory Support Programme, and the DOE will facilitate private sector engagement with the regional and international accredited entities of the GCF that have the potential for on-lending or the blending of commercial and non-commercial capital.[89] In this way, it is hoped that the SIRF Fund will play a key role in vertically programming climate finance to communities and the local private sector. The SIRF Fund is not analysed in this report, however, as no disbursements have yet been made.

In his budget speech in 2020, the Prime Minister introduced the **Climate Resilience and Development Fund**,[90] which is intended to finance projects and programmes that will build climate resilience, provide a buffer for public finances in times of natural disasters and support climate-resilient development of the country. The source for the Climate Resilience and Development Fund is intended to be the tourism accommodation levy, but the relevant legislation has not yet been passed. The levy will apply to hotel accommodation, guest houses, apartments, Airbnb rentals and villas. As the Climate Resilience and Development Fund develops, it is likely to be a strong source of finance for climate action in the country.

Antigua and Barbuda also makes use of public-private partnerships, which are collaborations between a government and a private sector company. The blending of finance and expertise can be used to finance and implement projects and the risks are shared between the public and private sectors, rather than borne solely by the public sector in the case of public procurement, for example. In Antigua and Barbuda, a public-private partnership has been established between APUA and the clean energy company PV Energy to support the transition of homes to renewable energy.

It is worth considering how Antigua and Barbuda can further influence wider public flows of finance to be climate consistent. International public finance provided to Antigua and Barbuda that is concessional in nature and clearly climate relevant is identified in section 5.2 above. Antigua and Barbuda also receives international public concessional finance that is not focused on delivering climate action and public finance that is not concessional in nature.

The Aid Atlas, which draws on OECD DAC datasets, states that commitments to Antigua and Barbuda were USD 206.9 million for 2014–2017.[91] This includes equity, ODA grants and loans and other official flows[92]. Of this amount, 20 per cent (USD 41.0 million)[93] has been designated to projects with significant or principal climate change adaptation or mitigation objectives. Further assessment could establish the degree to which the remaining USD 165.9 million in commitments will support, hinder or be neutral in achieving Antigua and Barbuda's climate objectives.

The Ministry of Finance and Corporate Governance holds a **debt database** under the Debt Unit and Commonwealth Secretariat Debt Recording and Monitoring System that is understood to include datasets on lending from MDBs,[94] CDB and other development finance institutions. The records include loans that date back to the 1960s, but the digital database did not come into force until the mid-1990s. It might be possible to use this debt database to identify public financed, non-concessional projects that have relevance to climate action (both positive and negative). Between 2009 and 2019, CDB borrowing

87 See: **http://www.sice.oas.org/SME_CH/ATG/Dev_Bank_Act_cap_24_e.pdf**
88 See **https://environment.gov.ag/sirf**
89 GCF. 2017. *Country Programme: Antigua and Barbuda,* 2017. GCF. Available at **https://www.greenclimate.fund/document/antigua-and-barbuda-country-programme**
90 Government of Antigua and Barbuda. 2020. *2020 Budget Statement*. Available at **https://ab.gov.ag/pdf/budget/Budget_Speech_2020.pdf**
91 The Antigua and Barbuda profile on Aid Atlas is available at **https://aid-atlas.org/profile/all/antigua-and-barbuda/all/2002-2017?valueType=usd_commitment**
92 These are officially supported international finance flows that are not motivated by development objectives but by commercial and foreign policy objectives.
93 Note that this figure overlaps with the international grant and concessional public finance datasets recorded by the DOE in this assessment and overview.
94 It is noted, however, that Antigua and Barbuda is not an Inter-American Development Bank member, so money from the European Investment Bank and World Bank is channelled through CDB.

(including funds from other development banks that programme funds to Antigua and Barbuda through the CDB, see box 1) was, on average, just over XCD 51 million per year.

Some of this funding will be climate related. Antigua and Barbuda's CDB portfolio for the last 10 years includes borrowing to support the retrofit of street lights with light-emitting diodes, and loss and damage response, rehabilitation and reconstruction after Hurricane Irma in 2017, for example. In addition, the International Renewable Energy Agency has provided two loan facilities of USD 15 million to Antigua and Barbuda to support the transitioning of public buildings to renewable energy sources.

It is understood that the Ministry of Finance and Corporate Governance maintains a list of all the grant-funded activities, which may not be capital projects, that could be reviewed to identify if there are any projects that have relevance for climate change, positive or negative.

As development finance institutions increasingly consider the alignment of their spending with climate change objectives (box 2), Antigua and Barbuda could also apply a country-level approach to ensure its receipts are aligned with its climate objectives. This does not imply that all finance has to be directed to climate benefit, but it suggests that it should not increase emissions or vulnerability to adverse climate change impacts. In developing such an assessment, Antigua and Barbuda could build on methods similar to those outlined for domestic spending (see section 4.2.2.1 above), expanding into identifying spending types that are inconsistent with climate objectives, or it could set high-level negative lists (of activities that will not be funded), for example.

Box 2. **Alignment of development finance institutions with climate objectives**

Development banks and other development finance institutions are critical in providing finance to help countries deliver on their NDCs. This includes MDBs and also a range of national and regional development finance institutions, such as the 23 national and regional development finance institutions represented by IDFC.

Both MDBs and IDFC members are engaged in progress reporting for climate and green finance and are also working to harmonise definitions and methods. There has also been increasing public scrutiny of the non-climate part of their portfolio, such as their continued investment in high-emission projects. Such scrutiny led to the announcement in 2017 that the World Bank would end funding to the upstream exploration and extraction of oil and gas by 2019, for example. This has also led to a body of work on the alignment of development finance institutions with the Paris Agreement.

Development finance institutions have increasingly made commitments to tackle climate risks and minimise GHG emissions when making investment decisions. This can be achieved at the upstream governance level through setting targets, goals and strategic direction, or at a downstream structuring and appraisal level through evaluation process guidance or exclusion criteria. Some suggest that MDBs in particular could expand climate investment further through either expanding the availability of development assistance or boosting climate-related investment directly.

Initial research suggests varying progress among the development finance institutions. While many development finance institutions have, or are developing, climate strategies or integrate climate change into key sectoral strategies, few have fully integrated climate risk screening or assessment to apply internal carbon pricing to investment decisions. In 2018, CDB, which provides finance to Antigua and Barbuda directly and also through other development finance institutions, launched an updated Climate Resilience Strategy 2019–2024, focusing on disaster risk and poverty reduction. CDB is also an accredited entity of two multilateral climate change funds. The degree to which all finance flows are aligned with climate objectives, however, is not clear.

Sources: OECD. 2017. *Investing in Climate, Investing in Growth*. Paris: OECD. Available at **http://www.oecd.org/environment/investing-in-climate-investing-in-growth-9789264273528-en.htm**; Cochran I and Deheza M. 2017. *Building Blocks of Mainstreaming: A framework for integrating climate change across financial institutions*. Institute for Climate Economics. Available at **https://www.i4ce.org/wp-core/wp-content/uploads/2017/06/0619-I4CE-ReportClimat-BuildingBlocksMainstreaming.pdf**; Germanwatch and NewClimate Institute. 2018. *Aligning Investments with the Paris Agreement Temperature Goal: Challenges and Opportunities for Multilateral Development Banks*. Cologne, Bonn and Berlin: Germanwatch and NewClimate Institute. Available at **https://germanwatch.org/en/15897**; Granoff I et al. 2017. *Six development finance proposals to expand climate investment*. ODI. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/11362.pdf**

5.4.4 Information instruments and climate change in Antigua and Barbuda

Information instruments influence investment behaviour by raising awareness of climate risks and opportunities. For example, a number of governments are developing voluntary green finance taxonomies and standards and other governments have made voluntary commitments to initiatives focusing on the appropriate disclosure of climate risks or are putting in place plans to address them.[95]

The survey revealed few information instruments that are being used in Antigua and Barbuda for promoting consistency of all finance flows with climate objectives. Only the Paris Agreement and the commitments therein was identified as an information instrument, instructing the behaviour of government actors.

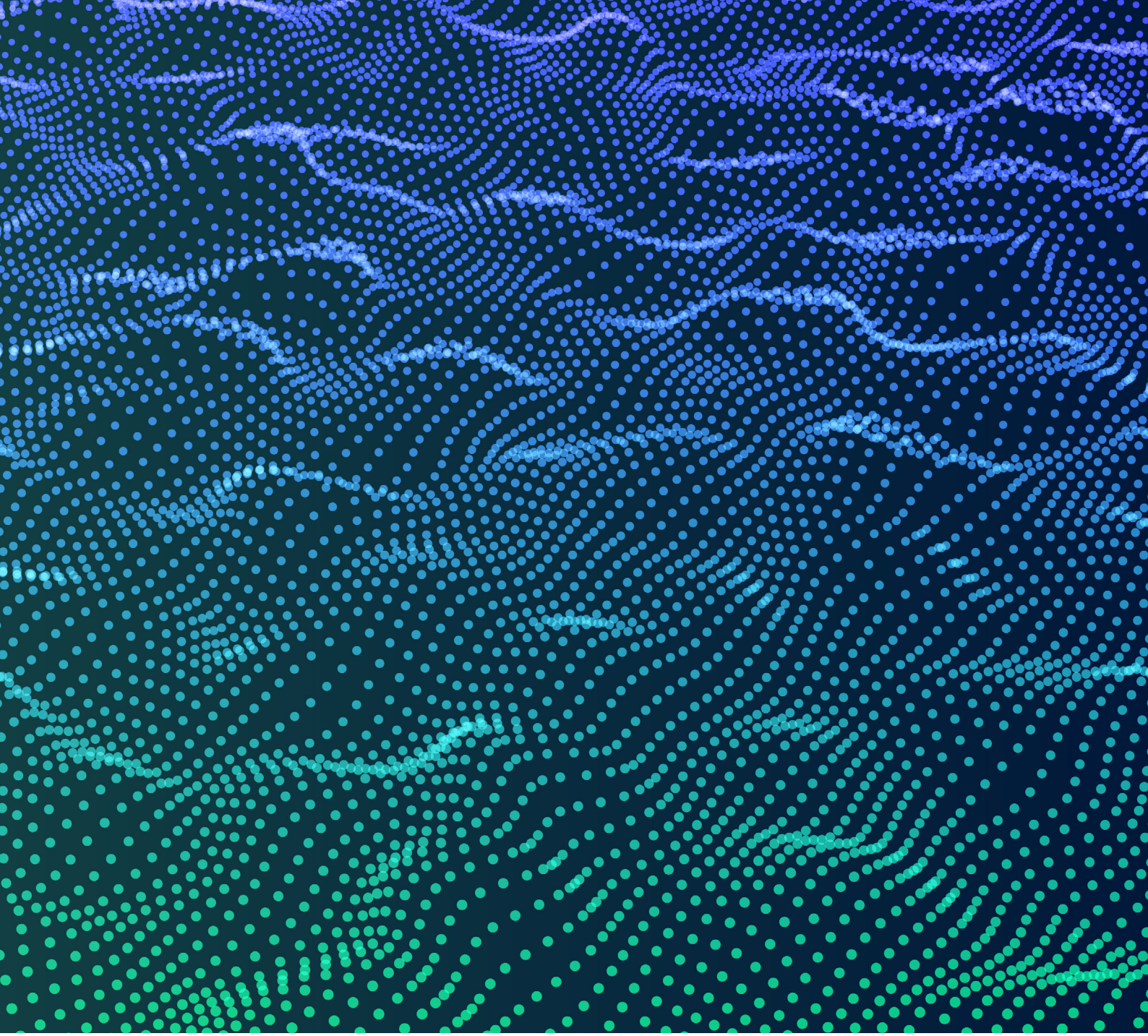
While the survey did not identify many information instruments, there may be opportunities to employ them or to learn lessons from other processes. There is a general sense in the population that renewable energy and energy efficiency are good. However, there is poor awareness of the technologies, market potential and availability of, and access to, renewable energy resources. Information instruments, in combination with fiscal incentives, could play a strong role in raising awareness in the country. The nationwide ban on single use plastic, introduced in 2016, has educated the public effectively and lessons could be learned from that process and the associated awareness and outreach campaigns.

