



Revised Low Carbon Development Roadmap for Belize

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Prepared for:

**Ministry of Agriculture, Fisheries, Forestry, the Environment
and Sustainable Development**

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Acronyms and abbreviations

APAMO	Association of Protected Areas Management Organizations
BAU	Business as Usual
BCCI	Belize Chamber of Commerce and Industry
BECOL	Belize Electric Company Limited
BELCOGEN	Belize Co-Generation Energy Limited
BELPO	Belize Institute for Environmental Law and Policy
BELTRAIDE	Belize Trade and Investment Development
BNCCC	Belize National Climate Change Committee
BSWaMA	Belize SWM Authority
CARDI	Caribbean Agriculture Research Development Institute
CBA	Central Building Authority
CBB	Central Bank of Belize
CBD	Convention on Biodiversity
CCCCC	Caribbean Community Climate Change Centre
CCTF	Climate Change Trust Fund
CDM	Clean Development Mechanism
CNA	Capacity Needs Assessment
CSF	Critical Success Factor
COP	Conference of the Parties
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CPF	Carbon Partnership Facility
CZMAI	Coastal Zone Management Authority & Institute
DFC	Development Finance Corporation
EE	Energy Efficiency
EIA	Environmental Impact Assessment
FIT	Feed-in tariff
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse gases
GoB	Government of Belize
GSDS	Growth and Sustainable Development Strategy
ICI	International Climate Initiative
IDB	Inter-American Development Bank



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IFAD	International Fund for Agricultural Development
NDC	Nationally Determined Contribution
KP	Kyoto Protocol
LAIF	Latin American Investment Facility
LCD	Low Carbon Development
LCDS	Low Carbon Development Strategy
LULUCF	Land use, land-use change and forestry
MAC	Marginal Abatement Cost
MAFFESD	Ministry of Agriculture, Fisheries, Forestry, the Environment and Sustainable Development (former Ministry of Forestry, Fisheries and Sustainable Development / MFFSD)
MECYS	Ministry for Education Culture, Youth and Sports
MEDPITC	Ministry of Economic Development, Petroleum, Investment, Trade & Commerce (former Ministry of Finance and Economic Development/MFED)
MFPSEPU	Ministry of Finance, Public Service, Energy, and Public Utilities (former Ministry of Energy, Science, and Technology and Public Utilities/MESTPU)
MHDSTPA	Ministry for Human Development, Social Transformation and Poverty Alleviation
MH	Ministry of Health
MHUD	Ministry for Housing and Urban Development
MLLGRD	Ministry of Labor, Local Government and Rural Development
MTCA	Ministry of Tourism and Civil Aviation
MWTN	Ministry for Works, Transport and NEMO
MNRI	Ministry of Natural Resources and Immigration (former Ministry of Natural Resources and Agriculture/MNRA)
M&E	Monitoring and Evaluation
NAMA	Nationally Appropriate Mitigation Action
NAFP	National Agriculture and Food Policy
NCCC	National Climate Change Coordinator
NCCPSAP	National Climate Change Policy, Strategy and Action Plan
NCCO	National Climate Change Office
NDC	Nationally Determined Contribution
NDF	Nordic Development Fund
NEFCO	Nordic Environment Finance Corporation
NEMO	National Emergency Management Organization
NIWRA	National Integrated Water Resources Authority
NMM	New Market Mechanism
NPAS	National Protected Areas System
NSDS	National Sustainable Development Strategy



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PACT	Protected Areas Conservation Trust
PfB	Program for Belize
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public-Private Sector Partnership
PUC	Public Utilities Commission
RE	Renewable Energy
R-PP	Readiness Preparation Proposal
SD	Sustainable development
SIB	Statistical Institute of Belize
SICA	Central American Integration System
SIF	Social Investment Fund
SDU	Sustainable Development Unit
SWMP	Solid Waste Management Programme
TA	Technical Assistance
TIDE	Toledo Institute for Development and Environment
UB	University of Belize
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change



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1 General overview

1.1 Introduction

Climate change is regarded as a serious development issue that can have adverse effects on Belize's economic growth and natural and human capital. Despite being a small country with a relatively minor contribution to global Greenhouse Gas (GHG) emissions, Belize is committed to playing its part in achieving the ultimate goal of the United Nations Framework Convention on Climate Change (UNFCCC). In other words, Belize will contribute towards keeping the increase in the global average temperature to well below 2°C compared with preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C compared with preindustrial levels.

In recent years, the Government of Belize (GoB) has proactively increased its level of effort and resources allocated to the design, strengthening and implementation of policies and strategies seeking to establish different term goals geared towards mitigation of GHG emissions, the adoption of sustainable development principles and responsible practices, and overall low carbon development across its productive sectors.

In particular, the GoB recently approved and launched the Growth and Sustainable Development Strategy 2016-2019 (GSDS) for Belize. The foremost important objective of this strategic framework is to improve quality of life for all Belizeans, living now and in the future. To accomplish this, the GSDS details a set of critical success factors, as well as necessary conditions and actions, which require the contributions of the public sector in general and the active participation of other key actors in Belize.

In order to guide the development of decisive actions for a lower carbon and more resilient future for Belize, the first version of the Low Carbon Development (LCD) Roadmap (herein after refer to as 'Roadmap') was designed in 2015. The Roadmap was designed based on a thorough country readiness assessment, analysis of LCD alternatives and foremost the important feedback from the stakeholders.

Now on its second version, the Roadmap integrates the fundamental elements included in the GSDS, in addition to elements of other important public policy instruments that provide high level insights about specific sectors in the country. Furthermore, its content has been restructured into this more operational/executive document to make it easier-to-use, easier to be updated and from which specific action datasheets can be extracted and circulated/communicated more effectively.

Additionally, to provide a complete picture for the allocation of resources, the actions included in this Roadmap have been divided into two main tiers, depending on their level or priority, or urgency, in which they should be addressed. Each action has specific requirements that need to be addressed first before moving on with their implementation. For instance, these requirements include collaborating with and obtaining support from different organizations; the provision of specific resources or prerequisites; and specific time requirements for an action's completion.

The ultimate objective of the Roadmap is to assist the country in shifting its development path to a low-carbon economy that can contribute to the achievement of Belize's sustainable development goals.

Finally, this Roadmap can be considered a 'living' document since some of the actions may provide new insights for further develop steps or actions and/or produce changes in the overall understanding, the list and sequencing of the actions.

1.2 Structure of the Low Carbon Development Roadmap

In order to facilitate the use of the Roadmap, Chapter 2 condenses the information on the proposed measures into a mind-mapping diagram, which provides a good overview of the hierarchy and interrelation between those actions. It includes all actions (divided into categories



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depending on their main area of focus) and highlights their corresponding priority level, the leading implementing organization and the organizations considered relevant for providing support when undertaking each action.

Chapter 3 provides a breakdown of the Roadmap presented as a detailed Gantt chart. This chart includes the name of each specific action, the sectors involved, the specific outputs expected and the timespan foreseen for their implementation. The objective is to provide a more detailed overview of the activities and the sequencing of their development. Tier 1 activities are aimed at setting the foundations for overall LCD in Belize, while Tier 2 activities are either dependent on the completion of one or more Tier 1 activities, or will require the procurement of additional resources (e.g. international support). Tier 2 activities will have more significant effects and positive impacts in the mid or long term.

Chapter 4 contains a detailed description of each action, including the analysis that led to the identification of each specific gap and the incorporation of the action into the Roadmap. This information has been organized in individual data sheets, to make it easier to locate and revise them in the future as the instrument is improved over time.

Finally, Chapter 5 summarizes the key conclusions of this Roadmap exercise, and points out specific lines of action that will build on previous efforts undertaken by Belize and will facilitate the Roadmap's implementation.

