

Climate Change Initiatives- Trinidad and Tobago

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Outline

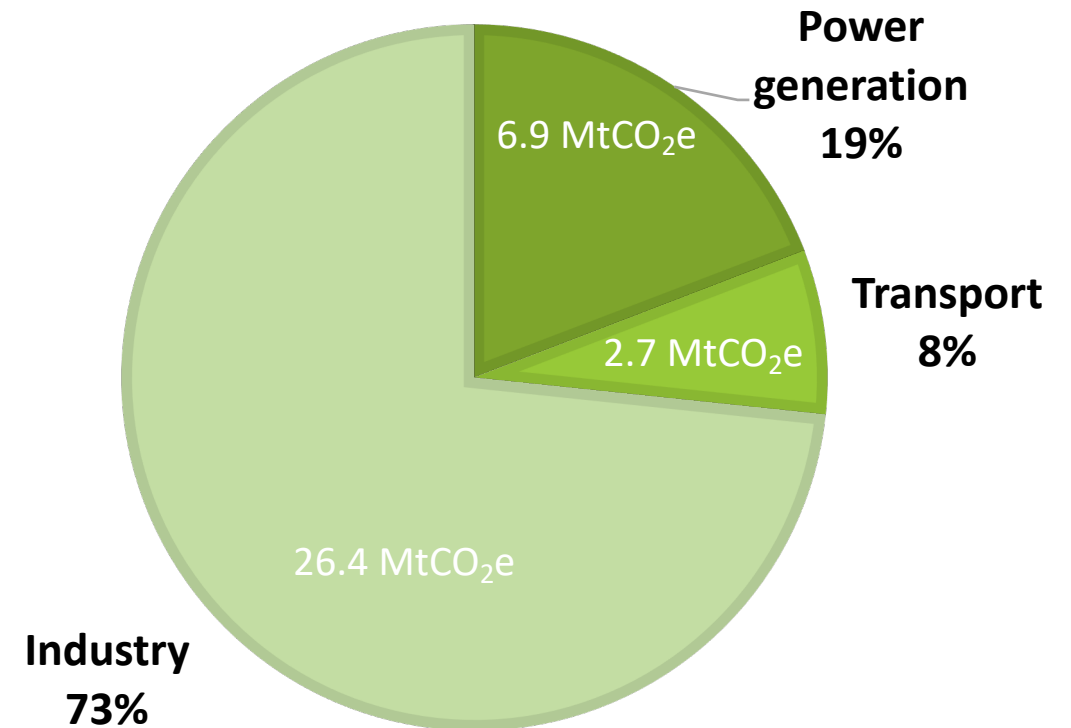
- Country overview
- Greenhouse gas emissions by sector
- International Context
- Policy Framework
- Climate Change Initiatives- Ministry of Planning and Development

Country Overview

- Small Island Developing State
- Population: 1.4 million
- Main economic activity: energy and petrochemical industries (40% of Gross Domestic Product)
- Vulnerability to climate change:
 - Temperature increases
 - Changes in precipitation
 - Sea level rise
 - Increased flooding
 - Increased frequency and intensity of tropical storms
 - Loss of coastal habitats and hillside erosion
- Greenhouse Gas (GHG) Emissions:
 - Less than 1% of absolute global GHG emissions
 - Main emitting sectors: power generation, transport and industry



Greenhouse Gas Emissions by Sector (2012)



Source: Carbon Reduction Strategy, 2015

International Context- Climate Change

- The United Nations Framework Convention on Climate Change (UNFCCC) was adopted at the Rio Convention (“Earth Summit”) in 1992
- One of three Conventions. The other two being:
 - United Nations Convention to Combat Desertification (UNCCD)
 - Convention on Biological Diversity (CBD)
- UNFCCC entered into force in 1994 with the ultimate objective of *“stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”*

International Context- Climate Change

- Trinidad and Tobago ratified the UNFCCC in 1994.
- In 1997, the Kyoto Protocol under the UNFCCC was adopted with the objective of Annex I (Developed Country) Parties reducing their overall greenhouse gas emissions by at least 5% below 1990 levels in the commitment period 2008 to 2012.
- Trinidad and Tobago ratified the Kyoto Protocol in January 1999.
- A second commitment period from 2013 to 2020 was agreed to through the Doha Amendment, which Trinidad and Tobago also ratified.