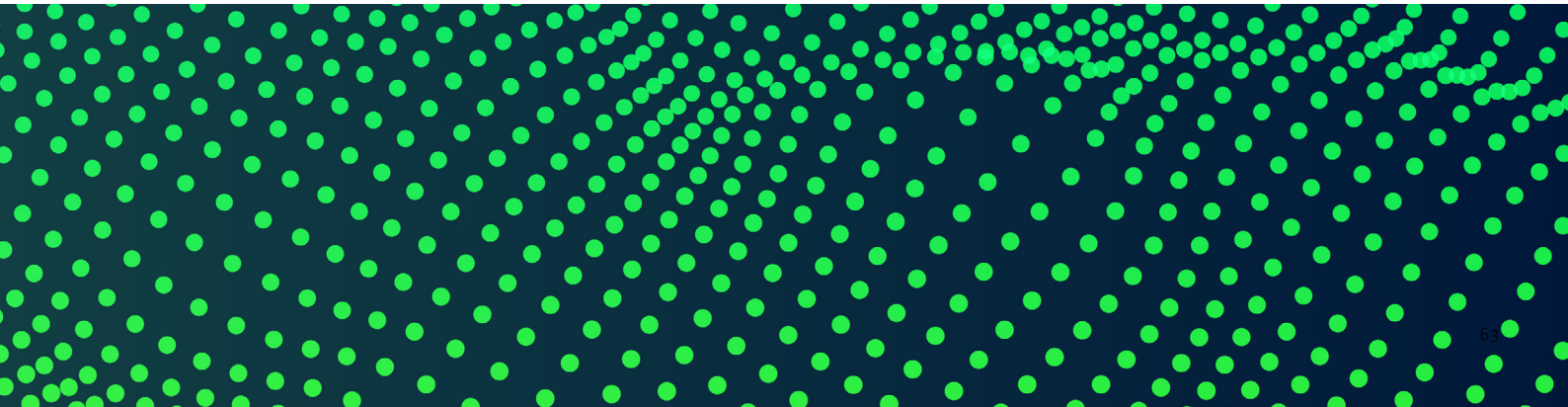
95 See Whitley et al. 2018. *Making finance consistent with climate goals: insights for operationalising Article 2.1c of the UNFCCC Paris Agreement.* ODI, WRI, E3G and RMI. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/12557.pdf**

Image: @Simply Antigua Barbuda

6

Assessment of climate finance





Assessment of climate finance

6.1 Total climate finance flows in Antigua and Barbuda

This report has identified a significant amount of finance that is flowing in Antigua and Barbuda to support climate action. Table 11 summarises the report findings across key areas of analysis. Domestic public expenditure for 2014–2017 that was climate relevant amounted to XCD 116.6 million (USD 42.9 million), which equates to an annual average of XCD 29.1 million (USD 10.7 million). Receipts of XCD 12.1 million (USD 4.5 million) from international public concessional flows for climate action were received during 2014–2017, which equates to an annual average of XCD 3.0 million (USD 1.1 million) in climate-related international public concessional finance flows.

Table 11: **Summary of climate finance analysis and results**

Theme of analysis	Source of data and method	Summary of results
Domestic public finance flows	Budgets and development estimates for 2014–2017 and COFOG Climate; CPEIR adapted for the Antigua and Barbuda context (see section 4.2.2.1).	An annual total of XCD 29.1 million (USD 10.7 million) of domestic public expenditure for 2014–2017 was found to be climate relevant ; Mainly capital, rather than recurrent, spending. An average of 17 per cent of capital expenditure was climate related, whereas only 2 per cent of recurrent expenditure was climate relevant. Capital spending was higher in 2017 than in the previous three years; A total of 90.2 per cent of all climate-related spending went towards adaptation, which can be further divided as 84.7 per cent for recurrent and 99.7 per cent for capital expenditure; The highest relative climate-related spending was in NODS (67 per cent), followed by the DOE (49 per cent).
International public finance flows	DOE database. Estimates for 2014–2017; Annually disbursed amounts received through multilateral and bilateral sources for Antigua and Barbuda's response to the adverse effects of climate change (see section 4.2.2.2).	Receipts of XCD 12.1 million (USD 4.5 million) from international public concessional flows for climate action for 2014–2017. This equates to an annual average of XCD 3.0 million (USD 1.1 million); Of the international public finance disbursed, 93 per cent is multilateral in nature and from key multilateral climate change funds (GCF, AF, SCCF and GEF Trust Fund (Climate Change Focal Area)) A total of 64 per cent of disbursed international public finance is programmed for adaptation actions, only 11 per cent for mitigation actions and 25 per cent is cross-cutting; Of the 18 recorded projects, 17 were grant-based.
Private finance flows	Data unavailable. Qualitative analysis conducted via desk research.	The private sector is dominated by small, service-based companies, though large and foreign-owned companies dominate in the tourism and utilities sectors. Slowly, small-scale actors in fisheries and tourism are becoming increasingly aware of adverse climate change impacts and risks; Institutional investors are the main providers of commercial capital, dominated by domestic and international commercial banks. Although they are well developed as financial institutions, their engagement with climate change has been limited to date, with no clear climate change strategies in their operations or lending criteria.
Consistency of all finance flows	Expert interview and survey.	Monetary and financial policy and regulation require discussions at the regional level, which appear only to be in the early stages but have the potential to develop, in particular through ECCB; Fiscal policies for resilience focus largely on risk retention, while engaging in discussion on the controversial topic of expenditure on fossil fuels could reveal opportunities to create fiscal space; Antigua and Barbuda has created two funds that will support the programming of public finance to accelerate climate investment. There has not yet been any consideration of the degree to which wider public finance, including international non-concessional flows, are consistent with Antigua and Barbuda's climate objectives; Few information instruments have been employed, despite the potential of these instruments use in Antigua and Barbuda.

For **climate-related domestic public expenditure**, the adverse impact of climate-related natural disasters is clear. This is through the dominance of adaptation actions in the budget, the capital focus of climate-related spending and through the departments that have the highest relative climate change spending, namely NODS and the Meteorological Office. In light of increasing severity and frequency of severe weather events these, and other, departments will need to continue current levels or, in some cases, ramp climate change actions.

There are ongoing projects in Antigua and Barbuda that will strengthen the methods applied and increase confidence and buy into this report's results. This includes through GCF Readiness Support for Accelerating a transformational pipeline of Direct Access climate adaptation and mitigation projects in Antigua and Barbuda, which aim to build monitoring and verification systems for climate finance flows. This ongoing work in Antigua and Barbuda can improve the method applied to track budget spending relevant for climate action, but should be strongly linked to, and inform efforts to guide, public financial management ex-ante and ex-post.

For **international public concessional finance for climate action**, it is very clear that multilateral climate finance from core climate funds is highly important in Antigua and Barbuda. This has focused on adaptation as well as capacity-building, for example, in UNFCCC reporting processes and climate finance readiness, and is predominantly grant-based. In light of changing eligibility for development finance (box 1) and challenges in accessing capital markets (box 4), the multilateral climate change funds are likely to remain highly important for Antigua and Barbuda in the future. It is further recognised that these sources of climate finance have a role in greening less concessional finance and development projects and plans. This was seen, for example, in the use of GCF financing to pay the incremental costs of making road infrastructure in Antigua and Barbuda more climate-resilient (box 3).

Box 3: **Shifting brown finance flows to green: climate-resilient roads in Antigua and Barbuda**

For many developing countries, such as Antigua and Barbuda, building a society and economy that is low-carbon and climate-resilient is critical. Embedding resilience in project design is, however, associated with increased upfront cost of up to 5 per cent. Antigua and Barbuda's decreasing access to highly concessional finance (see box 1) coupled with its high debt obligations exacerbate this challenge as the Government is unable to take up additional debt to cover the incremental costs for climate proofing investments.

International grant and concessional public finance from dedicated multilateral climate change funds such as the GCF can support the embedding of resilience in infrastructure investments. It can absorb the incremental costs of adaptation and shift traditional commercial capital toward low-carbon and climate-resilient activities, namely greening financial flows.

The GCF Roads project – *A Blueprint for Adapting Road Infrastructure to Projected Climate Extremes in Antigua and Barbuda* – in Antigua and Barbuda is a useful example of this. The project will embed climate resilience into the existing national RIRRP, which is being financed by a USD 45 million loan from the CDB. The climate vulnerability assessment for the project recommended that the roads be designed for a one in 50-year event, but, on the basis of its economic feasibility study, CDB was only able to approve funding to finance a 20-year return period event, thus perpetuating brown flows by financing a project with insufficient consideration for climate risks.

Embedding a greater level of resilience in the road network for a 50-year return period extreme event required additional financing. Given Antigua and Barbuda's high indebtedness, absorbing additional debt would not be feasible, particularly given that current economic models do not price in the resilience benefits.
The international grant and concessional public finance sought from the GCF aims to overcome the market failure of the mispricing of physical climate risk in infrastructure investment, as in the case of RIRRP, by:

(a) Enhancing the resilience component of a traditional capital project, facilitating not just the extent to which a single asset is resilient but also facilitating system-wide resilience. Access to the relevant funding will allow Antigua and Barbuda to adopt transformative climate resilience which included burying the electricity lines of utilities underground (100 per cent incremental cost) and adapting water lines (30–50 per cent incremental cost)[96]. This design will result in a total incremental cost of approx. USD 42.1 million;

(b) Developing capacity to enter green finance markets. The rigor and level of transparency and reporting associated with accessing such funding exposes developing countries to market integrity and governance, which are key principles of green and sustainable finance. As highlighted in box 1, the change of Antigua and Barbuda's economic classification to that of high income grants the country access to international capital markets. As such, international concessional finance and the process of accessing such finance contributes to greening financial flows by not just 'financing green' but also by creating an enabling environment and increasing the capacity of developing countries to enter green finance markets.

Sources: Climate Transparency. 2017. *Financing the transition from brown to green: how to track country performance towards low carbon, climate-resilient economies.* ODI and Humboldt-Viadrina Governance Platform. Available at **https://www.odi.org/publications/10997-financing-transition-brown-green-how-track-country-performance-towards-low-carbon-climate-resilient**; UNEP. 2015. *The Financial System We Need: Aligning the Financial System with Sustainable Development*. UNEP. **https://www.un-ilibrary.org/environment-and-climate-change/the-financial-system-we-need_599999aa-en**

96 This costing is based on the findings from a cost assessment for the GEF-funded SCCF project entitled Building Climate Resilience through Innovative Financing Mechanisms for Climate Change Adaptation.

The increased engagement of private sector actors in Antigua and Barbuda presents a gap to be addressed in the country's climate finance architecture. This is especially true as studies[97] highlight that the majority of total climate finance investments are domestically sourced, with the private sector providing up to 63 per cent of these domestic climate finance flows. Efforts should be tailored and are likely to vary between those for large and foreign-owned companies and for smaller, service-based companies in Antigua and Barbuda. There is also an opportunity to target institutional investors, both domestic and international, to integrate climate change into their operations or lending criteria. This need for stronger engagement has driven the inclusion of the private sector sustainable financing strategy in Antigua and Barbuda's national adaptation plan. Figure 11 is a preliminary mapping document of relevant stakeholders in this regard. This is expected to increase engagement from the relevant financial institutions and also from insurance companies, is currently under development and is due to be delivered in 2021. As ongoing risk-mapping activities in Antigua and Barbuda highlight the financial materiality of climate risk, it is expected that the private sector will increasingly become an integral component of Antigua and Barbuda's climate finance landscape.