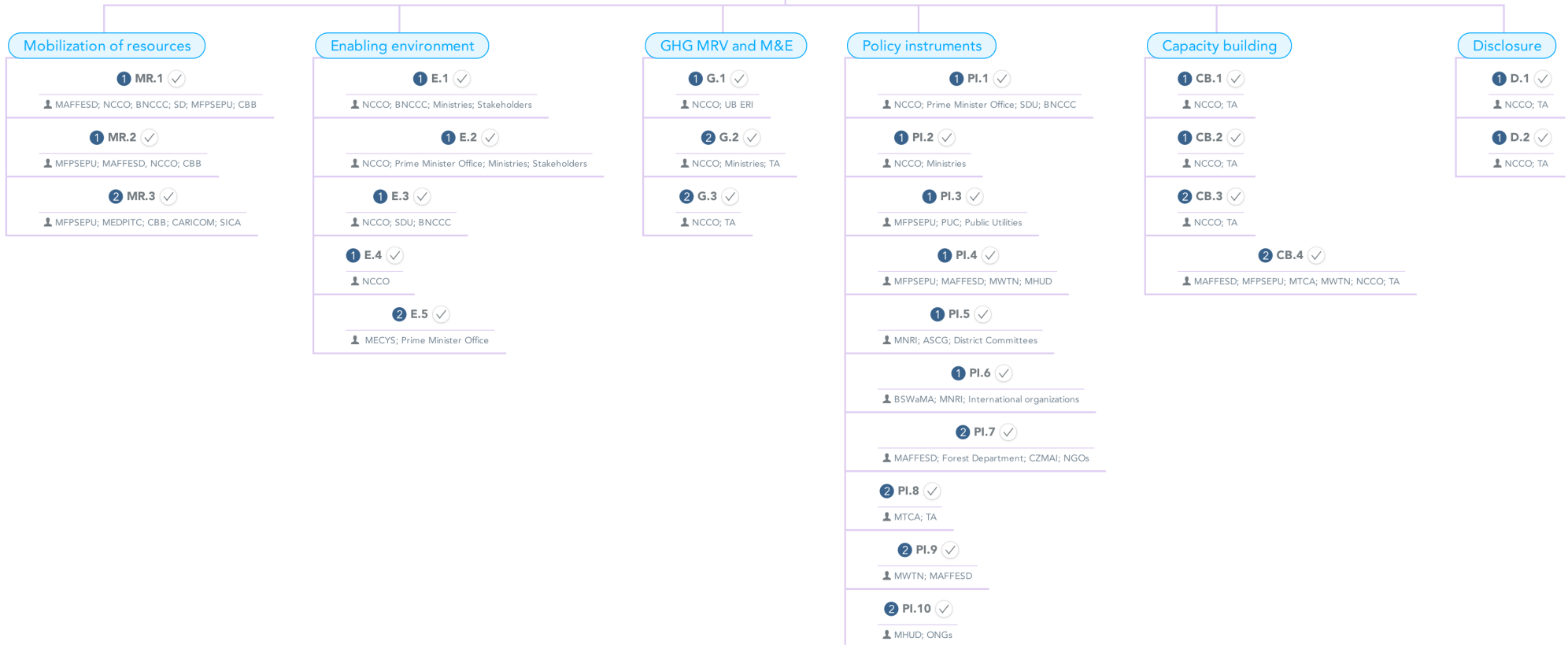


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2 Mind-Mapping

Roadmap



TA: means technical assistance.



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3 LCD Roadmap

TIER		Sectors
1		A Agriculture
2		E Energy
		L Land use, land-use change and forestry (LULUCF)
		T Tourism
		Tr Transport
		W Waste

Activity	Sectors included						Expected output	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
	A	E	L	T	Tr	W		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
Enabling environment																			
E.1 Promote national dialogue on GHG emissions policy instruments	✓	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> National workshops on carbon policy instruments (e.g. GSDS, LCD Roadmap) Reformed, reconfigured and/or new institutions Reformed regulations 												
E.2 Conduct a national-level Capacity Needs Assessment (CNA)	✓	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> CNA report 												
E.3 Facilitate vertical integration of staff in the public sector and building partnerships with other actors	✓	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> Vertically integrated administrative staff within the ministries New partnerships (mainly with the private sector) for either broad working frameworks or specific projects 												
E.4 Improve nationwide communication regarding Sustainable Development (SD) actions	✓	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> Yearly report of SD related initiatives Public consulting interface for communication and ongoing interaction with stakeholders 												
E.5 Incorporate LCD related research and technological innovation in the education system.	✓	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> Built capacity in Belize for LCD related topics from early education stages 												



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Activity	Sectors included						Expected output	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
	A	E	L	T	Tr	W		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
	Policy instruments																		
PI.1 Carry out institutional and regulatory reforms to reinforce climate change management	✓	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> Reconfigured institutions Reformed regulations 	■	■	■									
PI.2 Develop and implement carbon policy instruments	✓	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> A carbon policy instrument design document per sector Requests to donors for financing to enable implementation Business case, NAMA Design Document and technical assistance to prepare proposals/requests to NAMA donors for additional financing to facilitate implementation NAMA Outline for each NAMA under conceptual design 		■	■	■	■	■						
PI.3 Carry out regulatory reforms feed-in tariff (FiT)		✓					<ul style="list-style-type: none"> Amended Electricity Act with the introduction of a FiT Increased capacities within the MFPSEPU and its supporting institutions to successfully implement a LCDS 		■	■	■	■							
PI.4 Implement the sustainable energy action plan		✓					<ul style="list-style-type: none"> Enhanced capacities within the MFPSEPU An EE and RE projects portfolio 		■	■	■	■							
PI.5 Support the implementation of the National Agriculture and Food Policy (NAFP) to address climate change concerns	✓						<ul style="list-style-type: none"> A strengthened capacity in the agricultural sector The establishment of a network of high level specialists The development of a communications strategy 		■	■	■	■							
PI.6 Support the implementation of the National SWM Policy and report progress in the measures implementation						✓	<ul style="list-style-type: none"> Measures implemented in accordance to the 'Strategy and Implementation Plan' of the 'National SWM Policy' Report of the progress in the implementation of the 'National SWM Policy' 		■	■	■	■							
PI.7 Update REDD+ relevant policies (including blue carbon sink) and prepare an strategy			✓				<ul style="list-style-type: none"> Updated or new policy with provisions for forests in private lands and blue carbon sink preservation 					■	■	■	■	■	■	■	■
PI.8 Conduct a regulatory reform for tourism sector				✓			<ul style="list-style-type: none"> Revised tourism regulatory framework, including the National Tourism Policy and National Sustainable Tourism Master Plan Training workshops on responsible tourism practices and LCDS 					■	■	■	■	■	■	■	■
PI.9 Conduct a regulatory reform for transport sector						✓	<ul style="list-style-type: none"> Revised transport regulation Increased capacity of the MWTN Established data collection system for the transport industry (e.g. number of vehicles by category, distance traveled, etc.), including required data for the calculation of sectoral GHG emissions 					■	■	■	■	■	■	■	■
PI.10 Promote an integrative urban-rural development	✓	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> National guidelines on territorial planning drive urban-rural integrated development for Belize. 					■	■	■	■	■	■	■	■



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Activity	Sectors included						Expected output	Timeline																				
	A	E	L	T	Tr	W		2016 H1	2016 H2	2017 H1	2017 H2	2018 H1	2018 H2	2019 H1	2019 H2	2020 H1	2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023 H1	2023 H2	2024 H1	2024 H2	2025 H1	2025 H2	
Mobilization of resources																												
MR.1 Climate Change Trust Fund (CCTF)	✓	✓	✓	✓	✓	✓	• CCTF																					
MR.2 Mapping financing options available and undertaking activities to promote financial readiness	✓	✓	✓	✓	✓	✓	• Portfolio of financing sources																					
MR.3 Reduce the risk profile of the country	✓	✓	✓	✓	✓	✓	• Designed portfolio of financing sources focused on promoting investment • Designed set of financial instruments oriented to ease business development																					
Capacity building																												
CB.1 Carry out LCDS capacity building	✓	✓	✓	✓	✓	✓	• Capacity built in the country																					
CB.2 Develop MRV preparedness program and provide the corresponding training	✓	✓	✓	✓	✓	✓	• MRV preparedness program • Training workshops on MRV																					
CB.3 Carrying out proposal preparation training for funding request	✓	✓	✓	✓	✓	✓	• Capacity built for proposal preparation in the country																					
CB.4 Develop more technically-trained staff in highly specialized areas	✓	✓	✓	✓	✓	✓	• Training workshops on responsible agriculture practices • Improved capacities in the MESTPU and supporting institutions • New technical capacities in the LULUCF sector • Training workshops on responsible tourism practices • Increased capacity of the Ministry of Works and Transport																					
Disclosure																												
D.1 Confirm priority sectors and update GHG emission reduction targets	✓	✓	✓	✓	✓	✓	• Updated emission reduction targets in key sectors for Belize.																					
D.2 Submit BUR (two years after the 3rd NC of with the 4th NC)	✓	✓	✓	✓	✓	✓	• Developed BUR • Belize's compliance with international commitments																					
GHG emissions MRV and Monitoring and Evaluation (M&E)																												
G.1 Update the GHG emissions inventory	✓	✓	✓	✓	✓	✓	• Updated GHG emissions inventory • Developed institutional capacity, processes and tools that enable NCCO to develop GHG inventories independently and continuously																					
G.2 Develop an MRV and M&E integrated system	✓	✓	✓	✓	✓	✓	• An integrated MRV and M&E system																					
G.3 Develop BAU baseline scenarios and MAC curves for 2030 and 2050	✓	✓	✓	✓	✓	✓	• Developed BAU baseline scenarios • Developed MAC curves																					



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4 Actions towards an LCD path

4.1 Enabling environment

E.1	Promote national dialogue on GHG emissions policy instruments
Sector	Cross-sectoral.
Rationale	In order to initiate LCD growth and invest limited resources strategically, it is first recommended to create a favorable environment. This implies having a thorough knowledge of existing policy instruments related to GHG emissions, as well as those in the design process, which seek to contribute to achieving the goals and commitments of the country.
Scope	<ul style="list-style-type: none"> Start a national dialogue (e.g. through a workshop) with relevant stakeholders and conclude on specific reforms that will have to be undertaken with the support of all ministries.
Outputs	<ul style="list-style-type: none"> National workshops on carbon policy instruments (e.g. GSDS, LCD Roadmap); Reformed, reconfigured, and/or new institutions; Reformed regulations.
Responsible entity	<ul style="list-style-type: none"> Lead by the National Climate Change Office (NCCO).
Collaborators	<ul style="list-style-type: none"> All ministries; Identified key stakeholders. With special support from the Belize National Climate Change Committee (BNCCC), as a broad-based multi-stakeholder committee.
Start	<ul style="list-style-type: none"> 1st half of 2016.
Duration	<ul style="list-style-type: none"> 6-12 months.
Estimated cost	<ul style="list-style-type: none"> To be determined by the NCCO in accordance with the type and number of sessions to be undertaken. Nevertheless, the estimated costs for undertaking 3-4 workshops is approximately USD 60,000 to 80,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources (i.e. the original assigned budget or a supplementary entry) as in-kind contributions from government agency officers (e.g. time which will be spent working on this the Roadmap). International agencies support (e.g. United Nations Development Program/UNDP, United Nations Environment Program/UNEP and Global Environment Facility/GEF). They could provide grants or in-kind complementary support, specifically by providing international experts.
Relevant policy documents	<ul style="list-style-type: none"> Belize's NDCs (submitted to the UNFCCC on 21st April 2016); 'Growth and Sustainable Development Strategy' (critical success factor 1).