International Context- Climate Change

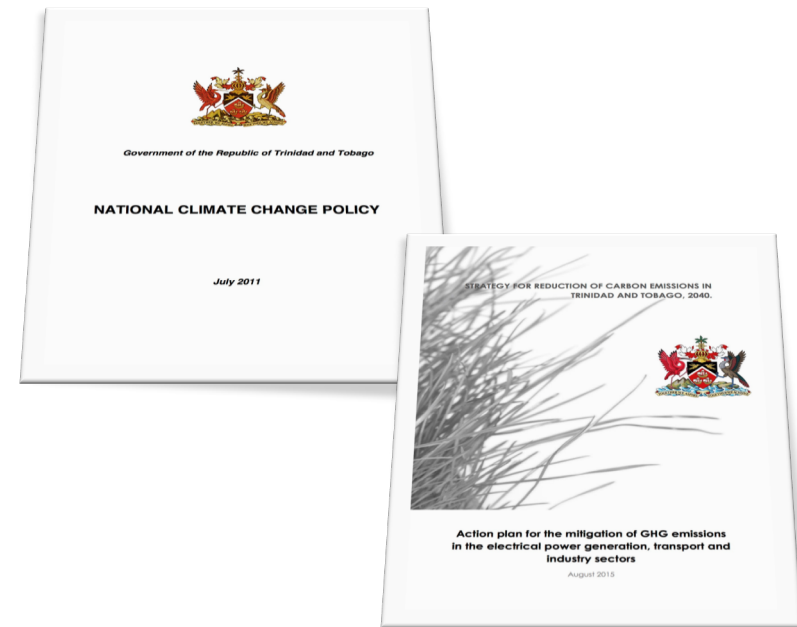
- The Paris Agreement under the UNFCCC was adopted at the Twenty-First Conference of Parties (COP 24).
- The objectives of the Agreement are:
 - To hold the increase in the global average temperature to well below 2° C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5° C above pre-industrial levels, recognizing that this would significantly reduce the risk and impacts of climate change
 - To increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food productions; and
 - To make finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

International Context- Climate Change

- Trinidad and Tobago signed the Paris Agreement on April 22nd, 2018 and ratified on February 22nd, 2018.
- As per Decision 1/CP.19, Trinidad and Tobago it's intended Nationally Determined Contribution (iNDC) in August 2015.
- Upon ratification of the Paris Agreement, the iNDC became the NDC of Trinidad and Tobago.

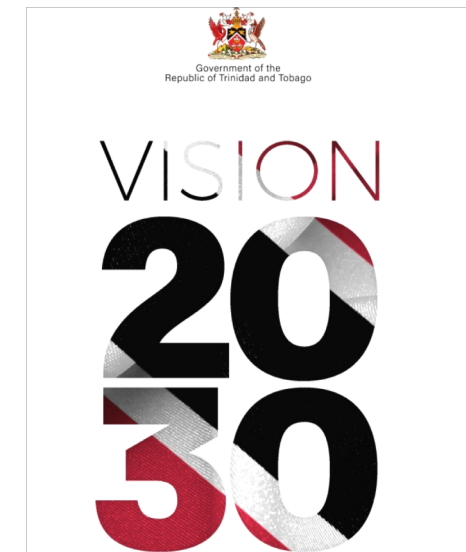
Policy Framework- Climate Change in Trinidad and Tobago

- National Development Strategy (VISION 2030)
- National Climate Change Policy
- Carbon Reduction Strategy
- Nationally Determined Contribution of Trinidad and Tobago under the Paris Agreement and its Implementation Plan



National Development Strategy (VISION 2030)

- Theme V: Placing the Environment at the Centre of Social and Economic Development
- National Development Goals are aligned with the Sustainable Development Goals (SDGs).
- Goal 13 of the SDGs: Take urgent action to combat climate change and its impacts
- VISION 2030-
 - Theme V Goal 2-Carbon Footprint will be reduced
 - Theme V Goal 3- Climate Vulnerability will be assessed



National Climate Change Policy





- Laid in Parliament in 2011.
- Provides policy guidance for the development of an appropriate administrative and legislative framework for the pursuance of a low carbon development path.
- The Objectives of the NCCP include:
 - Reducing or avoiding greenhouse gas emissions from all emitting sectors;
 - Enhancing carbon sinks;
 - Protection of the natural environment and human health;
 - Conserving and building resilience of human and natural systems to adapt to the adverse impacts of climate change, including through capacity building, the application of cleaner and energy efficient technologies, and relevant research and development;
 - Enhanced agricultural production and food security;
 - Educating the wider public on the potential impacts of climate change and the recommended adaptation strategies;
 - Conserving and guaranteeing a sustainable supply of potable water.