97 Whitley, S., Norman, M. and Canales Trujillo, N. 2016. *Mobilising Private Climate Finance in Lower-Income Countries*. ODI. Available at **https://www.odi.org/sites/odi.org.uk/files/resource-documents/10535.pdf**; Oliver, P, Clark, A, and Meattle, C. 2018. *Global Climate Finance-An Updated View, 2018*. Climate Policy Initiative. **https://climatepolicyinitiative.org/wp-content/uploads/2018/11/Global-Climate-Finance-_-An-Updated-View-2018.pdf**

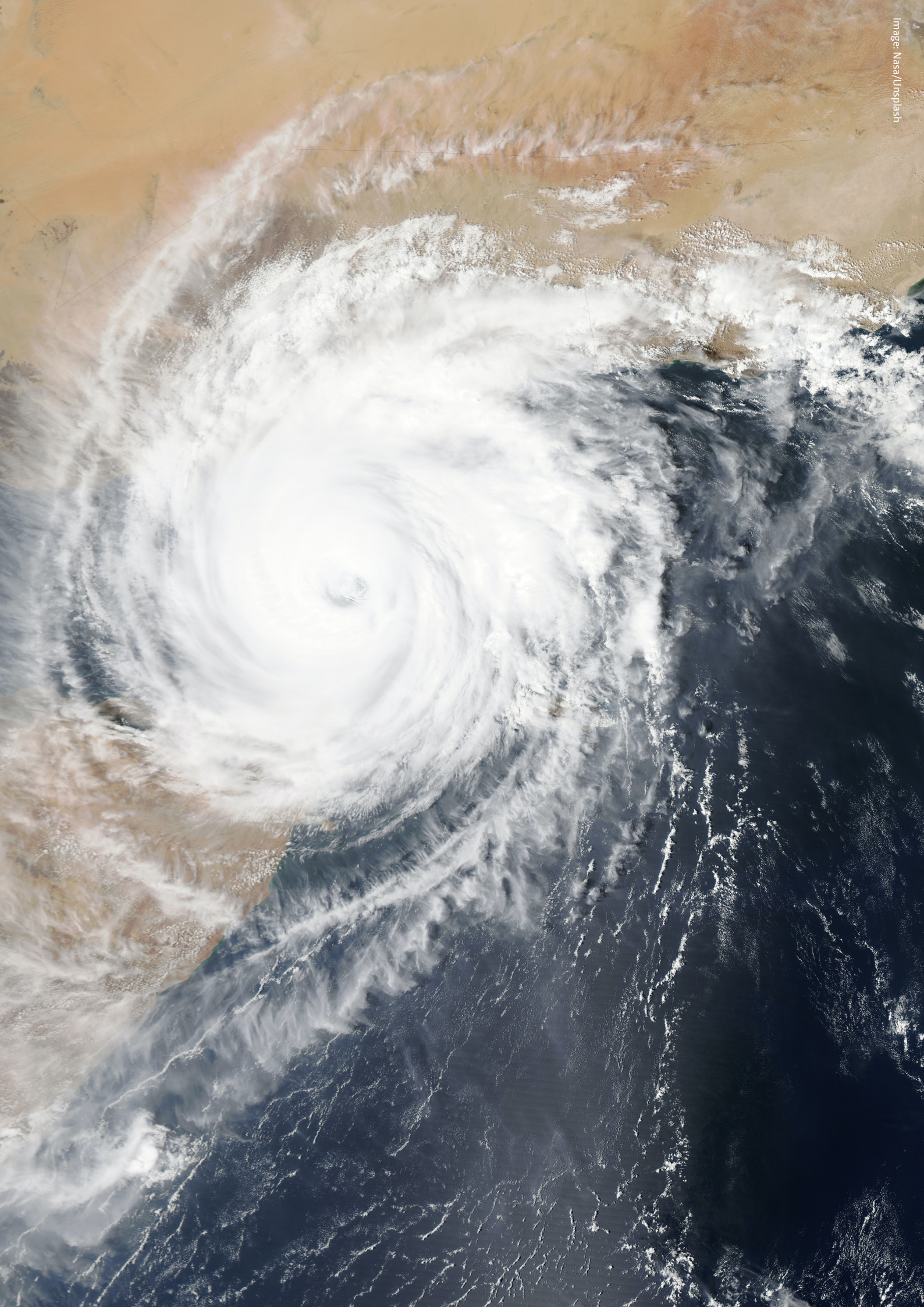
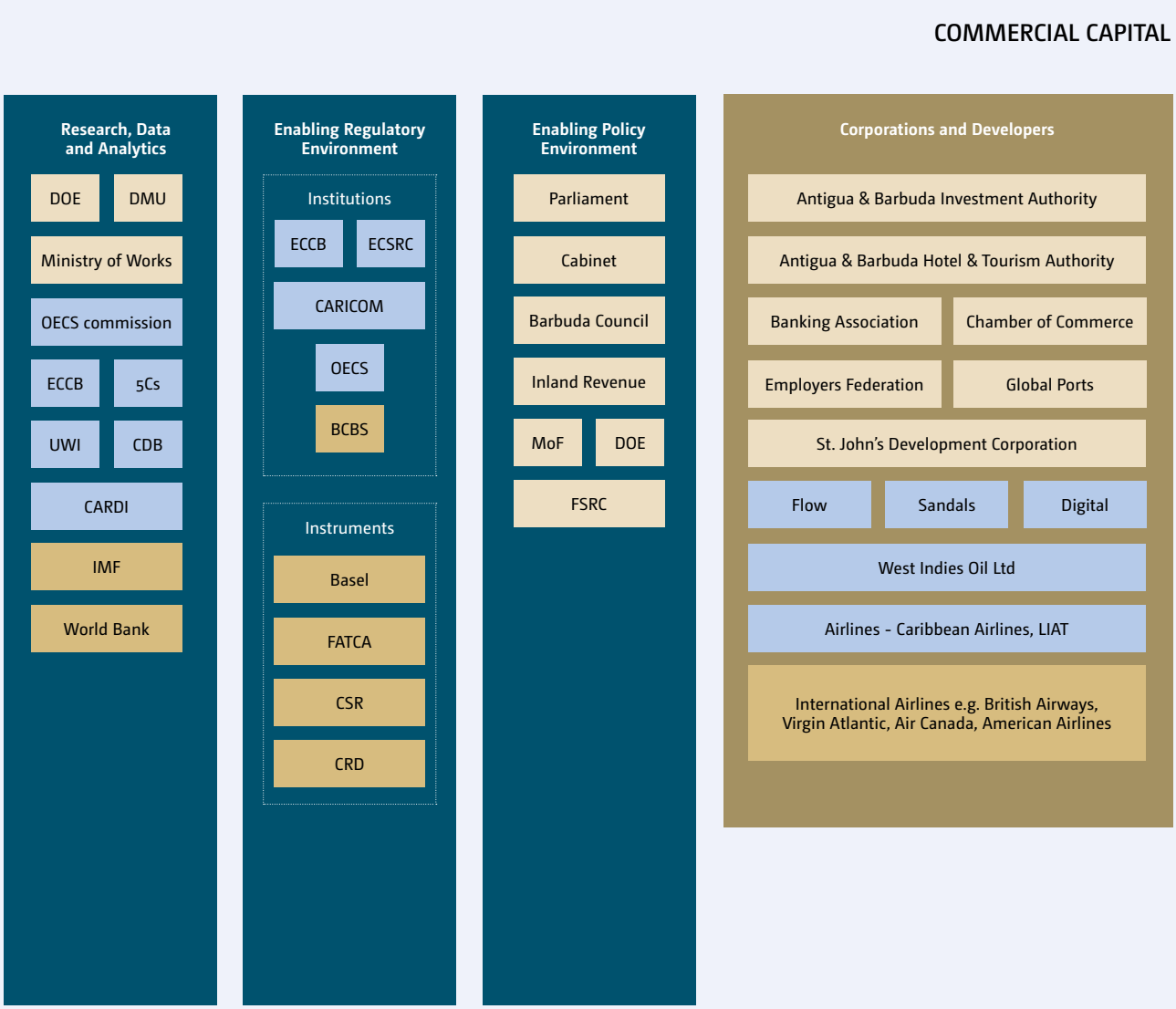
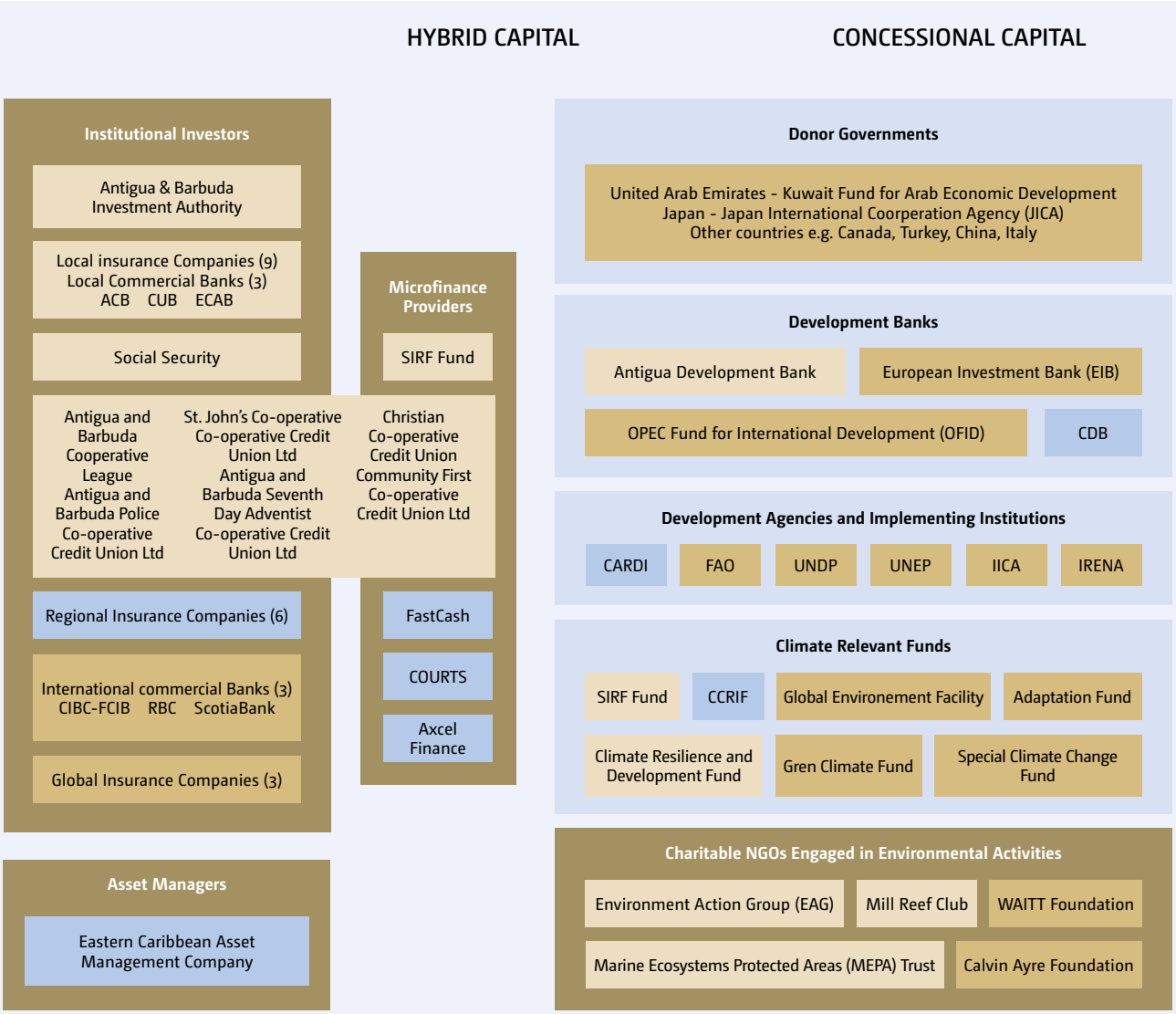


Image: Nasa/Unsplash

Figure 11. **Example stakeholders relevant to climate change and finance in Antigua and Barbuda**



5Cs	The Caribbean Community Center for Climate Change	CRD	Climate Risk Disclosure
ACB	Antigua Commercial Bank	CSR	Corporate Social Responsibility
BCBS	Basel Committee on Bank Supervision	CUB	Caribbean Union Bank
CARDI	Caribeean Agriculture Research and Development Institute	DMU	Data Management Unit
CARICOM	Caribbean Community	DOE	Department of Environment
CCRIF	Caribbean Catastrophe Risk Insurance Facility	ECAB	Eastern Caribbean Amalgamated Bank
CDB	Caribbean Development Bank	ECCB	Eastern Caribbean Central Bank
CIBC	Canadian Imperial Bank of Commerce	ECSRC	Eastern Caribbean Securities Regulatory Commissoiin