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E.2	Conduct a national-level Capacity Needs Assessment (CNA)
Sector	Cross-sectoral.
Rationale	The country needs to build new capacity on different fronts (e.g. technical, institutional and financial). Nevertheless, there is a lack of clarity about the specific needs of each of the relevant actors that will be part of the Low Carbon Development Strategy (LCDS) in the country.
Scope	<ul style="list-style-type: none"> Conduct a CNA to identify general and specific gaps and commit funds to address them.
Outputs	<ul style="list-style-type: none"> CNA report.
Responsible entity	<ul style="list-style-type: none"> NCCO. It is also recommended to progressively shift towards the Prime Minister's office.
Collaborators	<ul style="list-style-type: none"> All the ministries to facilitate meeting their capacity needs. Stakeholders considered relevant by the NCCO for the implementation stage of a LCDS.
Start	<ul style="list-style-type: none"> 2nd half of 2016.
Duration	<ul style="list-style-type: none"> 6 months.
Estimated cost	<ul style="list-style-type: none"> To be determined by the NCCO in accordance with the means used to gather information and the potential need of external support. The approximate costs for technical assistance would be USD 50,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; International supporting organizations (for technical assistance)
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (human resource and capacity development strategy).



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E.3	Facilitate vertical integration of staff in the public sector and building partnerships with other actors
Sector	Cross-sectoral.
Rationale	Moving towards LCD will require the creation of synergies within each ministry to equalize the level of knowledge and awareness regarding Climate Change (CC) and Sustainable Development (SD) topics in general. Furthermore, the formalization of partnerships among different actors in Belize, mainly with the private sector, must be promoted and facilitated.
Scope	<ul style="list-style-type: none"> Design and carry out different capacity building activities within each ministry to promote knowledge and experience exchange; Conduct periodic matchmaking events to promote interaction between these sectors.
Outputs	<ul style="list-style-type: none"> Vertically integrated administrative staff within the ministries; New partnerships (mainly with the private sector) for either broad working frameworks or specific projects.
Responsible entity	<ul style="list-style-type: none"> NCCO.
Collaborators	<ul style="list-style-type: none"> Sustainable Development Unit (SDU) at MAFFESD; Belize National Climate Change Committee (BNCCC) at MAFFESD.
Start	<ul style="list-style-type: none"> 2nd half of 2016.
Duration	<ul style="list-style-type: none"> 12 months.
Estimated cost	<ul style="list-style-type: none"> The costs for carrying out actions within each ministry are to be determined by each ministry based on how often these events occur and the desired type of activity. The approximate costs for technical assistance would be USD 50,000; For the creation of new partnerships between public and private actors only, the cost of this activity could range from USD 80,000 to 120,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; International supporting organizations (for TA).
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (critical success factor 1).



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E.4	Improve nationwide communication regarding Sustainable Development (SD) actions
Sector	Cross-sectoral.
Rationale	Currently, despite recent public sector efforts, there is still a lack of wider awareness of SD related public policy instruments, programs, projects or initiatives in general.
Scope	<ul style="list-style-type: none"> Facilitate the communication of the most recent SD related activities under design and the level of progress of those already under implementation; Develop a platform to ease the access to initiatives, programs and projects related to SD.
Outputs	<ul style="list-style-type: none"> Yearly report of SD related initiatives; Public consulting interface for communication and ongoing interaction with stakeholders.
Responsible entity	<ul style="list-style-type: none"> NCCO as coordinator.
Collaborators	<ul style="list-style-type: none"> All the units and organizations involved in the design and development of SD related initiatives.
Start	<ul style="list-style-type: none"> 2nd half of 2016.
Duration	<ul style="list-style-type: none"> 12 months.
Estimated cost	<ul style="list-style-type: none"> Within a range of USD 30,000 to 40,000 for the assistance of outsourced technical assistance for the design of the first report; To be determined by the NCCO based on the type of platform to be developed.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; International supporting organizations (for Technical Assistance)
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (human resource and capacity development strategy).



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E.5	Incorporate LCD related research and technological innovation in the education system
Sector	Cross-sectoral.
Rationale	<p>The GoB has prioritized and invested heavily in education over the past few years. (Inter-American Development Bank, 2013)</p> <p>In order to strengthen adaptation capacities and to build community resilience, the GOB should equip education systems and infrastructure to prepare for climate change. Entire school communities, including local education authorities, administrative staff, teachers and parents, must be prepared to ensure a climate-safe school environment. Furthermore, the capacity of education systems to respond to new migration streams caused by climate change or to the requirement of new skills due to a changing environment, should be considered in the development of education strategies for adaptation to climate change. (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2011)</p>
Scope	<ul style="list-style-type: none"> Promoting research and technological innovation for LCD related topics in the education system for capacity building within Belize.
Outputs	<ul style="list-style-type: none"> Built capacity in Belize for LCD related topics from early education stages.
Responsible entity	<ul style="list-style-type: none"> Ministry for Education, Culture, Youth and Sports (MECYS).
Collaborators	<ul style="list-style-type: none"> Prime Minister's Office
Start	<ul style="list-style-type: none"> 2nd half of 2017.
Duration	<ul style="list-style-type: none"> 24 months.
Estimated cost	<ul style="list-style-type: none"> To be determined by the MECYS.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources. International supporting organizations (for technical assistance)
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (critical success factor 1, necessary condition 6); 'National Climate Change Policy, Strategy and Action Plan to Address Climate Change in Belize'.



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4.2 Policy instruments

PI.1	Carry out institutional and regulatory reforms to reinforce climate change management
Sector	Cross-sectoral.
Rationale	It will be very relevant to undertake the institutional reforms identified as outcomes from the national dialogue on GHG emissions policy instruments. This will strengthen the regulatory framework that will allow for actions comprised in the LCDS strategy to be undertaken.
Scope	<ul style="list-style-type: none"> • Designate focal contact point for each relevant institution, including at ministries, departments and statutory bodies, to serve as an expert for all climate change related issues; • Reform the EIA regulation to ensure that climate change adaptation and mitigation measures are an integral part of the EIA review process; • Provide the necessary resources to the MAFFESD (especially to the NCCO and the SDU) to implement the measures included in the LCD Roadmap and undertake capacity building; • Strengthen the BNCCC to make it a more focused and efficient committee, with a clearer political mandate and authority in more strategic lines of action for a LCD.
Outputs	<ul style="list-style-type: none"> • Reconfigured institutions; • Reformed regulations.
Responsible entity	<ul style="list-style-type: none"> • NCCO.
Collaborators	<ul style="list-style-type: none"> • Prime Minister's Office; • SDU; • BNCCC.
Start	<ul style="list-style-type: none"> • 2nd half of 2016
Duration	<ul style="list-style-type: none"> • 18 months.
Estimated cost	<ul style="list-style-type: none"> • To be determined by the NCCO. The in-kind resources estimated could be USD 40,000 to 50,000. The approximate costs for technical assistance would be USD 50,000.
Potential financial sources	<ul style="list-style-type: none"> • National budgetary resources. • International supporting organizations (for Technical Assistance)
Relevant policy documents	<ul style="list-style-type: none"> • 'Growth and Sustainable Development Strategy' (critical success factor 1); • 'National Climate Change Policy, Strategy and Action Plan to address Climate Change in Belize'.