Carbon Reduction Strategy (20

- Includes historical CO₂ emissions and defines Business as Usual (BAU)
- Proposes climate change mitigation measures for the power generation, transport and industry sectors:
- Multidisciplinary strategic axes: knowledge, action, awareness and policy
- Estimates for: Emissions Avoided and Cost-Benefit Analyses
- Forms the basis of Trinidad and Tobago's Nationally Determined Contribution (NDC)



Figure 8: Strategy Lines.
Source: Developed by the authors.

	KNOWLEDGE	ACTION	AWARENESS	POLICY
	EKn1. Wind and solar atlas and wind pilot project. EKn2. Energy audits.	EAc1. Electrical energy generation technology. EAc2. Efficiency improvements in generation. EAc3. Waste to energy. EAc4. Energy conservation and efficiency measures. EAc5. Smart grids.	EAw1. Promotion of energy conservation.	EPo1. Renewable energy systems. EPo2. Decentralization of Renewable Energy Generation. EPo3. Review energy pricing.
	IKn1. Energy audits. IKn2. Characterization, diagnosis and BAT implementation. IKn3. CCS studies. IKn4. EOR studies.	IAC1. Improved use of energy and heat in industrial processes. IAC2. Complementary renewable energy sources. IAC3. Thermal desalination. IAC4. Reducing venting and flaring. IAC5. Efficient technologies in the oil and natural gas sectors.	IAW1. Promotion of energy conservation and lower waste generation.	IPo1. Review fuel subsidies for the industry sector.
	TKn1. Biofuel studies.	TAc1. Ridesharing. TAc2. Vehicle energy efficiency and fuel switching. TAc3. Parking management. TAc4. Upgrade and replacement of aircrafts. TAc5. Alternative fuels in aviation. TAc6. Efficiency in water transport. TAc7. Alternative fuels in Marine Navigation.	TAW1. ICT technologies. TAW2. Low emissions driving practices and standards. TAW3. Awareness raising campaigns to reduce the use of private vehicles. TAW4. Traffic management systems. TAW5. Best practices to reduce fuel consumption.	TPo1. Public transport systems. TPo2. Review fuel subsidies for the transport sector. TPo3. Vehicle registration fees and taxes.
				CPo1. National program for NAMAs. CPo2. National system of MRV CPo3. Implementation of a pilot a national market mechanism. CPo4. National Research and development Plan. CPo5. Data Retrieval System.

Nationally Determined Contribution (NDC)

- Reduction objective in overall cumulative emissions from the three main emitting sectors by 15% by 2030 from Business as Usual (BAU) equivalent to 103 MtCO₂e
- Unconditional reduction in public transportation emissions by 30% or 1.7 MtCO₂e compared to 2013 levels by December 31, 2030
- Estimated cost of implementation is USD \$2 billion which is expected to be met partly through domestic funding and conditional on international climate financing including through the Green Climate Fund

NDC Implementation Plan



Recommendations to:

1. Strengthen the institutional capacity for the NDC in the power generation, transport and industry sectors
2. Mainstream climate change issues into the existing policy and legislative framework to create the enabling environment for the implementation of the NDC
3. Define necessary institutional arrangements for implementing the NDC



Plans for implementing the NDC:

4. Capacity Building Action Plan
5. Sectoral Plans (power generation, transport and industry) that include mitigation actions/activities/projects, their implementation schedule, potential emissions avoided and estimated costs
6. Climate Finance Plan

103 MtCO₂e
US \$2 billion

NDC Implementation Plan: Sectoral Plans

Based on the Carbon Reduction Strategy, NAMAs and stakeholder consultations, the following sectoral plans and actions are proposed:

Power Generation

- Implement energy conservation and efficiency improvements in the residential and commercial sectors
- Design and implement programme to upgrade selected power plants to CCGT turbines
- Implement energy efficiency improvements in power generation plants, including gas conservation measures, so they operate at design efficiency
- Design and implement Power Generation NAMA which promotes RE generation with a target of 1 TWh by 2030