	FAO	Food and Agriculture Organisation	MoF	Ministry of Finance
	FATCA	Foreign Account Tax Compliance Act	OECS	Organisation of Eastern Caribbean States
	FCIB	First Caribbean International Bank	OPEC	Organisation of Petroleum Exporting Companies
	FSRC	Financial Services Regulatory Commission	RBC	Royal Bank of Canada
	IICA	Inter-American Institute for Cooperation on Agriculture	SIRF	Sustainable Island Resources Framework
	IMF	International Monetary Fund	UNDP	United Nations Development Programmes
	IRENA	International Renewable Energy Agency	UNEP	United Nations Environment Programmes
	LIAT	Leeward Islands Air Transport	UWI	University of the West Indies

There are clear **datasets gaps** in assessing total climate finance flows in Antigua and Barbuda. A number of these could be partially filled or explored by further analysis:

- There is a lack of datasets on private finance flows for climate change, which is a common global datasets limitation. As outlined in section 4.2.2.3 above, datasets can be hard to come by as a result of definitional issues, restrictions based on confidentiality and accounting issues where datasets are available. Further engagement with private sector actors and investment in the application of existing methods to map private finance flows would help to fill this datasets gap. It is important, however, that these exercises are undertaken with a clear objective in mind, such as shifting incentives for private finance (e.g. subsidies or tax breaks) or crowding in private finance through de-risking tools (e.g. development of guarantees);

- The method for assessing climate-related budget expenditure could be developed further. It is clear from the method described in section 4.2.2.1 that this report is an initial attempt to rapidly assess domestic public finance flows in Antigua and Barbuda. There was insufficient time to establish a cross-government stakeholder group so that the definitions and climate relevance index could be agreed upon. As such, there is an element of subjectivity in the existing assessment. Further investment of resources would refine these estimates. In addition to seeking wider acceptance for the definitions and climate relevance index, work could be undertaken to identify the degree to which climate-relevant finance flows to adaptation, mitigation or loss and damage response, and to consider how much finance is flowing to activities that are inconsistent with Antigua and Barbuda's climate objectives;

- There are challenges in identifying **off-budget flows** to SOEs in Antigua and Barbuda, such as in the case of APUA, a statutory corporation that is responsible for the generation and distribution of electricity, water and telecommunications in Antigua and Barbuda (see section 5.1).[98] Significant work would be needed to understand fully the scale of off-budget spending and any fiscal implications of a low-emission transition in Antigua and Barbuda, as APUA and the Ministry of Public Utilities, Civil Aviation and Energy are major customers of the West Indies Oil Company Limited, of which National Assets Management Company Ltd, owned by the Government of Antigua and Barbuda, is the majority shareholder. The West Indies Oil Company Limited stores both oil and petroleum products and is the leading provider of these commodities in Antigua and Barbuda, Dominica and the Eastern Caribbean. These company dynamics cannot be explored fully solely through analysis of budgetary spending, but will be addressed in order to understand better the implications of budget expenditure on climate change and to support NDC implementation in Antigua and Barbuda;

- Challenges in identifying trends over time. Neither domestic expenditure nor international public concessional finance disbursements for climate action show a trend in total size over the four-year period. Further assessment, in particular extending the time period for the analysis, could help build a more robust time series of datasets. It would also be advantageous to note the context for the flows, such as identifying political and weather-related events. This could reveal, particularly in the case of budget spending, the impact of external weather events such as hurricanes on the budget process in Antigua and Barbuda;

This report does not include an assessment of the role of charitable and non-governmental organisations in the climate finance architecture of Antigua and Barbuda. These sources of finance tend not to have high return expectations and so can be more flexible than commercial capital. The charities and non-governmental organisations in Antigua and Barbuda operate within the leading economic activities of the country, including the tourism and commerce sectors. They are engaged in a range of activities, including education, environmental protection and community outreach (table 12). In addition to their ability to provide grants for community-level projects, they can act as leaders and inspire others to reduce their emissions and adopt climate-resilient habits. As such, they have an important role in acting as conduits for awareness-raising. One such example is the work of the philanthropic Calvin Ayre Foundation, particularly the construction of the Canada Place building, which is the first building in the country to run entirely on renewable energy.[99] Such a step acts as a prompt not just to the Government but also to the public, as the building provides the infrastructure necessary to incentivise them to engage with the uptake of electric vehicles and sets a standard for future buildings in the country.

98 APUA has a Green Antigua Policy but the content is mainly unclear, as is the extent to which the policy has been implemented. See: **http://www.apua.ag/programs/green-antigua/**

99 The whole building can be run on solar energy alone. The employee car park roof houses a solar farm capable of transmitting 500 kW. See **https://www.newsbtc.com/2019/11/25/calvin-ayre-reveals-new-bitcoin-sv-headquarters-in-carribbean/**

Table 12. **Example charitable non-governmental organisations with an environmental focus in Antigua and Barbuda**

Philanthropic Funds	Associated Organisations	Engagement in Antigua and Barbuda
Environmental Awareness Group of Antigua and Barbuda[100]		Public awareness of the values of, and threats to, natural resources; advocacy; fundraising; and conservation projects.
Waitt Foundation[101]	Waitt Institute	Barbuda Blue Halo Initiative, which focuses on ocean conservation.
Mill Reef Fund[102]	Mill Reef Club	The Mill Reef Fund has distributed over USD 9 million to relevant organisations in Antigua and Barbuda.
Marine Ecosystems Protected Areas Trust[103]		Provides a sustainable flow of funds to support the long-term management and expansion of Antigua and Barbuda's protected areas of land and sea.
Calvin Ayre Foundation[104]	Ayre Group	First high-tech building to run exclusively on renewable energy in Antigua and Barbuda.
The Halo Foundation[105]		Funds over thirty charities in Antigua and Barbuda.

100 http://www.eagantigua.org/page2.html
101 https://www.waittfoundation.org/
102 https://millreeffund.org/about-us
103 https://mepatrustantiguabarbuda.org/about/aims-and-objectives/
104 https://www.calvinayrefoundation.org
105 https://foundationhalo.org/


Image: Minh Pham

Putting positive climate-related flows in context is important. It is not necessary for all finance flows to be climate relevant. It is critical, however, that efforts are made to ensure that finance flows are not increasing the potential levels of harm to the climate. That means that they do not increase vulnerability to climate change nor unnecessarily increase emissions. While this report has taken steps to identify the green finance flows in Antigua and Barbuda, further efforts might consider the identification of brown finance flows, or of grey flows that are likely to be neutral in climate impact.

On average, only 3 per cent of the total annual budget is climate relevant (XCD 29.1 million or USD 10.7 million). This compares with, for example, findings from Bangladesh (4 per cent), Ghana (2 per cent) and Indonesia (4 per cent), though is less than Kenya (8 per cent), Nepal (31 per cent), Pakistan (8 per cent) or the Philippines (7 per cent). It is noted, however, that countries apply their own nationally appropriate definitions and methods; for example, Indonesia only considered expenditures relevant for mitigation.[106] For Antigua and Barbuda, the climate impact of around 97 per cent of the budget expenditure, an annual average of around XCD 4,391.8 million (USD 404.2 million), is not known. While a significant amount of the budget spending is likely to be climate neutral, at least six budget items were considered to have potential brown elements. These include air freight, fuel and oil purchases, land clearing, the purchase of heavy vehicles, maintenance of vehicles and sea freight. These are not weighted by climate relevance, however, so the figures across ministries and departments that refer to such items are not summed. Developing a further understanding of these line items and estimating the emission impact or impact on vulnerability to climate change would be a critical next step to aid public financial management in supporting climate change objectives.

It is reported that USD 102.3 million in ODA and other official flows from OECD DAC members has been disbursed to Antigua and Barbuda for 2014–2017 (as opposed to USD 206.9 million in commitments for the same period).[107] Of the disbursed finance, nine per cent is labelled by contributors as having principle or significant objectives of climate adaptation or mitigation (USD 9.3 million). This implies the climate impact of the remaining 91 per cent, or USD 93.0 million, is not known.

106 UNDP. 2019. *Knowing what you spend: A guidance note for governments to track climate finance in their budgets*. UNDP. Available at **https://www.undp.org/content/undp/en/home/librarypage/climate-and-disaster-resilience-/knowing-what-you-spend.html**
107 **https://aid-atlas.org/profile/all/antigua-and-barbuda/all/2002-2017?valueType=usd_commitment**

While it is hoped that most ODA, at least, is climate-risk screened, there is a need to understand the impact and support alignment of the remainder of these international flows of finance.

The positive climate finance flows can also be considered in the context of Antigua and Barbuda's wider flows. The Prime Minister's budget speech, for example, identified that investment in the tourism sector alone will exceed USD 2 billion in 2020.[108] Positive climate finance flows can also be considered in the context of Antigua and Barbuda's losses as a result of climate-related weather events. Hurricanes Irma and Maria damaged or destroyed physical assets amounting to XCD 367.5 million (USD 136.1 million).[109]

6.2 Effectiveness of climate finance flows in Antigua and Barbuda

It is clear in the *2018 Biennial Assessment and Overview of Climate Finance Flows* that it is not simply the absolute amount of climate finance which is important.[110] It is necessary to work towards ensuring that climate finance is also effective. This covers a number of interrelated aspects, taking into account the goals related to development finance set in 2011 at the OECD Fourth High Level Forum on Aid Effectiveness, relating to access, national ownership of the funding provided and alignment with country needs, as well as the ultimate results and impacts of the climate action supported.[111]

Antigua and Barbuda has been able to **access a number of multilateral climate change funds**. The analysis of international grants and concessional public finance for climate action shows that Antigua and Barbuda has accessed the GCF, AF, SCCF and Trust Fund of the GEF. These are core multilateral climate change funds under the Financial Mechanism. The successful accreditation of

108 Government of Antigua and Barbuda. 2020. *2020 Budget Statement*. Available at **https://ab.gov.ag/pdf/budget/Budget_Speech_2020.pdf**
109 Organisation of African, Caribbean and Pacific States and European Union Natural Disaster Risk Reduction Program of the World Bank. 2017. *Hurricane Irma Recovery Needs Assessment*. Brussels: Organisation of African, Caribbean and Pacific States, the European Union, the World Bank and the Global Facility for Disaster Reduction and Recovery. Available at **https://www.gfdrr.org/en/publication/hurricane-irma-and-maria-recovery-needs-assessment-antigua-and-barbuda**
110 UNFCCC SCF. 2018. 2018 *Biennial Assessment and Overview of Climate Finance Flows Report*. UNFCCC. p. 21. Available at **https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf**
111 This approach to effectiveness is informed by various frameworks that have been developed by researchers to improve understanding of the effectiveness of climate finance. See Nakhooda S. 2013. *The Effectiveness of International Climate Finance*. Working Paper 371. London: ODI. Available at **https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8344.pdf** and Ballesteros A et al. 2010. *Power, Responsibility, and Accountability: Re-thinking the Legitimacy of Institutions for Climate Finance*. Washington, D.C.: WRI. Available at **http://pdf.wri.org/power_responsibility_accountability.pdf**

the DOE to the GCF and AF illustrates growing capacity to access finance. Such direct access is also linked to issues of country ownership of climate action, as the operational priorities, experience and networks of the implementing entities through which climate finance is accessed can influence greatly how funds are spent.[112] Antigua and Barbuda has not, however, accessed multilateral funds outside the Financial Mechanism and bilateral support for climate action remains limited, though this is to be expected, given the graduation of income status that Antigua and Barbuda faces in 2020.