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PI.2	Develop and implement carbon policy instruments
Sector	Cross-sectoral.
Rationale	<p>In order to boost Belize's shift towards LCD, it is recommended to design policy instruments focused on enabling GHG emissions reductions for any specific sector.</p> <p>Market-based instruments are being used widely around the world to mitigate GHG emissions, and numerous options exist. Some examples of these instruments might be National Appropriate Mitigation Actions (NAMAs), a carbon tax, subsidies for less carbon intensive activities, an ETS, a bilateral offset crediting mechanism, etc. Therefore, it is recommended that Belize assesses the feasibility of integrating one or several of these market-based instruments into its LCDS.</p> <p>As a starting point, the MAFFESD has already worked on the identification, prioritization and selection of promising NAMA concept ideas for Belize.</p>
Scope	<ul style="list-style-type: none"> • Define the concept of the carbon policy instrument: <ol style="list-style-type: none"> a. Identify, prioritize, and select the carbon policy instrument; b. Conduct a feasibility assessment. • Define the following elements of the selected carbon policy instrument: <ol style="list-style-type: none"> a. Structure/summary. Includes: objective, actions and activities (TA/support); b. MRV and Monitoring & Evaluation (M&E) metrics and system; c. Institutional and regulatory framework; d. Financial architecture; e. Capacity building program; f. Implementation roadmap. • Further development of previously designed NAMAs: <ol style="list-style-type: none"> a. RE NAMA: "On-grid Feed-in-Tariff + Off-grid Subsidy Scheme for RE Generation" in the energy sector; and b. Solid Waste Management NAMA "Non-industrial (Household + Municipal) Waste Management Program" for the waste sector. • NAMA conceptual design for other priority sectors for the country: agriculture, LULUCF and tourism.
Outputs	<ul style="list-style-type: none"> • A carbon policy instrument design document per sector; • Requests to donors for financing to enable implementation; • Business case, NAMA Design Document and TA to prepare proposals/requests to NAMA donors for additional financing to facilitate implementation; • NAMA Outline for each NAMA under conceptual design.
Responsible entity	<ul style="list-style-type: none"> • NCCO.
Collaborators	<ul style="list-style-type: none"> • All the ministries to which the policy instrument is directed to.
Start	<ul style="list-style-type: none"> • 2nd half of 2017.
Duration	<ul style="list-style-type: none"> • 24-36 months.
Estimated cost	<ul style="list-style-type: none"> • For RE and Waste (NAMA Concept Design already carried out):



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PI.2	Develop and implement carbon policy instruments
	<ul style="list-style-type: none"> ○ TA for the NAMA detailed design: USD 120,000 to 150,000; ○ Pilot of a RE NAMA: USD 800,000 to 1,000,000; ○ Pilot of a SWM NAMA: USD 500,000 to 750,000. • TA support to seek finance for implementation (i.e. NAMA Facility, GCF, GEF), USD 50,000 to 70,000 each including developing proposals and accompanying NAMA team to donors to make the case for funding; • The estimated cost only for the outline of a new NAMA could range from USD 40,000 to 60,000.
Potential financial sources	<ul style="list-style-type: none"> • There exists a broad range of options of possible financing sources for the design and implementation of this instrument, including: <ul style="list-style-type: none"> ○ Insurance / guarantees; ○ Grants / Trust Funds; ○ Incentives; ○ Soft loans; ○ Equity; ○ Enhanced policies; ○ Domestic carbon market; ○ Offsets. • The following are potential funding sources: <ul style="list-style-type: none"> ○ Green Climate Fund (GCF); ○ NAMA Facility; ○ Global Environment Facility (GEF); ○ Carbon Partnership Facility (CPF) of the World Bank; ○ Bilateral development aid by Germany, UK, France, Japan, US and others; ○ International Climate Initiative (ICI); ○ Nordic Development Fund (NDF) & Nordic Environment Finance Corporation (NEFCO) Carbon Finance and Funds; ○ Spanish NAMA Platform; ○ Austrian NAMA Initiative; ○ Latin American Investment Facility (LAIF); ○ IDB - NAMA Support in the LAC region.
Relevant policy documents	<ul style="list-style-type: none"> • 'Growth and Sustainable Development Strategy' (critical success factor 1); • 'National Climate Change Policy, Strategy and Action Plan to address Climate Change in Belize'.



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PI.3	Carry out regulatory reforms feed-in tariff (FiT)
Sector	Energy.
Rationale	The Energy sector has recently designed many public policy instruments (e.g. the Sustainable Energy Action Plan that includes the Belize Sustainable Energy Roadmap 2030) in order to promote the development of renewable energy projects (e.g. hydropower, wind power and lower energy intensities compared with business-as-usual (BAU) in different sectors). In order to boost such plans, and the related GHG emission mitigation actions, different incentives must be considered, designed and implemented.
Scope	<ul style="list-style-type: none"> Carry out regulatory reform to introduce a FiT; Build capacity of the Ministry of Finance, Public Service, Energy and Public Utilities (MFPSEPU) and supporting institutions.
Outputs	<ul style="list-style-type: none"> Amended Electricity Act with the introduction of a FiT; Increased capacities within the MFPSEPU and its supporting institutions to successfully implement an LCDS.
Responsible entity	<ul style="list-style-type: none"> MFPSEPU and the Public Utilities Commission (PUC).
Collaborators	<ul style="list-style-type: none"> Public Utilities.
Start	<ul style="list-style-type: none"> 2nd half of 2017.
Duration	<ul style="list-style-type: none"> 18-24 months.
Estimated cost	<ul style="list-style-type: none"> Developing the FiT regulation is To be determined by the MFPSEPU; The estimated cost for capacity building ranges between USD 60,000 to 120,000, depending on the number of people to be trained, the locations and the number of sessions to be undertaken.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; Climate funds (e.g. Global Climate Change Alliance/GCCA); Multilateral Development Banks (MDBs), for instance the UNDP, World Bank and IDB; Bilateral Finance Institutions (BFIs).
Relevant policy documents	<ul style="list-style-type: none"> 'Sustainable energy action plan Belize 2014-2030'; 'Belize sustainable energy Roadmap 2030'; 'Energy resilience for climate adaptation project'.



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PI.4	Implement the Sustainable Energy Action Plan
Sector	Energy.
Rationale	According to 2014 data, Belize is a net energy importer. Furthermore, only one third of its primary energy came from renewable energy sources. Based on this information, Belize's current sustainable energy objectives include: 1) dramatically lower energy intensities compared to BAU; 2) shift the energy matrix away from fossil fuels; 3) produce biofuels; 4) enhance national capacity in clean energy and clean production; and 5) modernize the grid. In order to achieve these objectives the implementation of this sustainable energy action plan must be facilitated.
Scope	<ul style="list-style-type: none"> • Provide specialized technical training; • Create an Energy Efficiency (EE) and Renewable Energy (RE) projects portfolio.
Outputs	<ul style="list-style-type: none"> • Enhanced capacities within the MFPSEPU; • An EE and RE projects portfolio.
Responsible entity	<ul style="list-style-type: none"> • MFPSEPU.
Collaborators	<ul style="list-style-type: none"> • MAFFESD; • MWTN; • Ministry for Housing and Urban Development (MHUD).
Start	<ul style="list-style-type: none"> • 2nd half of 2017.
Duration	<ul style="list-style-type: none"> • 12-18 months.
Estimated cost	<ul style="list-style-type: none"> • For proposal preparation training, depending on the number of people to be trained, the locations and the number of sessions, the cost of this activity would range from USD 40,000 to 60,000; • For the design of the required projects portfolio, it would depend mainly on the number, types and location of the projects to be assessed, but the approximate cost would be in the USD 80,000 to 120,000 range.
Potential financial sources	<ul style="list-style-type: none"> • National budgetary resources; • MDBs (e.g. World Bank, IDB), to support with MRV for training workshops; • Private sector; • Public-Private Sector Partnerships (PPPs).
Relevant policy documents	<ul style="list-style-type: none"> • 'Sustainable Energy Action Plan Belize 2014-2030'; • 'Growth and Sustainable Development Strategy' (critical success factor 1).



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PI.5	Supporting the implementation of the National Agriculture and Food Policy (NAFP) to address climate change concerns
Sector	Agriculture.
Rationale	The National Agriculture and Food Policy (NAFP) of Belize has recently been updated for the 2015-2030 period (currently in draft version). One of the most important changes is the inclusion of climate change mitigation and adaptation concerns, for instance the sustainable and rational use and management of the country's agricultural and natural resources. Foreseeing prompt official publication of this instrument, there is the need for provision of resources to move to the implementation phase.
Scope	<ul style="list-style-type: none"> • Conduct of training sessions for its strategic partners, stakeholders and MNRI staff on project cycle management, particularly project preparation; • Facilitate of the development of a National Network of Project Cycle Management Specialists; • Develop a communications strategy.
Outputs	<ul style="list-style-type: none"> • Strengthened capacity in the agricultural sector; • The establishment of a network of high level specialists; • The development of a communication strategy.
Responsible entity	<ul style="list-style-type: none"> • Ministry of Natural Resources and Immigration (MNRI)
Collaborators	<ul style="list-style-type: none"> • At national level: Agricultural Sector Coordination Group (ASCG) and Commodity Development Committees; • At district level: District Agriculture Development Committees
Start	<ul style="list-style-type: none"> • 2nd half of 2017.
Duration	<ul style="list-style-type: none"> • 18-24 months.
Estimated cost	<ul style="list-style-type: none"> • The estimated budget for the policy update is to be determined by the MNRI; • The training costs will depend on the number of people to be trained, training locations and number of sessions, but could range from USD 50,000 to 100,000.
Potential financial sources	<ul style="list-style-type: none"> • National budgetary resources; • National Development Bank/NDB (e.g. National Bank of Belize) and Public-Private Infrastructure Advisory Facility (PPIAF); • MDBs (e.g. World Bank, IDB), to support the MRV for training workshops; • Private sector; • Public-Private Sector Partnerships (PPPs).
Relevant policy documents	<ul style="list-style-type: none"> • 'National Agriculture and Food Policy' (NAFP) of Belize; • 'Growth and Sustainable Development Strategy' (critical success factor 1); • 'A National Adaptation Strategy to address climate change in the agriculture sector in Belize'.