28.7 MtCO₂e / US \$945 million

Transport

- Support CNG conversion programme for PTSC and maxi taxi fleets. Upscale to include vehicle fleets in Ministries and State agencies
- Develop and implement pilot project on alternative fuel production and use in sea transport sector
- Design and implement NAMA for the Transport sector on Integrated Public Transport System

2.6 MtCO₂e / US \$735 million

Industry

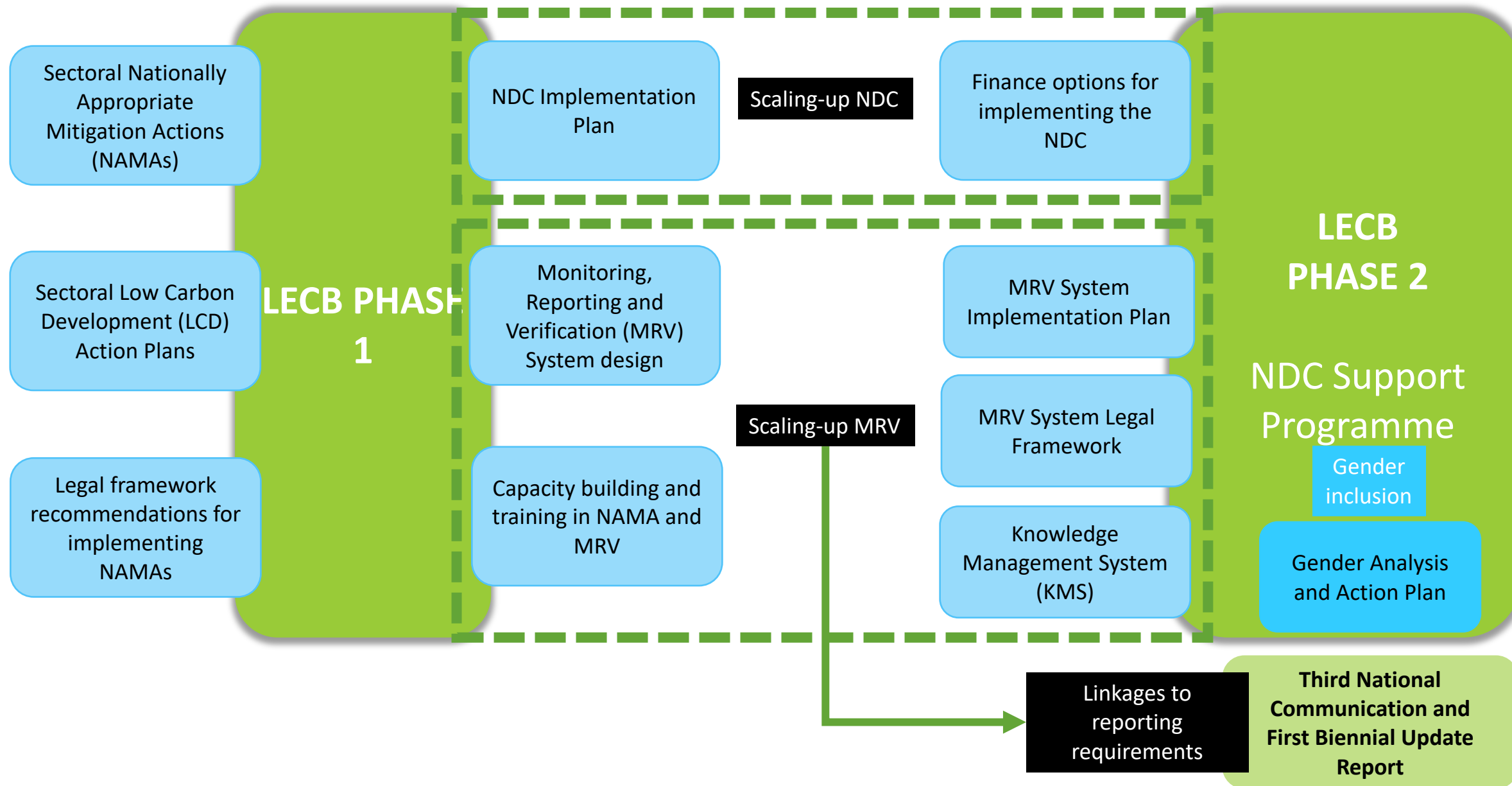
- Implement energy conservation and energy efficiency measures including improvements in produced waste heat
- Design and implement NAMA for the Petrochemical and Heavy Industry sub-Sector (promote energy efficiency through the use of financial incentives)
- Implement more efficient technologies in oil and gas subsector to reduce fuel consumption
- Design and implement NAMA for the Oil and Gas sub-Sector (reduce gas venting and flaring, through targets and reporting and monitoring processes)