Considering the pace at which climate finance flows to Antigua and Barbuda can be a useful measure its efficiency. The analysis in this report is focused on disbursement to Antigua and Barbuda as opposed to the overall commitment levels. Analysis shows that, on average across the 18 projects identified by the DOE, disbursement is at 25 per cent of total commitment. The analysis is limited, however, as most projects are ongoing. The sole completed project has a total disbursement of 82 per cent in light of overbudgeting of the original proposal. As with global datasets, there are gaps in understanding disbursements, as sometimes there are either no datasets or there is no disbursement and it is not always clear which one of the two options applies, so ongoing work to track the pace of flows and the life cycle of climate finance is useful to discover what influences the rates of disbursement and how processes can be improved at both fund and country level to speed up disbursements where appropriate.

Article 9 of the Paris Agreement emphasises that the provision of scaled-up financial resources should take into account the **priorities and needs of SIDS** and the least developed countries, and that both public and grant-based resources are required to support adaptation. Analysis shows that USD 1,772 million was approved for climate programmes and projects for SIDS for 2003–2019. SIDS in the Pacific receive the largest amount of approved climate finance. Over three-quarters of SIDS climate finance from the multilateral climate funds is grant based (87 per cent), with concessional loans and guarantees accounting for the remainder (13 per cent). Since the GCF became operational in 2015, it has been the largest approver of finance to SIDS of the major multilateral funds.[113]

112 UNFCCC SCF. 2018. *2018 Biennial Assessment and Overview of Climate Finance Flows: Technical Report*. UNFCCC. **https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf**

113 Watson, C and Schalatek, L. 2020. *Climate Finance Regional Briefing: Small Island Developing States*. Climate Finance Fundamental 12. Heinrich Böll Stiftung and ODI. Available at **https://climatefundsupdate.org/wp-content/uploads/2020/03/CFF12-2019-ENG-DIGITAL.pdf**

Without complete datasets in climate finance and on wider finance flows, it is hard to assess the **degree of alignment of finance flows with Antigua and Barbuda's priorities** for climate or development. This is also a challenge for wider climate finance. In its 2015 NDC, Antigua and Barbuda did not articulate financial needs beyond high-level figures of USD 20 million per year for adaptation targets and USD 220 million a year for mitigation targets, though it noted that these figures require further analysis. Antigua and Barbuda's efforts are conditional on broad support from multilateral climate change funds. Both datasets constraints and limitations on the presentation of financial needs, therefore, limit more detailed analysis of sectoral flows as compared with disbursed finance, for example.

Antigua and Barbuda has **no national system of tracking the impact of climate finance flows**. There is no central monitoring against indicators that measure the effectiveness of climate finance flows. The multilateral climate change funds have continued to improve their impact monitoring but there remains no agreed standard by which to measure the results and impact of climate finance flowing through these multilateral funds. Furthermore, the result or allocation frameworks used by the multilateral climate funds do not necessarily match the needs of beneficiary countries. Ongoing work in Antigua and Barbuda to develop a monitoring framework for climate action could capture impacts and results. At a national level, this could go beyond the high-level metrics of existing frameworks, such as beneficiaries for adaptation actions and GHG emissions or KWh for mitigation actions, to capture wider impacts of policy change and capacity-building, or of demonstration effects of projects or programmes.

6.3 Climate finance in context: considerations for consistency of all finance flows in Antigua and Barbuda

While the DOE is the national focal point for climate change, with a mandate to develop and implement projects and programmes supporting climate action, the continued engagement of the Ministry of Finance and Corporate Governance is critical to the country's climate change response, in particularly owing to its mandate for fiscal policy and public financial management. The Ministry of Finance and Corporate Governance therefore has a clear role in further developing principles and a method to understand consistency of all finance flows with climate objectives in the country. It is also well placed to pursue the development of a number of ideas that emerged from discussions held during the course of

preparing this report. It might also consider, for example, linking to the Coalition of Finance Ministers for Climate Action and pursuing the Helsinki Principles,[114] which aim to identify the means of action available to finance ministries in order to ensure that the public policies for which they are responsible are consistent with the objectives of the Paris Agreement.

Regarding **monetary and prudential policy and regulation**, it is important to recall Antigua and Barbuda's country context. The Eastern Caribbean dollar has shared backing across eight jurisdictions and this currency union has a fixed exchange rate that mitigates risk. This is because it is very unlikely that a natural disaster would affect all eight countries at once in light of their geographical distribution, so the currency would not become destabilised to such an extent that mass inflation might occur, and there are no capital flow restrictions on the use of foreign currency both of which might occur in countries that have their own individual currency. Monetary policy in Antigua and Barbuda is decided at the regional level and directed by the ECCB. At present, ECCB is aware of climate change, which is ingrained in its strategy, but could be persuaded to do more. This could be pursued in parallel with, for example, outreach to other countries in the region, but also with other institutions to promote the understanding of climate risk as a material risk to financial stability. This could include building understanding and awareness in the Financial Services Regulatory Commission, which is a statutory body with the potential to influence non-bank financial institutions by, for example, requiring disclosures of climate risks in investment portfolios, encouraging green lending through green mortgages or discouraging investments that are inconsistent with national climate objectives.

Regarding **fiscal policies**, the survey revealed the existence of a number of relevant actions underway. These were largely focused on adaptation, specifically risk retention over risk transfer. These policies highlighted the high cost of borrowing post-disaster, when liquidity is critical, through institutions such as CDB and ECCB. While CCRIF supports post-disaster liquidity, the payouts are relatively small and would not be able to cover Antigua and Barbuda's immediate debt obligations. In line with the World Bank's recent assessment of Antigua and Barbuda's public financial management post-disaster, more can be done to support planning, such as emergency procurement rules, post-disaster protocols for public financial management and pre-disaster fiscal strategic measures.[115] Ongoing projects are supporting efforts to this end. There should be greater government-wide consideration of the country's reliance on fossil fuel imports and how this might be shifted in the future. While this is a challenging and politically charged question globally, reform could not only accelerate progress towards the country's renewable energy targets contained within its NDC but also provide fiscal space and reduce uncertainties resulting from fuel price fluctuations.

Antigua and Barbuda has developed a number of **public finance** funds that will support climate action in the country. The SIRF Fund and Climate Resilience and Development Fund will both aid the application of public risk mitigation instruments, including insurance, to support climate change ambitions. There are strong links, however, between increasing fiscal space and additional taxation or reduction in spending in other areas, in order to prioritise climate change. International public finance through development finance institutions will continue to flow to the country. As these institutions come under increasing pressure to align with the Paris Agreement objectives (see box 2), Antigua and Barbuda could support their strategy and policy development, but also consider alignment and impact of its public finance receipts.

The survey revealed that few **information instruments** are being made use of in Antigua and Barbuda. Globally, as attention turns to climate change posing a real risk to the financial sector and to financial stability, there is increasing use of information instruments by other governments that Antigua and Barbuda might consider, such as endorsing FSB's TCFD recommendations on climate-related financial disclosures,[116] joining initiatives such as the Coalition of Finance Ministers for Climate Action and the Sustainable Banking Network and creating voluntary guidance or non-binding strategies for consistency of finance. It could also commit to the development of sustainable financing strategies, capital raising and divestment plans, that would take substantial time and effort, but would increase certainty for both public and private investment in the future.

For Antigua and Barbuda, climate-relevant cooperation at the OECS level is likely to be beneficial, given the country's small size, and cooperation at the level of the

114 Coalition of Finance Ministers for Climate Action, 2019. *Helsinki Principles*. Coalition of Finance Ministers for Climate Action. Available at **http://pubdocs.worldbank.org/en/600041555089009395/FM-Coalition-Principles-final-v3.pdf**

115 It is noted that, while the capital spending undertaken after a storm is not currently captured in a specific budget area, Antigua and Barbuda will be participating in a project with the Government of Canada to document these processes and it is working with the European Union to improve the overall public financial management framework to handle issues of fiscal risks related to climate resilience.

116 FSB. 2019. *Task Force on Climate-related Financial Disclosures: status report*. Basel: FSB. Available at **https://www.fsb.org/2019/06/task-force-on-climate-related-financial-disclosures-2019-status-report/**

Caribbean Community and Association of Caribbean States should also be explored. Learning and peer exchange could be a first step, potentially leading to regional initiatives. Cooperation at government level does not have to be limited to the tools presented in this report. There could be further engagement with market makers and facilitators, for example, including efforts to encourage climate- or sustainability-related principles within the **Eastern Caribbean Stock Exchange** on Saint Kitts and Nevis, established by the ECCB.[117] The Government could also engage with rating agencies that are increasingly factoring climate risk into their credit ratings to include both adaptation and resilience-building actions.

6.4 Financial implications of climate change in Antigua and Barbuda

There is growing recognition globally in both the public and private sectors that climate change poses a real threat to business and investment. This is largely a result of a growing understanding of the actual and potential physical adverse impacts on assets and associated direct and indirect losses and damages.[118] Climate change can also lead to transition risks that capture the shifts in asset values or higher costs of engaging in business that might be faced in light of the move towards a low-carbon, more climate-resilient economy. These all contribute to risks to companies, countries, economic growth and the stability of the financial system, particularly the insurance and banking sectors.[119] In light of the intensifying physical adverse climate impacts that Antigua and Barbuda faces under climate change, it is important to explore further the risk that climate change poses to financial stability.

Physical risks are "those risks that arise from the interaction of climate-related hazards…with the vulnerability of exposure to human and natural systems".[120] Antigua and Barbuda's third national communication identifies higher sea surface and atmospheric temperatures, a rise in sea level, inland flooding, drought and increased hurricane intensity and storm surge as adverse physical impacts that have threatened, or will threaten, lives, property and livelihoods in the country as a result of climate change.[121]

The adverse economic impacts of physical risks can be large. On the demand side, they might affect private (household) or public (government) consumption demand and investment, business investment or international trade. For example, business investments could be reduced as a result of uncertainty in future demand and growth prospects. On the supply side, adverse physical impacts, such as power outages after hurricanes[122] affect productive capacity by affecting labour supply, physical capital and technology. The combination of physical risks that disrupt supply chains, production and operations, such as power outages, worker availability and transport challenges, and the changing demand for products and services can lead to changes in resource and input prices. These in turn affect tax revenues and ultimately challenge debt repayment and economic growth. Physical risks also lead to rising insurance costs, as for those providing insurance and reinsurance, physical risks are not only important with regard to assets, but also liabilities. Under a changing climate, insurance policies are likely to generate claims with higher frequency and severity, which can lead to those policies becoming more expensive or even unavailable.[123]

Transition risks are "associated with the uncertain financial impacts that could result from a rapid low-carbon transition, including policy changes, reputational impacts, technological breakthroughs or limitations, and shifts in market preferences and social norms".[124] Stranded assets are a key concern with regard to transition risks. This concept can be understood in a number of ways, but refers to the implications of climate change on the value of assets with respect to regulation (changes in policy and legislation), (relative costs or prices) and physical stranding (such as flood

117 The Sustainable Stock Exchanges Initiative, for example, is a peer-learning platform for enabling exchanges, in collaboration with investors, regulators, and companies, to explore how they can enhance corporate transparency and, ultimately, performance on environmental, social and corporate governance issues and encourage sustainable investment. Under the initiative, a number of stock exchanges have made a public commitment to promote sustainability in their markets. See Sustainable Stock Exchanges Initiative. 2017. *How stock exchanges can grow green finance: A voluntary action plan*. SSE. Available at **https://sseinitiative.org/wp-content/uploads/2019/12/SSE-Green-Finance-Guidance-.pdf**

118 See for example Crawford, M. and Seidel, S. 2013. *Weathering the Storm: Building Business Resilience to Climate Change*. Center for Climate and Energy Solutions. Available at **https://docplayer.net/23352162-Weathering-the-storm-building-business-resilience-to-climate-change.html**

119 See Bank of England. C*limate change: what are the risks to financial stability?* Available at **https://www.bankofengland.co.uk/knowledgebank/climate-change-what-are-the-risks-to-financial-stability**

120 Batten, S, Sowerbutts, R and Tanaka, M. 2016. *Let's Talk about the Weather: the Impact of Climate Change on Central Banks*. Bank of England Staff Working Paper no. 603. In: Bolton, P et al. 2020. The Green Swan: Central banking and financial stability in the age of climate change. Bank for International Settlements. **https://www.bis.org/publ/othp31.pdf**

121 Government of Antigua and Barbuda. 2015. *Third National Communication on Climate Change*. Government of Antigua and Barbuda. Available at **https://unfccc.int/resource/docs/natc/antnc3.pdf**

122 Bolton, P et al. 2020. *The Green Swan: Central banking and financial stability in the age of climate change*. Bank for International Settlements. Available at **https://www.bis.org/publ/othp31.pdf**

123 Grippa,P, Schmittmann, J and Suntheim, F. December 2019. Climate Change and Financial Risk: Central banks and financial regulators are starting to factor in climate change. *Finance and Development*. 56(4) IMF. Available at **https://www.imf.org/external/pubs/ft/fandd/2019/12/climate-change-central-banks-and-financial-risk-grippa.htm?utm_medium=email&utm_source=govdelivery**

124 Bolton, P et al. 2020 *The Green Swan: Central banking and financial stability in the age of climate change*. Bank for International Settlements. Available at **https://www.bis.org/publ/othp31.pdf**

or drought).[125] While often discussed in the context of mitigation, such as the ultimately declining earnings and disruptions in business for fossil fuel companies as a result of low-carbon policy action, they can also be applied in the context of adaptation. This might include physical infrastructure that will be inundated by a rise in sea level, or agricultural infrastructure in areas where agriculture is no longer viable.