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PI.6	Support the implementation of the National SWM Policy and report progress in the measures implementation
Sector	Waste.
Rationale	<p>"The existing system for managing solid wastes in Belize is financially and environmentally unsustainable" (Belize Solid Waste Management Authority (BSWaMA), 2015).</p> <p>The 'National Solid Waste Management (SWM) Policy for Belize' is the main public policy instrument regarding the management of solid wastes (e.g. municipal, industrial and hazardous types of waste, among others) for Belize. Its overall goal is to assist the GoB in promoting sustainable development and preventing and managing waste in an environmentally-sound manner. The technical and non-technical measures presented in the referred Policy will be implemented in accordance with a strategy and Implementation plan, which has been outlined already in the referred policy.</p>
Scope	<ul style="list-style-type: none"> Support the implementation of the 'Strategy and Implementation Plan' to guide undertaking the measures mapped in the 'National SWM Policy'; Support on the preparation of a report for the results from the progress of the implementation from the 'National SWM Policy for Belize'.
Outputs	<ul style="list-style-type: none"> Measures implemented in accordance to the 'Strategy and Implementation Plan' of the 'National SWM Policy'; Report of the progress in the implementation of the 'National SWM Policy'.
Responsible entity	<ul style="list-style-type: none"> BSWaMA.
Collaborators	<ul style="list-style-type: none"> Ministry of Natural Resources and Immigration (MNRI); International supporting organizations (e.g. Inter-American Development Bank/IDB, OPEC Fund for International Development/OFID).
Start	<ul style="list-style-type: none"> 2nd half of 2017.
Duration	<ul style="list-style-type: none"> 18-24 months.
Estimated cost	<ul style="list-style-type: none"> The in-kind resources needed are to be determined by BSWaMA; The costs of TA optional support is estimated in approximately USD 60,000 to 80,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; International supporting organizations (for Technical Assistance)
Relevant policy documents	<ul style="list-style-type: none"> 'National Solid Waste Management Policy for Belize'; 'Growth and Sustainable Development Strategy' (critical success factor 3); 'National Climate Change Policy, Strategy and Action Plan to address Climate Change in Belize'.



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P.7	Update REDD+ relevant policies (including blue carbon sink) and prepare an strategy
Sector	Land Use, Land-Use Change and Forestry (LULUCF).
Rationale	<p>The National Lands Act of 1992 controls the allocation of state lands by lease or sale to private ownership, which comprise the majority of the land in Belize. Under normal practice, a person interested in purchasing land must first obtain a long-term lease, to be able to undertake improvement activities afterwards. Unfortunately, the improvement concept frequently contemplates deforestation, since the assumption is that the land is required for agriculture. This act should be revisited to avoid deforestation.</p> <p>In addition to the REDD+ readiness activities currently being implemented and included in the Readiness Preparation Proposal (R-PP), mangroves and sea grass meadow (blue carbon sinks) preservation activities should be considered within this sector.</p> <p>Mangroves and shoreline protection services, are the most affected ecosystem as a result of coastal development. 30% of Belize's mangroves are currently at low risk from human stressors, while 58% are at medium risk and 12% at under high risk (Coastal Zone Management Authority and Institute (CZMAI), 2013).</p>
Scope	<ul style="list-style-type: none"> Amendment of forestry policies and legislation to preserve forests in private lands and include blue carbon sinks.
Outputs	<ul style="list-style-type: none"> Updated or new policy with provisions for forests in private lands and blue carbon sink preservation.
Responsible entity	<ul style="list-style-type: none"> MAFFESD.
Collaborators	<ul style="list-style-type: none"> Forest Department at MAFFESD; Coastal Zone Management Authority and Institute (CZMAI); Non-governmental organizations (e.g. Belize Association of Planners, Protected Areas Conservation Trust, and the Belize Audubon Society).
Start	<ul style="list-style-type: none"> 2nd half of 2019.
Duration	<ul style="list-style-type: none"> 42-48 months.
Estimated cost	<ul style="list-style-type: none"> The estimated in-kind resources for the policy update is to be determined by the MAFFESD; Optional TA support is estimated in approximately USD 60,000 to 80,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources. International supporting organizations (for Technical Assistance)
Relevant policy documents	<ul style="list-style-type: none"> 'Readiness Preparation Proposal (R-PP) for Belize'; 'Belize National Protected Areas System Plan'; 'Belize Integrated Coastal Zone Management Plan'; 'The National Integrated Coastal Zone Management Strategy for Belize'; 'National Climate Change Policy, Strategy and Action Plan to address Climate Change in Belize'.



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PI.8	Conduct regulatory reform for tourism sector
Sector	Tourism.
Rationale	The current tourism regulatory framework does not cover mitigation activities. In addition, communities might not be technically prepared to implement sustainable tourism practices.
Scope	<ul style="list-style-type: none"> Review the National Tourism Policy and the National Sustainable Tourism Master Plan to include climate change mitigation activities that seek to increase energy efficiency and the use of renewable energies; Engage and train communities and the private sector to develop responsible tourism practices. Integrate LCDS training into tourism courses to raise awareness regarding climate change and associated mitigation practices.
Outputs	<ul style="list-style-type: none"> Revised tourism regulatory framework, including the National Tourism Policy and National Sustainable Tourism Master Plan; Training workshops on responsible tourism practices and LCDS.
Responsible entity	<ul style="list-style-type: none"> Ministry of Tourism and Civil Aviation (MTCA).
Collaborators	<ul style="list-style-type: none"> TA from outsourced national or international experts.
Start	<ul style="list-style-type: none"> 2nd half of 2016.
Duration	<ul style="list-style-type: none"> 18-24 months.
Estimated cost	<ul style="list-style-type: none"> The estimated in-kind resources for the policy update is to be determined by the MTCA, but it should be part of budgetary national resources (i.e. domestic public finance sources); Optional TA support is estimated in approximately USD 30,000 to 40,000. The training costs will depend on the number of people to be trained, the training locations and the number of sessions required, but it could range from USD 50,000 to 100,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; Climate funds (e.g. GEF, GCF, GCCA); MDBs (e.g. UNDP, World Bank, IDB).
Relevant policy documents	<ul style="list-style-type: none"> 'Draft of Belize's National Policy on Responsible Tourism'; 'National Sustainable Tourism Master Plan for Belize 2030'.



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PI.9	Conduct regulatory reform for transport sector
Sector	Transport.
Rationale	The transport sector has many shortcomings, especially at the institutional, regulatory, technical and economic levels. These gaps need to be addressed in order for the sector to contribute to LCD.
Scope	<ul style="list-style-type: none"> Revise and update transport law and policies; Build capacity of the Ministry of Works, Transport and NEM (MWTN); Update and improve existing sectoral data, including adjust current data collection, and collect additional data necessary for the LCDS.
Outputs	<ul style="list-style-type: none"> Revised transport policies and regulations; Increased capacity of the MWTN; Established data collection system for the transport industry (e.g. number of vehicles by category, distance traveled), including required data for the calculation of sectoral GHG emissions.
Responsible entity	<ul style="list-style-type: none"> MWTN.
Collaborators	<ul style="list-style-type: none"> MAFFESD.
Start	<ul style="list-style-type: none"> 2nd half of 2016.
Duration	<ul style="list-style-type: none"> 36-48 months.
Estimated cost	<ul style="list-style-type: none"> The in-kind resources needed for the revision of the transport law and policies is to be determined by the MWTN. The estimated costs for optional technical assistance are USD 60,000 to 80,000. The estimated costs for other related activities are: <ul style="list-style-type: none"> For capacity building in the MWTN, USD 50,000 to 100,000; To update and improve existing sectoral data, USD 80,000 to 120,000.
Potential financial sources	<ul style="list-style-type: none"> The following sources could provide grants or in-kind support. <ul style="list-style-type: none"> National budgetary resources; Climate funds (e.g. GCCA, GEF, GCF); MDBs (e.g. UNDP, World Bank, IDB).
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (critical success factor 1, necessary condition 5, action 4).



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PI.10	Promote an integrative urban-rural development
Sector	Cross-sectoral.
Rationale	<p>Belize has a population of about 330,000 inhabitants, of which close to 50% live in urban areas (Central American Bank for Economic Integration, 2010).</p> <p>Currently, Belize is experiencing an urbanization process where people are moving into urban areas and intermediate settlements. Planning for integrative urban-rural development represents an important opportunity for the country to make efficient use of natural resources, increase energy efficiency in key country sectors (e.g. energy and transport) and build climate change resilience for Belizeans.</p>
Scope	<ul style="list-style-type: none"> Develop National guidelines on territorial planning for Belize.
Outputs	<ul style="list-style-type: none"> National guidelines on territorial planning drive urban-rural integrated development for Belize.
Responsible entity	<ul style="list-style-type: none"> Ministry for Housing and Urban Development (MHUD).
Collaborators	<ul style="list-style-type: none"> Non-profit non-governmental professional organizations (e.g. Belize Association of Planners/BAP, Association of Professional Engineers of Belize/APEB, Association of Professional Architects of Belize/APAB).
Start	<ul style="list-style-type: none"> 2nd half of 2019.
Duration	<ul style="list-style-type: none"> 36-48 months.
Estimated cost	<ul style="list-style-type: none"> The in-kind support is to be determined by the MHUD; Technical assistance support is estimated in approximately: <ul style="list-style-type: none"> USD 30,000 to 40,000 for updating national guidelines; USD 120,000 to 150,000 to develop a comprehensive Low Carbon City Development Strategy and Action Plan that could be then be adapted to mid-size and small cities (which represents additional USD 30,000 to 50,000).
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources. International supporting organizations (for Technical Assistance)
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (critical success factor 3).



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4.3 Mobilization of resources

MR.1	Climate Change Trust Fund (CCTF)
Sector	Cross-sectoral.
Rationale	The creation of separate funds dedicated to specific domestic plans usually provides an excellent mechanism to distribute funds centrally. Nonetheless, the oversight mechanism, the overall financial architecture, and the financial management procedures may be challenging for the existing level of national capacity.
Scope	<ul style="list-style-type: none"> • Create an CCTF to centralize reporting, data gathering, and resource mobilization.
Outputs	<ul style="list-style-type: none"> • Creation of the CCTF.
Responsible entity	<ul style="list-style-type: none"> • MFPSEPU.
Collaborators	<ul style="list-style-type: none"> • NCCO; • BNCCC; • SD; • MAFFESD; • Central Bank of Belize (CBB).
Start	<ul style="list-style-type: none"> • 2nd half of 2016.
Duration	<ul style="list-style-type: none"> • 6-12 months.
Estimated cost	<ul style="list-style-type: none"> • The estimated cost for these activities is to be determined by the NCCO, since it will depend on the chosen type of contract and management system; • Technical assistance support is estimated in USD 150,000 to 180,000.
Potential financial sources	<ul style="list-style-type: none"> • National budgetary resources. • International supporting organizations (for technical assistance)
Relevant policy documents	<ul style="list-style-type: none"> • 'Growth and Sustainable Development Strategy' (critical success factor 1); • 'National Climate Change Policy, Strategy and Action Plan to address Climate Change in Belize'.



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MR.2	Provide information about financing options available and undertaking activities to promote financial readiness
Sector	Cross-sectoral.
Rationale	There are several international financing options that are available to contribute for the design and/or implementation of LCD related activities (e.g. emission reduction activities). However, the relevant stakeholders perceive a low level of financial readiness, which might indicate a lack of available information. Furthermore, the activities to be carried out to achieve LCD will need to be financed, which has been identified as one of the main gaps in Belize.
Scope	<ul style="list-style-type: none"> Mapping financial sources that can provide funding for undertaking actions included in the Roadmap (e.g. climate finance), as well as other LCD related initiatives. This includes in-depth knowledge of the conditions needed to make these funds accessible to the responsible entity of each action (e.g. inter institutional arrangements).
Outputs	<ul style="list-style-type: none"> Portfolio of financing sources.
Responsible entity	<ul style="list-style-type: none"> MFPSEPU
Collaborators	<ul style="list-style-type: none"> MAFFESD; NCCO; Central Bank of Belize (CBB).
Start	<ul style="list-style-type: none"> 2nd half of 2016.
Duration	<ul style="list-style-type: none"> 6 months.
Estimated cost	<ul style="list-style-type: none"> The in-kind resources are to be determined by the MFPSEPU; Technical assistance support (e.g. updating and expanding a financing guide) is estimated in approximately USD 30,000 to 40,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources. International supporting organizations (for Technical Assistance)
Relevant policy documents	<ul style="list-style-type: none"> Mitigation and Carbon Markets Investor's Guide BELIZE; 'Growth and Sustainable Development Strategy' (resource mobilization and allocation options).



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MR.3	Reduce the risk profile of the country
Sector	Cross-sectoral.
Rationale	Being member of Caribbean Community (CARICOM) and Central American Integration System (<i>Sistema de la Integración Centroamericana</i> , SICA) provides Belize with opportunities for regional trade. Additionally, the GoB runs the Belize Trade and Investment Development Service (BELTRAIDE), through which it encourages investments in the following key sectors of the economy. Despite its great potential, there are still important risks that slow down investment in the country, for instance macroeconomic risks related with a recession scenario from trading partners, or challenges in implementing investment programs (Inter-American Development Bank, 2013).
Scope	<ul style="list-style-type: none"> Reducing the perception of risk related to investing in the country.
Outputs	<ul style="list-style-type: none"> Designed portfolio of financing sources focused on promoting investment; Designed set of financial instruments oriented to ease business development.
Responsible entity	<ul style="list-style-type: none"> MFPSEPU.
Collaborators	<ul style="list-style-type: none"> MEDPITC; CBB; CARICOM; SICA.
Start	<ul style="list-style-type: none"> 2nd half of 2017.
Duration	<ul style="list-style-type: none"> 60 months.
Estimated cost	<ul style="list-style-type: none"> To be determined by MFPSEPU.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources. International supporting organizations (for technical assistance)
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (critical success factor 1 and resource mobilization and allocation options).



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4.4 Capacity building

CB.1	Carry out LCDS capacity building
Sector	Cross-sectoral
Rationale	Taking into consideration that Belize is currently designing different components towards completion of the LCDS, it is important to provide training not only for awareness raising but also for balancing the level of knowledge among the different stakeholders, mainly the public sector. Furthermore, part of the training sessions can be used to update the participants about the most recent initiatives implemented in the country.
Scope	<ul style="list-style-type: none"> Providing training centered on the implementation of a LCDS.
Outputs	<ul style="list-style-type: none"> Strengthened capacity in the country.
Responsible entity	<ul style="list-style-type: none"> NCCO.
Collaborators	<ul style="list-style-type: none"> Technical assistance from outsourced national or international experts.
Start	<ul style="list-style-type: none"> 2nd half of 2016.
Duration	<ul style="list-style-type: none"> 6-12 months.
Estimated cost	<ul style="list-style-type: none"> Depending on the number of people to be trained and the location and number of training sessions, the cost of this activity could range from USD 40,000 to 60,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; International supporting organizations (for technical assistance)
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (human resource and capacity development strategy).



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CB.2	Develop MRV preparedness program and provide the corresponding training
Sector	Cross-sectoral
Rationale	<p>A Monitoring, Reporting and Verification (MRV) system allows quantification of the:</p> <ul style="list-style-type: none"> • GHG emission reduction impact; • SD impacts (environmental, economic and social); and • Efficiency of the investment/support (MRV of finance). <p>Such an instrument is essential for supervising the progress of a project with regards to the achievement of results in the implementation of a project. An MRV system is a core element of NAMA design and development.</p> <p>Currently, there is a need for capacity building in this area.</p>
Scope	<ul style="list-style-type: none"> • Developing an MRV preparedness program; • Carrying out MRV capacity building.
Outputs	<ul style="list-style-type: none"> • MRV preparedness program; • Training workshops on MRV.
Responsible entity	<ul style="list-style-type: none"> • NCCO.
Collaborators	<ul style="list-style-type: none"> • Technical assistance from outsourced national and international experts.
Start	<ul style="list-style-type: none"> • 2nd half of 2017.
Duration	<ul style="list-style-type: none"> • 6-12 months.
Estimated cost	<ul style="list-style-type: none"> • For the development of the MRV preparedness program, the estimated costs range between USD 40,000 to 60,000; • For MRV training, depending on the number of people to be trained and the locations and number of sessions, the cost of this activity would range from USD 60,000 to 120,000.
Potential financial sources	<ul style="list-style-type: none"> • National budgetary resources; • International supporting organizations (for technical assistance), to support the MRV preparedness program and training workshops.
Relevant policy documents	<ul style="list-style-type: none"> • UNFCCC's 'Handbook on MRV for developing countries'; • Belize's 2nd and 3rd NCs; • 'Growth and Sustainable Development Strategy' (human resource and capacity development strategy).



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CB.3	Carrying out proposal preparation training for funding request
Sector	Cross-sectoral.
Rationale	<p>Regarding the implementation phase, a LCDS might suffer when policy priorities are not aligned with the national budget and thus are not considered as high priority.</p> <p>Additionally, not being able to gather substantial amounts of funds for the design or development of LCD related initiatives domestically might be a barrier difficult to overcome for some countries; especially for non-Annex I countries.</p>
Scope	<ul style="list-style-type: none"> Capacity building to adequately design and prepare proposals to request funding for LCD activities.
Outputs	<ul style="list-style-type: none"> Capacity built for proposal preparation in the country.
Responsible entity	<ul style="list-style-type: none"> NCCO.
Collaborators	<ul style="list-style-type: none"> Technical assistance from outsourced national and international experts.
Start	<ul style="list-style-type: none"> 2nd half of 2018.
Duration	<ul style="list-style-type: none"> 18-24 months.
Estimated cost	<ul style="list-style-type: none"> Depending on the number of people to be trained and the locations and number of sessions, the cost of this activity would range from USD 40,000 to 60,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; International supporting organizations (for technical assistance) for capacity building and proposal preparation training workshops.
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (human resource and capacity development strategy).