The adverse impacts of climate change in the real sector economy, through industry, corporations, enterprises or consumers will have implications for the financial system (figure 12). There are two main routes through which physical climate risks will adversely impact on the financial system. Firstly, they create risks for financial activities and the financial institutions themselves, for example changing profitability, market and sector engagement and capital adequacy (the minimum reserves of capital that a financial institution must have available). Operating costs can change, as can the costs of capital and access to capital (box 4). Secondly, they create macroeconomic risks in the financial system through feedback systems. There can be increased default risk for loan portfolios, lower values of assets and greater risks in mortgage portfolios.[126] Damage to assets serving as collateral could also create losses that prompt banks to restrict their lending in certain regions, reducing the financing available for reconstruction in affected areas. At the same time, these losses weaken household wealth and could, in turn, reduce consumption.[127] This illustrates that climate risks are, by and large, currently not adequately reflected in balance sheets and asset prices, often owing to the concept of the tragedy of the horizon[128].

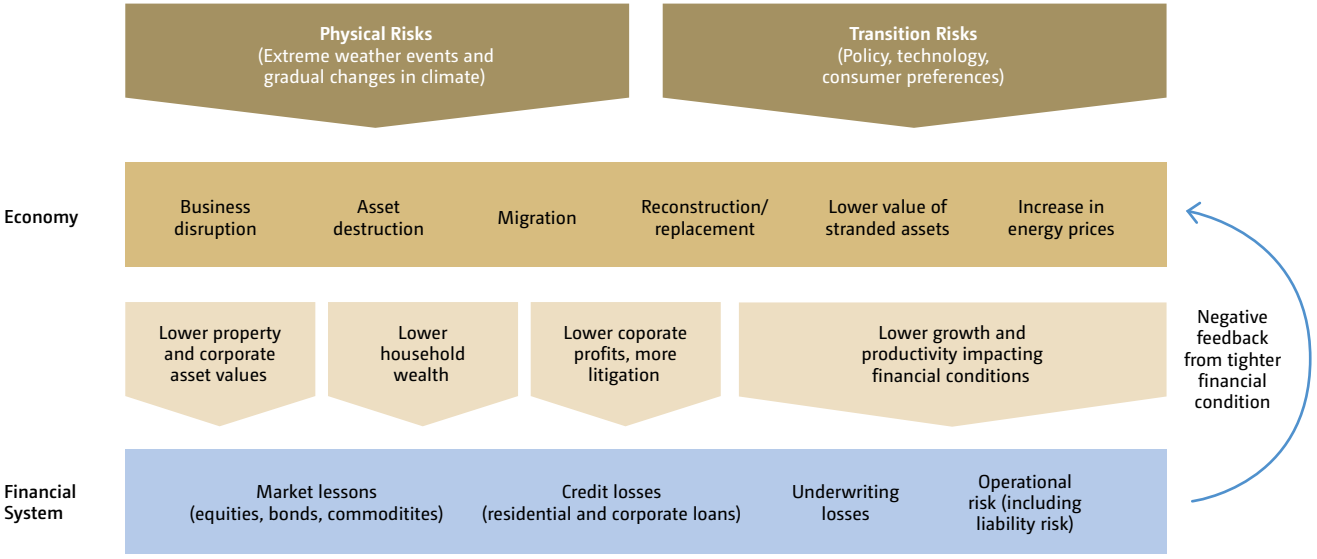
125 Rautner, M., Tomlinson, S. and Hoare, A. 2016. *Managing the Risk of Stranded Assets in Agriculture and Forestry*. Chatham House. Available at **https://www.chathamhouse.org/sites/default/files/publications/research/2016-07-11-stranded-assets-hoare-rautner-tomlinson.pdf**

126 Grippa,P, Schmittmann, J and Suntheim, F. December 2019. Climate Change and Financial Risk: Central banks and financial regulators are starting to factor in climate change. *Finance and Development*. 56(4) IMF. Available at **https://www.imf.org/external/pubs/ft/fandd/2019/12/climate-change-central-banks-and-financial-risk-grippa.htm?utm_medium=email&utm_source=govdelivery**

127 NGFS. 2019. *First comprehensive report: A call for action – Climate change as a source of financial risk*. NGFS. Available at **https://www.ngfs.net/en/first-comprehensive-report-call-action**

128 The concept that the traditional horizon of banks and investors is shorter than that at which the full materialisation of climate risks occurs See Carney, M. 2015. *Breaking the tragedy of the horizon – climate change and financial stability*. Available at **https://www.bis.org/review/r151009a.pdf**

Figure 12. **Financial stability risks from climate change**



Source: IMF. 2019. *Global Financial Stability Report: Lower for Longer.* IMF. Available at
https://www.imf.org/en/Publications/GFSR/Issues/2019/10/01/global-financial-stability-report-october-2019

Box 4: **The changing costs of capital under a changing climate**

In 2020, as detailed in box 1 above, Antigua and Barbuda graduated to become a high-income country. This reclassification gives Antigua and Barbuda access to capital markets and presents an opportunity to develop the local financial market. Capital market access often relies on credit ratings that, in general, suggest the ability of a country, city, public listed company or bon, to repay its debt. Ratings are used by capital providers, therefore, to make more informed investment decisions. International debt investors, as a result of prudential regulations, can also require minimum investment grade ratings for investments.

Antigua and Barbuda's vulnerability to climate change has the potential to negatively impact any credit rating made (at sovereign, city or entity level) and therefore restrict access to debt. The adverse impacts of climate change, such as damage to infrastructure, population shifts due to forced displacement and rising social cost, all represent a high level of vulnerability to climate change for Antigua and Barbuda. This vulnerability translates into a risk of default on debt servicing for financial institutions. This vulnerability increases the cost of capital (interest rates) and this is only expected to intensify as a result of climate vulnerabilities. The increasing cost of capital will further compound the high indebtedness of Antigua and Barbuda, which was estimated at XCD 3,129.8 million (USD 1,158.1 million) in 2018, that researchers have already attributed to climate risk exposure.

The country is not currently rated by the major rating agencies, namely Standard and Poor's, Moody's and Fitch Group, or regional entities that engage in ratings. Medium-term vulnerabilities are still accounted for in credit assessments on a case-by-case basis, however, and the country's small economy coupled with the high concentration in tourism and frequency of natural disasters places Antigua and Barbuda among the most exposed economies to climate change. Climate change, therefore, poses a systemic risk to the country's financial system as the recovery costs from climate-related losses and damages are increasing and access to debt capital is expected to become more constrained owing to the increasing costs of capital. Any increase in interest rates will further constrain the Government's ability to invest in resilience and development, as the country currently lacks the enabling environment and investment grade rating to issue international sovereign debt.

Addressing the rising cost of capital as a result of climate change is a complex challenge. The countries that are well prepared and can demonstrate how they will deal with the risks of climate change could enjoy lower borrowing costs, if these factors are considered by investors and market makers such as the rating agencies. Research has therefore encouraged the integration of climate risks into decision making, investments in climate change-resilient infrastructure, economic diversification and participation in insurance funds as solutions. Greater social and economic resilience has the potential to reduce interest rates by 67 basis points (0.67 per cent).

Sources: Buhr, B et al. 2018. *Climate Change and the Cost of Capital in Developing Countries.* UNEP. Available at **https://unepinquiry.org/publication/climate-change-and-the-cost-of-capital-in-developing-countries/**; Carter, L (2020). The Ecosystem of Private Investment in Climate Action. United Nations Development Programme, New York, NY, USA; Moody's Investors Service. 2017. *Sovereigns – Global, Small island credit profiles resilient to near-term climate shocks, but climate trends pose longer-term risks*. Moody's Investors Service. Available: **https://www.moodys.com/research/Moodys-Medium-term-climate-change-vulnerabilities-factored-into-small-island--PR_376346**

Understanding and then internalising the risks of climate change in Antigua and Barbuda will be important for a number of reasons. It allows for a reduction in the exposure of investments to climate change, it can identify opportunities to invest in resilience or new business models and it can prevent shifts in capital from communities, markets or sectors ('capital flight') and undue pressure on the public budget. These risks of climate change are challenging to articulate, however, as they have far-reaching adverse impacts, are sometimes unforeseeable in nature, may have elements of irreversibility and have some dependency on short-term actions.[129]

The financial sector (banks, insurance companies, asset managers and owners and publicly directed financial mechanisms, such as infrastructure banks, export credit agencies and development finance institutions) need to be better informed of the risks of climate change. They can also apply their own climate change strategies and tools, such as negative or positive lists and climate scenario and stress-testing (figure 13). In Antigua and Barbuda, a concerted effort to improve information and awareness of the tools available could be helpful.

129 NGFS. 2019. *First comprehensive report: A call for action – Climate change as a source of financial risk*. NGFS. Available at **https://www.ngfs.net/en/first-comprehensive-report-call-action**

Figure 13. **Testing the resilience of corporations to potential materialisations of physical and transition risk**

Transition risk scenarios Physical risk scenarios	**Impact on:** - Imput costs - Operating costs - Revenues - Supply chain - Business interruption - Timing	**Responses might include:** - Changes to business model - Portfolio mix - Investments in capabilities and technologies
What scenarios (and narratives) are appropriate, given the exposures? Consider input parameter, assumptions, and analytical choices. What reference scenario(s) should be used?	Evaluate the potential effects on the organisation's strategic and financial position under each of the defined scenarios. Identify key sensitivities.	Use the results to identify applicable, realistic decisions to manage the identified risks and opportunities. What adjustments to strategic/financial plans would be needed?

Source: TCFD. 2017. *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities Technical Supplement*. TCFD. Available at **https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Technical-Supplement-062917.pdf**

Financial system governance bodies, including policy makers, oversight and supervisory authorities, also have an important role. They can work to redress the lack of transparency on climate risks and their underpricing in Antigua and Barbuda through gathering datasets on these climate risks, mandated climate-related risk disclosures, building taxonomies,[130] supporting stress testing and applying other macroprudential tools.

130 NGFS "encourages policymakers to bring together the relevant stakeholders and experts to develop a taxonomy that enhances the transparency around which economic activities (I) contribute to the transition to a green and low-carbon economy and (II) are more exposed to climate and environment-related risks (both physical and transition). Such a taxonomy would: facilitate financial institutions' identification, assessment and management of climate and environment-related risks; help gain a better understanding of potential risk differentials between different types of assets; mobilise capital for green and low-carbon investments consistent with the Paris Agreement." See NGFS. 2019. *First comprehensive report: A call for action – Climate change as a source of financial risk*. NGFS. Available at **https://www.ngfs.net/en/first-comprehensive-report-call-action**

While financial system governance and the independent action of those in the financial sector will help, it cannot replace fiscal policy for climate change action in Antigua and Barbuda. A number of fiscal policies that can support climate action in Antigua and Barbuda have been outlined in section 5.4.2 above. Further work needs to be carried out to understand how climate change adversely impacts on fiscal policy and how fiscal policy influences climate action. Table 13, for example, illustrates how climate change affects fiscal risks. Development of fiscal policy strategy for climate change in Antigua and Barbuda should aim to reduce economic costs, improve economic recoveries and transfer financial risks of loss of value, revenue or return on investment. Any further work on the tracking of climate expenditures in the budgetary expenditure should make efforts to link to these objectives and make clear the pathways through which public financial management can support climate action in Antigua and Barbuda.