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CB.4	Develop more technically-trained staff in specialized areas
Sector	Agriculture, Energy, LULUCF, Tourism and Transport.
Rationale	<p>Current sectoral regulations and policies are being reformed to include climate change mitigation concerns.</p> <p>Even though this is a cross-cutting need, the lack of technical capacity for implementing sustainable practices in key lines of action for specific sectors requires special attention. For instance, in the agricultural sector, farmers are not technically prepared to implement responsible agriculture practices.</p>
Scope	<ul style="list-style-type: none"> Engage and train farmers to develop responsible agriculture practices; Strengthen technical capacity at the MFPSEPU and its supporting institutions; Develop capacity in the LULUCF regarding carbon policy instruments (e.g. Jurisdictional and Nested REDD+/JNR), especially for piloting and implementing stages; Engage and train communities and the private sector to develop responsible tourism practices and raise awareness regarding climate change and associated mitigation actions; Build technical capacity in the Ministry of Works and Transport.
Outputs	<ul style="list-style-type: none"> Training workshops on responsible agriculture practices; Improved capacity of the Energy Unit in the MFPSEPU and supporting institutions; New technical capacities in the LULUCF sector; Training workshops on responsible tourism practices; Increased capacity of the Ministry of Works and Transport.
Responsible entity	<ul style="list-style-type: none"> MAFFESD; MFPSEPU; MTCA; MWTN.
Collaborators	<ul style="list-style-type: none"> NCCO; Technical assistance from outsourced national and international experts.
Start	<ul style="list-style-type: none"> 2nd half of 2020.
Duration	<ul style="list-style-type: none"> 30-36 months.
Estimated cost	<ul style="list-style-type: none"> For training, depending on the number of people to be trained and the locations and number of sessions, the cost of this activity could range from USD 50,000 to 100,000 per sector.
Potential financial sources	<ul style="list-style-type: none"> Climate funds (e.g. Regional Fund for Agricultural Technology/FONTAGRO, GCCA, International Fund for Agricultural Development/IFAD); MDBs (e.g. World Bank, IDB); BFI (e.g. Climate and Development Knowledge Network, CDKN).
Relevant policy documents	<ul style="list-style-type: none"> 'Growth and Sustainable Development Strategy' (human resource and capacity development strategy).



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4.5 Disclosure

D.1	Confirm priority sectors and update GHG emission reduction targets
Sector	Cross-sectoral.
Rationale	<p>In the context of the 21st Conference of the Parties (COP) in Paris, Belize's Nationally Determined Contribution (NDCs) for the post COP21 phase included:</p> <ul style="list-style-type: none"> • Reducing Belize's GHG emissions by 24 million tons of CO₂e (tCO₂e) over the 2014 -2033 period; • Increasing the share of renewable energies in Belize's electricity mix by 85% by 2030, with a 62% carbon dioxide emissions reduction compared to a BAU scenario; • Achieving at least a 20% reduction in conventional transportation fuel use by 2030 and promoting energy efficiency in the transport sector through appropriate policies and investments; • Addressing issues of deforestation and afforestation; • Developing and implementing a countrywide Integrated Solid Waste Management Programme (SWMP), a solid waste mitigation strategy and a NAMA, including a Measuring, Reporting and Verification (MRV) scheme and financing options for Clean Development Mechanism (CDM) projects. <p>These NDCs, besides meeting international commitments, are in line with a LCD and need to be confirmed once the GHG emissions inventory is updated to improve the likelihood of Belize in meeting the expected results.</p>
Scope	<ul style="list-style-type: none"> • Confirmation of key sectors for the country regarding GHG emissions and the related emissions reductions targets.
Outputs	<ul style="list-style-type: none"> • Updated emission reduction targets in key sectors for Belize.
Responsible entity	<ul style="list-style-type: none"> • NCCO.
Collaborators	<ul style="list-style-type: none"> • Technical assistance from outsourced national and international experts.
Start	<ul style="list-style-type: none"> • 1st half of 2020.
Duration	<ul style="list-style-type: none"> • 6 months.
Estimated cost	<ul style="list-style-type: none"> • The in-kind resources needed are to be determined by the NCCO; • Technical assistance costs for the development of a LCDS document for the country are approximately USD 100,000 to 120,000; • The costs of technical assistance to revise and refine National Determine Contributions (NDCs) are USD 60,000 to 80,000; • The costs related to GHG emissions reductions targets are USD 20,000 to 25,000 per sector.
Potential financial sources	<ul style="list-style-type: none"> • National budgetary resources.
Relevant policy documents	<ul style="list-style-type: none"> • Belize's NDCs (submitted to the UNFCCC on 21st April 2016); • Belize's 2nd and 3rd NCs.



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D.2	Submit BUR
Sector	Cross-sectoral.
Rationale	<p>All the Parties of the UNFCCC must submit national implementation reports to the COP.</p> <p>On one hand, non-Annex I parties must submit National Communications (NCs) to provide information on greenhouse gas (GHG) inventories and any other information related to the achievement of the objective of the Convention. This reports must be submitted every four years after the submission of the first one. Belize submitted its 2nd NC on October 2011, an updated version afterwards on May 2012 and is about to submit its 3rd NC in 2016.</p> <p>On the other hand, non-Annex I parties should submit the Biennial Update Report (BUR) every two years to provide an update regarding the content of the NCs. As every other Small Island Developing State (SIDS), Belize may submit its BUR at its own discretion and could do it two years after the 3rd NC or along with the 4th NC.</p>
Scope	<ul style="list-style-type: none"> Develop the BUR to provide updates to the UNFCCC on the status regarding mitigation actions and the mitigation priority actions that are planned to be undertaken.
Outputs	<ul style="list-style-type: none"> Developed BUR; Belize's compliance with international commitments.
Responsible entity	<ul style="list-style-type: none"> NCCO.
Collaborators	<ul style="list-style-type: none"> Technical assistance from outsourced national and international experts.
Start	<ul style="list-style-type: none"> 1st half of 2017.
Duration	<ul style="list-style-type: none"> 6-8 months.
Estimated cost	<ul style="list-style-type: none"> The cost of this activity could range from USD 60,000 to 80,000.
Potential financial sources	<ul style="list-style-type: none"> Existing support programs for the development or improvement of GHG inventories (e.g. UNEP Global Support Programme for Preparation of National Communications and Biennial Update Reports for non Annex I Parties under the UNFCCC).
Relevant policy documents	<ul style="list-style-type: none"> Belize's 2nd and 3rd NCs; UNFCCC's 'Consultative Group of Experts Training Materials for the Preparation of NCs'; UNFCCC's 'Consultative Group of Experts Training Materials for the Preparation of Biennial Update Reports from non-Annex I Parties'; 'National Climate Change Policy, Strategy and Action Plan to address Climate Change in Belize'.



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4.6 GHG emissions MRV and M&E

G.1	Update the GHG emissions inventory
Sector	Cross-sectoral.
Rationale	<p>While the most recent GHG inventories provide a very rough idea of GHG emission sources and levels in the country, data needed to be updated since the last GHG inventory was conducted in 2009. Thus, there is a need to update the GHG inventory to obtain accurate information on the nature of GHG emissions in Belize as well as the corresponding quantity of GHG estimated for the different sectors.</p> <p>The recommended approach would be to build in-house capacity to develop GHG inventories, so that they could be carried out by the GoB in an independent way and on an ongoing basis in the future.</p>
Scope	<ul style="list-style-type: none"> Update the latest GHG Emission Inventory; Build capacity and develop processes and tools for in-house development of future GHG Emission Inventories.
Outputs	<ul style="list-style-type: none"> Updated GHG emissions inventory; Developed institutional capacity, processes and tools that enable the NCCO to develop GHG inventories independently and continuously.
Responsible entity	<ul style="list-style-type: none"> NCCO.
Collaborators	<ul style="list-style-type: none"> University of Belize Environmental Research Institute (UB ERI), for data collection; Technical assistance from outsourced national or international experts.
Start	<ul style="list-style-type: none"> 2nd half of 2016.
Duration	<ul style="list-style-type: none"> 8 to 12 months.
Estimated cost	<ul style="list-style-type: none"> The estimated costs to implement this action are the following: <ul style="list-style-type: none"> To update and improve existing sectoral data, the estimated costs are USD 60,000 to 80,000; For training workshops, depending on the number of people to be trained and the locations and number of sessions, the cost of this activity could range from USD 40,000 to 60,000; Develop a GHG monitoring database, with estimated costs of USD 40,000 to 50,000.
Potential financial sources	<ul style="list-style-type: none"> Existing support programs for the development or improvement of GHG inventories (e.g. UNEP Global Support Programme for Preparation of National Communications and Biennial Update Reports for non Annex I Parties under the UNFCCC); Climate funds (e.g. GEF); Multilateral Development Banks (e.g. UNDP, Inter-American Development Bank/IDB).
Relevant policy documents	<ul style="list-style-type: none"> Belize's 2nd and 3rd national communication; Belize's GHG emissions inventory from 2009.



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G.2	Develop an MRV and M&E system
Sector	Cross-sectoral.
Rationale	<p>An integrated Monitoring, Reporting and Verification (MRV) plus Monitoring and Evaluation (M&E) system serves the country in two ways:</p> <ul style="list-style-type: none"> • MRV of i) the GHG emission reduction impact; ii) the SD impacts (environmental, economic and social); and iii) the efficiency of the investment/support (MRV of finance); and • M&E of i) the effectiveness of implementation and the impact of the proposed mitigation actions and enabling activities; ii) continuous improvement process (CIP) indicators; and iii) transformational impact; to be in line with the most advanced international best practices. <p>This system is foremost relevant for implementing an LCDS, including undertaking mitigation actions, implementing carbon policy instruments and assisting in monitoring the progress of SDGs at the national level.</p>
Scope	<ul style="list-style-type: none"> • Develop an MRV and M&E metrics and system.
Outputs	<ul style="list-style-type: none"> • An integrated MRV and M&E system.
Responsible entity	<ul style="list-style-type: none"> • NCCO.
Collaborators	<ul style="list-style-type: none"> • All the ministries responsible for gathering and managing the information of the sectors included in the GHG emissions inventory; • Technical assistance from outsourced national or international experts.
Start	<ul style="list-style-type: none"> • 1st half of 2017.
Duration	<ul style="list-style-type: none"> • 6 to 12 months (design)
Estimated cost	<ul style="list-style-type: none"> • Depending on the type of project: <ul style="list-style-type: none"> ○ The estimated cost only for the design of an MRV system per type of activity can range from USD 60,000 to 80,000; ○ The M&E design costs for each type of project/sector can range between USD 30,000 to 40,000. • For designing the overall national MRV+M&E system: USD 150,000 to 180,000.
Potential financial sources	<ul style="list-style-type: none"> • National budgetary resources; • MDBs (e.g. World Bank, IDB,), to support the MRV preparedness program and training workshops.
Relevant policy documents	<ul style="list-style-type: none"> • ‘Growth and Sustainable Development Strategy’ (M&E framework).



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G.3	Develop BAU baseline scenarios and MAC curves for 2030 and 2050
Sector	Cross-sectoral.
Rationale	<p>To develop and implement an LCDS, it is fundamental to develop a baseline scenario, since it collects and compiles accurate data reflecting the national GHG emission trend. One of the common baseline scenarios is the Business-As-Usual (BAU) baseline, representing what would occur if no low-carbon actions were implemented.</p> <p>The Marginal Abatement Cost (MAC) curve can be defined as the “amount of money a source will need to spend to reduce the next ton of emissions of a specific pollutant” (United States Environmental Protection Agency Office of Air and Radiation, 2003). MAC curves enable the comparison of technological options depending on their costs and mitigation potentials. The development of detailed MAC curves for considered mitigation options should also be considered as a priority measure in order to facilitate the selection of the most promising mitigation actions for each sector.</p>
Scope	<ul style="list-style-type: none"> Establishing national and regional BAU baselines scenarios; Developing detailed MAC curves for mitigation options.
Outputs	<ul style="list-style-type: none"> Developed BAU baseline scenarios; Developed MAC curves.
Responsible entity	<ul style="list-style-type: none"> NCCO.
Collaborators	<ul style="list-style-type: none"> Technical assistance from outsourced national or international experts.
Start	<ul style="list-style-type: none"> 2nd half of 2017.
Duration	<ul style="list-style-type: none"> 12 to 18 months.
Estimated cost	<ul style="list-style-type: none"> BAU and MAC could be done independently for each sector and would cost approximately USD 150,000 to 180,000. However, if done for the four priority LCDS sectors at the same time, this would create synergies and lead to cost savings to approximately USD 240,000.
Potential financial sources	<ul style="list-style-type: none"> National budgetary resources; Climate funds (e.g. GCF, FCPF); BFI (e.g. International Climate Fund/ICF); MDBs (e.g. UN-REDD, World Bank, IDB).
Relevant policy documents	<ul style="list-style-type: none"> Belize’s GHG emissions inventory from 2009.



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5 Conclusions

The structuring of the Roadmap actions into different priorities (Tier 1 and Tier 2) has been done based on two main factors:

1. Relevance of the specific sector to the overall emissions of Belize; and
2. The first-hand feedback provided by the key public stakeholders (i.e., national agencies and institutions).

It is important to highlight the relevance of communication and participation among the public and private sector organizations as well as with other key organizations in Belize such as academia, local Civil Society Organizations (CSOs) and Non-Governmental Organizations (NGOs), as their objectives may not be directly linked to the development of low carbon and sustainable development related programs and initiatives. Nevertheless, their involvement and active participation will be essential for the success of the LCD Roadmap.

It is important to mention that the hierarchy of the actions could change depending on the availability of resources. Even if some Tier 1 and Tier 2 activities could be equally important, depending on the specific sector, some actions may have already moved towards implementation stage, and therefore should be carried out first. This could be considered as the first tangible outcomes for the LCD in Belize and should be tapped into.

Some of the activities included in the Roadmap that could be initiated as soon as inter-ministerial collaboration can be ensured (with technical assistance support eventually being required only at a more advanced development stage) are the following:

Actions		Estimated costs
E.1	Promote national dialogue on GHG emissions policy instruments.	To be determined by the NCCO in accordance with the type and number of sessions to be undertaken. Nevertheless, the estimated costs for undertaking 3-4 workshops is approximately USD 60,000 to 80,000.
E.2	Facilitate vertical integration of staff in the public sector and building partnerships with other actors.	To be determined by the NCCO in accordance with the means used to gather information and the potential need of external support. The approximate costs for technical assistance would be USD 50,000.
E.5	Promoting research and technological innovation in the education system.	To be determined by the MECYS.
PI.1	Carry out institutional and regulatory reforms to reinforce climate change management.	To be determined by the NCCO. The in-kind resources estimated could be USD 40,000 to 50,000. The approximate costs for technical assistance would be USD 50,000.
MR.3	Reduce the risk profile of the country.	To be determined by the MFPSEPU.

Other relevant and urgent activities where international support is available and that would produce a positive impact for Belize in the short term are the following:



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Actions		Estimated costs
PI.4	Implement the sustainable energy action plan.	For proposal preparation training, USD 40,000 to 60,000. Meanwhile, for the design of the EE and RE projects portfolio is USD 80,000 to 120,000.
MR.1	Create the Climate Change Trust Fund (CCTF).	To be determined by the NCCO.
CB.1	Carry out LCDS capacity building.	For training USD 40,000 to 60,000.
PI.2	Develop and implement carbon policy instruments, especially keep developing the NAMAs already identified and conceptually designed for the energy and waste sectors. Please note that the design and implementation of a waste NAMA as also committed as part of the Paris Agreement.	<p>For RE and Waste (NAMA Concept Design already carried out):</p> <ul style="list-style-type: none"> ○ Technical assistance for the NAMA detailed design: USD 120,000 to 150,000; ○ Pilot of a RE NAMA: USD 800,000 to 1,000,000; ○ Pilot of a SWM NAMA: USD 500,000 to 750,000. <p>Technical assistance support to seek finance for implementation (i.e. NAMA Facility, GCF, GEF), USD 50,000 to 70,000 each including developing proposals and accompanying NAMA team to donors to make the case for funding; The estimated cost only for the outline of a new NAMA could range from USD 40,000 to 60,000.</p>
G.1	Update the GHG emissions inventory.	<p>The estimated costs to implement this action are the following:</p> <ul style="list-style-type: none"> ○ To update and improve existing sectoral data, the estimated costs are USD 60,000 to 80,000; ○ For training workshops, depending on the number of people to be trained and the locations and number of sessions, the cost of this activity could range from USD 40,000 to 60,000; <p>Develop a GHG monitoring database, with estimated costs of USD 40,000 to 50,000.</p>
D.2	Submit the BUR.	The cost of this activity could range from USD 60,000 to 80,000.

The key outputs resulting from the development of this updated Roadmap document and its related activities include:

- An updated list of active stakeholders interested in remaining involved and providing inputs;
- A summary of the GSDS critical success factors and necessary actions and conditions to facilitate the awareness about this new public policy instrument;



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- A capacity gap assessment report;
- A detailed map of key actors that could join efforts and create synergies; and
- A detailed list of actions to be undertaken and related requirements.

As mentioned in the General Overview of this document, this Roadmap is intended to serve as a guide to assist in the process of moving towards the implementation of an LCD path for Belize. Additionally, the Roadmap seeks to provide a broad picture of priority actions for the country, where the available resources can produce the highest possible impact for different periods of time.

As with any other public policy instrument, the Roadmap should be updated and adapted as the country's context, goals, commitments and priorities change. As mentioned at the beginning, this Roadmap is intended to be a living, executive document, from which a broad variety of action sheets can be retrieved and used for specific purposes and/or alternative or supporting sheets can be added as the LCD implementation advances.



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