Image: Department of Environment, Antigua

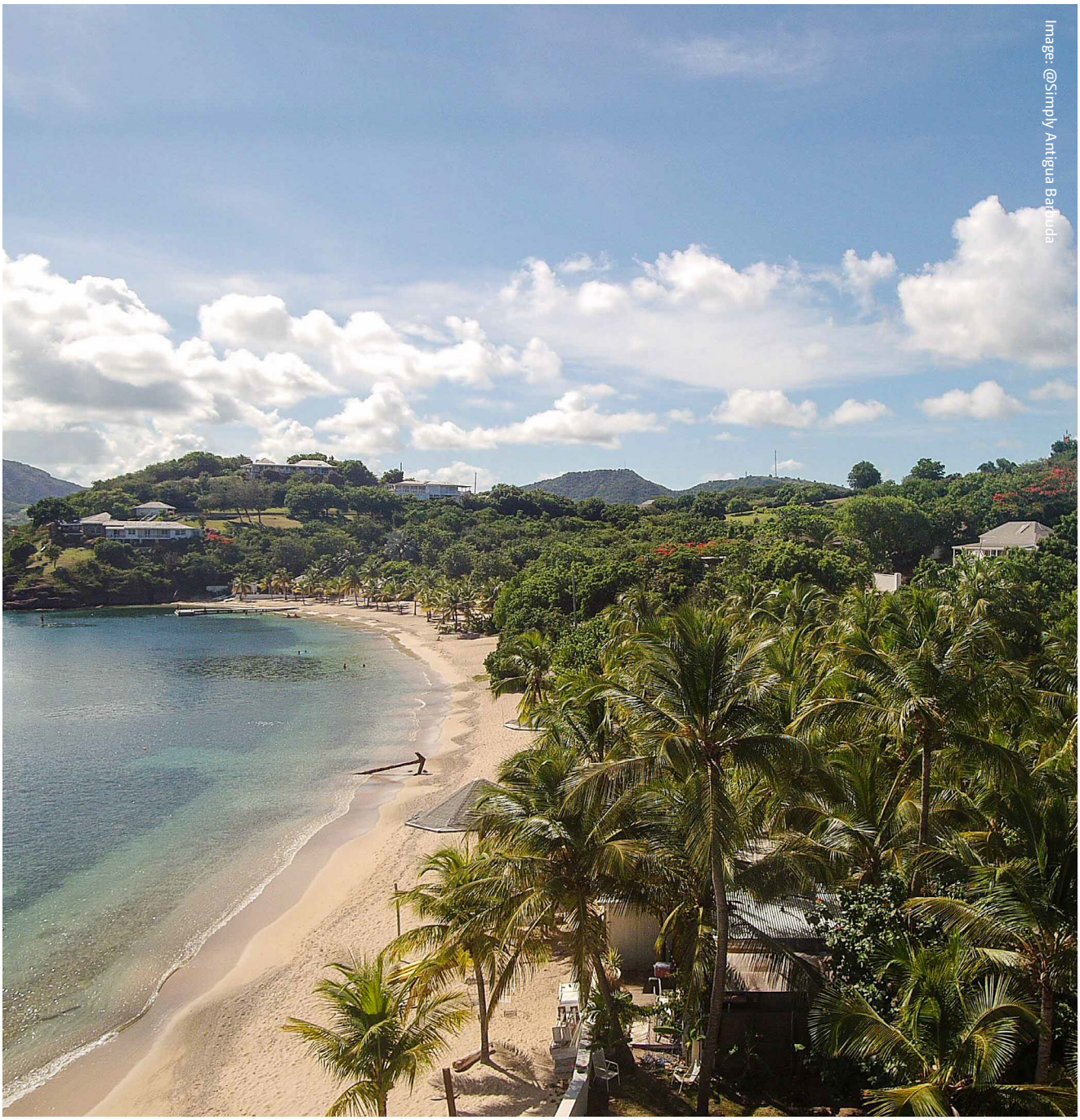
Table 13. **Fiscal risk factors and illustrative climate change channels**

Risk Factor	Conventional Examples	Climate Change Channels
Macroeconomic risks		
Economic growth (GDP or industry-level growth)	Tax revenue differs from planned level Payouts for unemployment insurance and other social protection schemes differ from planned level	Drought, excessive rainfall, storms, etc. disrupt agriculture, fishing, mining, touism, transport, hydropower, insurance, etc. Note that weather shocks in other countries can potentially boost demand for exports
Commodity prices	Changes in oil prices affect government procurement spending, customs duty collection, energy subsidies (for extractives exporters): government revenue differs from expected level Changes in global agricultural prices may affect domestic farm and food subsidy spending (depending on national policies)	Increased severity and likelihood of extreme weather events in large producers increase the volatility of world commodity prices
Interest rates	Debt service costs differ from expectations	-
Exchange rates	External debt services costs differ from expectations Government procurement spending on imports differs from expectations	-
Contigent liabilities		
State-owned enterprises (SOEs)	Sovereign loan guarantees are called Expectations that the government will cover SOE losses	Climate-sensitive SOEs suffer losses due to extreme weather events
Public-private partnerships (PPPs)	Contractual obligations (for example, service-level guarantees) Expectation that government will cover losses if the project fails	Infrastructure PPPs suffer damages or losses from extreme weather events
Natural disasters	Shocks to economic growth affect revenue and spending (see above) Unexpected spending on repair and reconstruction of government buildings and other public assests Unexpected relief and recovery spending; possible spending to cover private sector losses (including, for example, government-run fire, flooding, and crop insurance	Increased severity and likelihood of extreme weather events (for example, tropical cyclones) increases the chances of natural disasters
Public health emegency	Increased health spending REdiced income tax revenue if health emergency affects employment and production	Changing climate and increased severity and likelihood of extreme weather events may affect the spread of vector-borne diseases, deaths from heat events, etc.
Judicial awards	Court judgements made against the government result in unexpected spending	Courts may determine that governments are liable for climate adaptation measures
Pension obligations	The number of retirees differs from expectations	-
Other fiscal risks		
Wage settlements	Higher-than-anticipated public service wage settlements	-
Government policy changes	Changes in (nonfiscal) government policies cause actual revenue and spending to differ from expectations	-

Source: Pigato, M. 2019. Fiscal Policies for Development and Climate Action. International Development in Focus. Washington, DC: The World Bank. Available at **https://openknowledge.worldbank.org/handle/10986/31051**

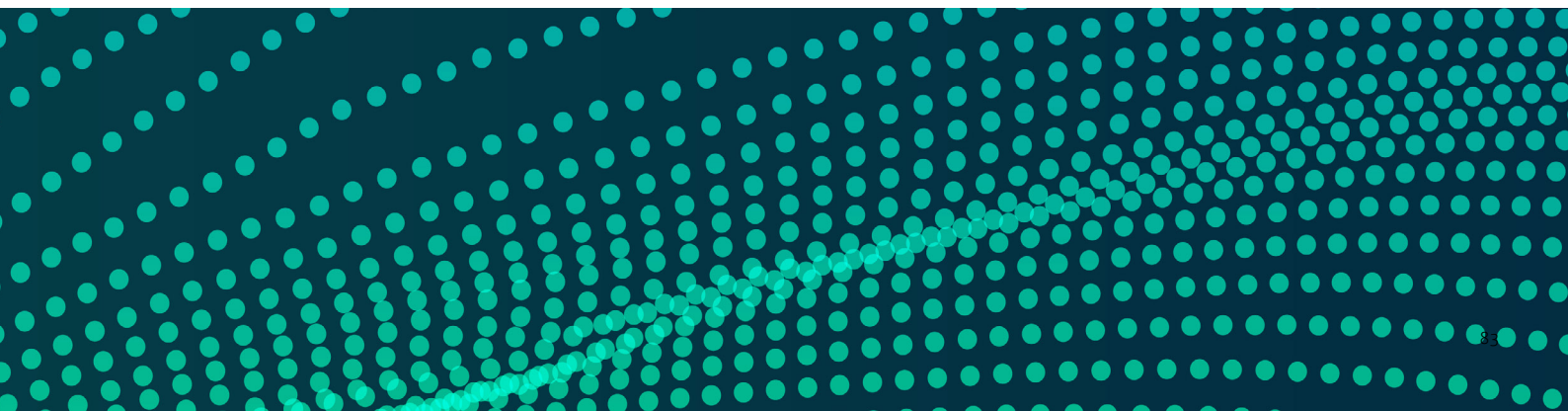
Any changes in financial policy and regulation or fiscal policy would need to take into account broader challenges in Antigua and Barbuda. These include, in the fiscal space for example, strengthening revenue mobilisation, streamlining pervasive tax exemptions at customs, rationalising transfers to SOEs and strengthening the balance sheet. Changes must also take into account the socioeconomic challenges of the shift to a climate-resilient, low-carbon economy, such as adverse impacts on jobs in the infrastructure sector and any needs for retraining the workforce as a result of shifts, also referred to as the 'just transition'.

Data are limited, however, in Antigua and Barbuda on the key assets at risk and how they might be affected over differing future climate change scenarios. Immediate next steps would include building sectoral data on assets mapped to potential adverse climate impacts and undertaking surveys and interviews on potential consequences to production and trade, for example. These can then support efforts to understand existing financial and other instruments in place to manage these risks as well as new instruments that might be available.



7

Conclusions



Conclusions

The considerations of the climate finance flows and the consistency of wider finance flows in Antigua and Barbuda have considered multiple sectors and topics that are important for the country's economic growth and development, as well as for it to meet its obligations under the Paris Agreement. This calls for the engagement of a wide set of stakeholders in the climate change response in Antigua and Barbuda and the developing a suitable narrative with which to engage these stakeholders. Some might not be motivated by the obligations of Antigua and Barbuda under the Paris Agreement, but rather by the potential adverse physical impacts of climate change on their supply chain or insurance premiums. This report provides a narrative with which to begin these discussions.

This report has taken a valuable first step towards understanding the links between climate change and finance in Antigua and Barbuda. It has stimulated discussion regarding the ways in which budget spending is supporting climate action, and whether more could be done, the international provision of climate finance, the role of subregional financial actors regarding monetary and prudential regulation and the degree to which wider flows of finance in Antigua and Barbuda support or hinder the country's ambitious climate objectives as laid out in its NDC.

The process of creating this report has identified data needs and gaps in developing an understanding of the flows and incentives that drive these flows of finance that support or hinder climate change ambitions. The existence of methodological challenges and data gaps is not specific to Antigua and Barbuda. Further work could, and will, be undertaken through a wealth of ongoing projects that will continue to track budget expenditure, to develop fiscal policies ex-ante and ex-post disasters and to improve the climate finance readiness of the country. As such, Antigua and Barbuda is leading the way for all countries, by recognising the benefit of making progress in actions in this domain.

Image: Department of Environment, Antigua

Image: @Simply Antigua Barbuda

Annexes

Annex I. Overview of Antigua and Barbuda's nationally determined contribution targets

Conditional Adaptation Targets

1. By 2025, increase seawater desalination capacity by 50 per cent above 2015 levels;
2. By 2030, all buildings are improved and prepared for extreme climate events, including drought, flooding and hurricanes;
3. By 2030, 100 per cent of electricity demand in the water sector and other essential services (including health, food storage and emergency services) will be met through off-grid renewable sources;
4. By 2030, all waterways are protected to reduce the risks of flooding and health impacts;
5. By 2030, an affordable insurance scheme is available for farmers, fishers, and residential and business owners to cope with losses resulting from climate variability.

Conditional Mitigation Targets

1. By 2020, establish efficiency standards for the importation of all vehicles and appliances;
2. By 2020, finalise the technical studies with the intention to construct and operationalise a waste to energy plant by 2025;
3. By 2030, achieve an energy matrix with 50 MW of electricity from renewable sources both on and off-grid in the public and private sectors;
4. By 2030, all remaining wetlands and watershed areas with carbon sequestration potential are protected as carbon sinks.

Unconditional Targets

1. Enhance the established enabling legal, policy and institutional environment for a low carbon emission development pathway to achieve poverty reduction and sustainable development.
2. By 2020, update the Building Code to meet projected impacts of climate change.

Support for Implementation

The conditional adaptation and mitigation targets presented in this intended nationally determined contribution are contingent upon Antigua and Barbuda receiving international support for capacity-building, technology transfer and financial resources, including through the GCF, GEF, AF and multilateral agencies and bilateral agreements.

Source: Government of Antigua and Barbuda. 2015. Intended Nationally Determined Contribution. Available at **https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Antigua%20and%20Barbuda/1/INDC_Antigua_Barbuda.pdf**

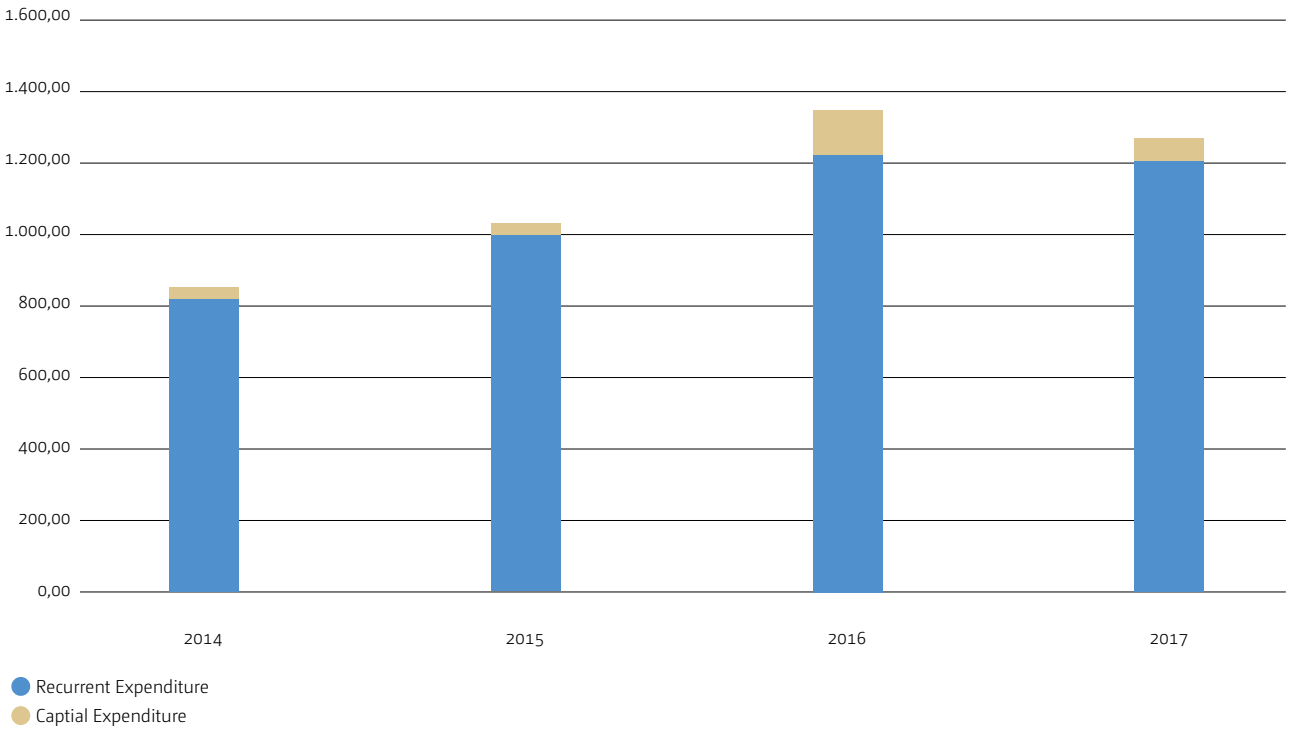
Annex II. Estimated damages and economic losses suffered by Antigua and Barbuda following Hurricanes Irma and Maria in 2017

		Disaster Effects (USD)				Disaster Effects (XCD)		
		Damage	**Losses**	**Total**	**Percentage**	**Damage**	**Losses**	**Total**
Sector								
Infrastructure								
	Transport	16 166,400	318 500	16 484 900	10.17	43 649 340	860 040	44 509 380
	Electricity	3 304 300	259 100	3 563 400	2.20	8 921 739	699 600	9 621 339
	Water and Sanitation	291 900	0	291 900	0.18	788 000	0	788 000
	Telecom-munications	702 400	37 000	739 400	0.46	1 896 440	100 000	1 996 440
Social								
	Housing	49 805 600	2 405 900	52 211 500	32.22	134 475 168	6 496 050	140 971 218
	Health	1 784 300	65 200	1 849 500	1.14	4 817 620	175 987	4 993 607
	Education	2 626 296	261 251	2 887 548	1.27	7 091 000	705 379	17 163 131
Productive								
	Tourism	59 038 700	13 567 430	80 418 900	49.62	159 404 478	36 632 062	217 130 927
	Agriculture	148 100	370 400	518 500	0.32	400 000	1 000 000	1 400 000
	Fisheries	301 900	159 300	461 200	0.28	815 000	430 000	1 245 000
Cross-cutting								
	Governance	797 500	753 800	1 551 300	0.96	2 153 151	2 035 240	4 188 391
	Culture	1 152 700	764 300	1 917 000	1.18	3 112 308	2 063 500	5 175 808
Total		136 120 090	18 962 170	155 082 260	100	367 524 244	51 197 858	418 722 102

Source: World Bank. 2017. *Hurricane Irma Recovery Needs Assessment*. World Bank. Available at **https://www.gfdrr.org/en/publication/hurricane-irma-and-maria-recovery-needs-assessment-antigua-and-barbuda**

Annex III: Overview of Antigua and Barbuda Government expenditure for 2014–2017

Figure AIII.1: **Total Government expenditure 2014–2017 (XCD millions)**



The main findings from figure AIII.1, in reference to the overall budget expenditure of Antigua and Barbuda, is summarised below:

- The overall Government budget is generally split 95/5 between recurrent and capital expenditure.
- Capital and recurrent expenditure were both funded entirely from the Government Consolidated Fund, but there are separate Government Consolidated Funds for recurrent and for capital items (i.e. the Government Consolidated Fund–Recurrent and the Government Consolidated Fund–Capital).
- In 2015, there was a growth of 20 per cent in overall expenditure.
- In 2016, there was a similar trend, with overall expenditure growing by 31per cent.
- In 2017, there was a decrease of 6 per cent in the overall expenditure.
- The significance of Government expenditure relative to national GDP is shown in table AIII.1.

Table AIII.1. **Government expenditure as a percentage of gross domestic product (current prices)**

Year	Overall Government expenditure as a percentage of GDP (%)
2014	25.66
2015	28.68
2016	34.83
2017	32.15

Table AIII.2. **Summary of climate-related budget expenditure by department over time for 2014–2017 (XCD thousands)**

Department or Division name	Budget expenditure type	2014	2015	2016	2017	Total
Agriculture Division	*Total*	**1 328.66**	**1 503.18**	**1 437.37**	**1 378.59**	**5 647.81**
	Capital	0.00	56.17	41.36	22.71	120.24
	Recurrent	**1 328.66**	**1 447.01**	**1 396.01**	**1 355.88**	**5 527.56**
Agriculture Headquarters	*Total*	262.80	315.41	326.69	329.58	1 234.48
	Recurrent	262.80	315.41	326.69	329.58	1,234.48
Central Board of Health	*Total*	**15 578.80**	**13 648.29**	**10 545.64**	**12 630.29**	**52 403.02**
	Recurrent	15 578.80	13 648.29	10 545.64	12 630.29	52 403.02
Cotton Division	*Total*	**161.07**	**163.66**	**165.03**	**176.99**	**666.75**
	Recurrent	161.07	163.66	165.03	176.99	666.75
Development Control Authority	*Total*	**272.41**	**270.12**	**317.70**	**395.97**	**1 256.20**
	Recurrent	272.41	270.12	317.70	395.97	1 256.20
Department of Environment	*Total*	**721.85**	**1 338.93**	**1 379.42**	**1 655.02**	**5 095.23**
	Recurrent	721.85	1 338.93	1 379.42	1 655.02	5 095.23
Fisheries Division	*Total*	**210.69**	**220.05**	**212.53**	**212.14**	**855.42**
	Recurrent	210.69	220.05	212.53	212.14	855.42
Meteorological Office	*Total*	**779.68**	**814.83**	**921.69**	**792.65**	**3 308.85**
	Recurrent	779.68	814.83	921.69	792.65	3 308.85
National Office of Disaster Services	*Total*	**600.25**	**563.93**	**153.47**	**1 085.73**	**2 403.38**
	Capital	0.00	0.00	0.00	390.00	390.00
	Recurrent	600.25	563.93	153.47	695.73	2 013.38
Surveys Division	*Total*	**176.24**	**179.30**	**185.09**	**216.60**	**757.22**
	Recurrent	176.24	179.30	185.09	216.60	757.22
Veterinary and Animal Husbandry	*Total*	**113.90**	**91.02**	**95.35**	**98.62**	**398.90**
	Capital	9.57	0.00	0.00	0.00	9.57
	Recurrent	104.33	91.02	95.35	98.62	389.32
Works Division	*Total*	**11 032.24**	**3 072.89**	**6 508.33**	**21 957.84**	**42 571.30**
	Capital	11 032.24	3 019.99	6 443.06	21 801.45	42 296.74
	Recurrent	0.00	52.90	65.27	156.39	274.56

Annex IV: Summary of international public climate finance provision 2014-2017: multilateral and bilateral climate change finance in Antigua and Barbuda

Financial support received

		2014		2015		2016		2017		2014–2017	
		XCD	USD	XCD	USD	XCD	USD	XCD	USD	**XCD**	**USD**
Channel of finance	Climate – bilateral	–	–	–	–	–	–	846 407	311 614	**846 407**	**311 614**
	Climate – multilateral	440 029	211 476	1 234 031	454 323	591 353	217 713	8 966 861	3 301 252	**11 232 274**	**4 184 764**
	Other – multilateral	–	–	–	–	–	–	36 312	16 718	**36 312**	**16 718**
Type of support	Adaptation	67 178	24 732	0	0	80 619	29 681	7 743 851	2 850 987	**7 891 648**	**2 905 400**
	Cross-cutting	372 851	137 269	436 886	160 845	510 734	188 033	1 702 687	630 213	**3 023 158**	**1 116 359**
	Mitigation	0	49 475	797 145	293 478	0	0	403 042	148 384	**1 200 187**	**491 337**
Total		**440 029**	**211 476**	**1 234 031**	**454 323**	**591 353**	**217 713**	**9 849 580**	**3 629 585**	**12 114 993**	**4 513 097**

Source: DOE. 2019. *Climate Finance Flows Assessment: Multilateral and Bilateral Support Received*. DOE, Government of Antigua and Barbuda.

Colophon

The preparation of this report is in response to the twenty-third Conference of Parties, requesting the UNFCCC secretariat, in collaboration with the operating entities of the Financial Mechanism, United Nations agencies and bilateral, regional and other multilateral channels, to explore ways of assisting developing country Parties in assessing their climate finance needs and priorities, in a country-driven manner, including technological and capacity-building needs, and in translating those needs into action (decision 6/CP.23, paragraph 10).

For further information contact
United Nations Framework Convention on Climate Change
Capacity-building Sub-division
Means of Implementation Division
Platz der Vereinten Nationen 1
53113 Bonn, Germany
Capacity-building@unfccc.int
Telephone +49 228 815 10 00
Telefax +49 228 815 19 99

For more information, please visit
https://unfccc.int/NBF_Project

Written by
Watson C, Robertson M, Ramdin A and Bailey C.

Art Direction & Design
Atomo Design, Amsterdam

Cover image
iStockphoto