72 MtCO₂e / US \$320 million

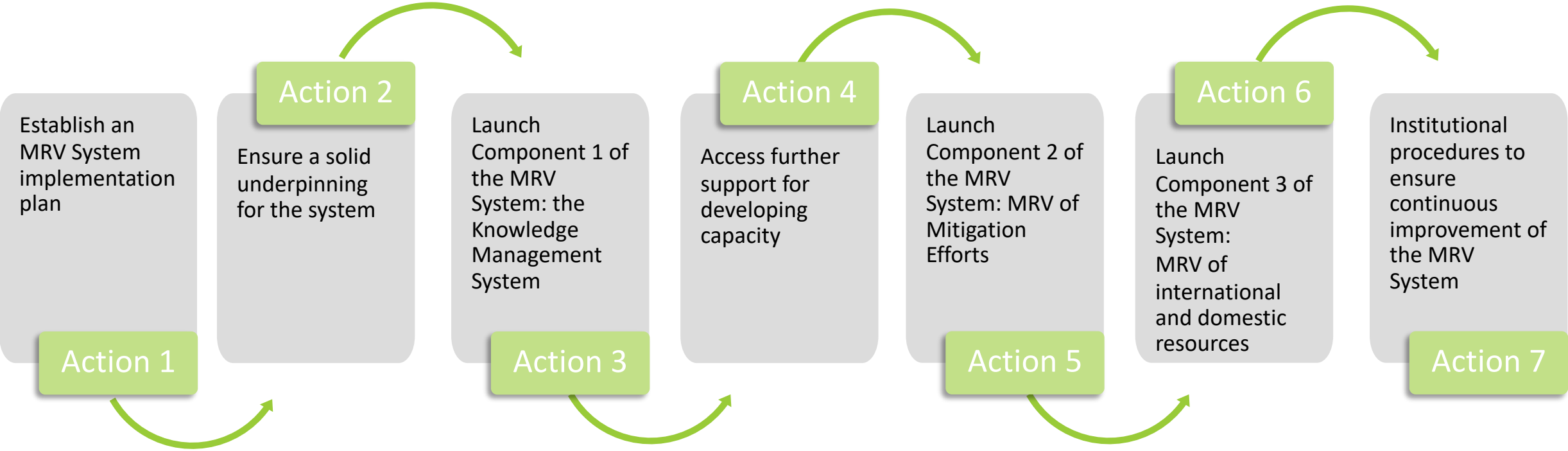
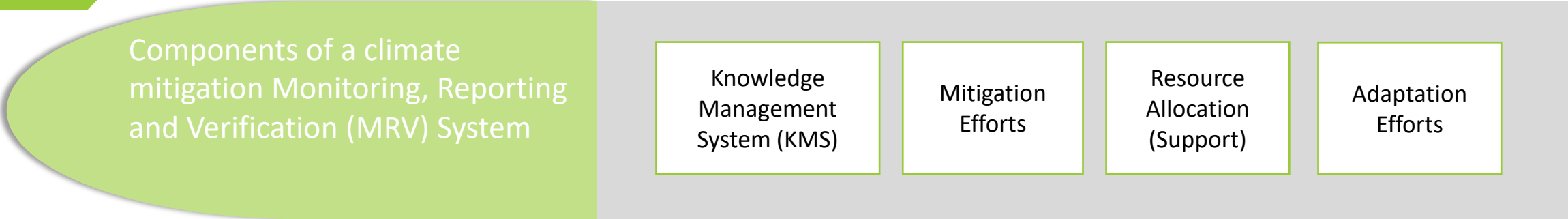
National Climate Change Initiatives

- Low Emission Capacity Building (LECB) Project (ongoing)
- Third National Communication and First Biennial Update Report (ongoing)
- Initiative for Climate Action Transparency (upcoming)
- Capacity Development for improved management of Multilateral Environmental Agreements for Global Environmental Benefits (initiating)
- Technical Assistance to the European Union (EU) Environment Programme
- Technology Needs Assessment

LECB and NDC Support Programme Outcomes and Linkages



MRV System: Elements and Actions



Initiative for Climate Action Transparency (ICAT)

- The NDC Support Programme is expected to design the core component of the MRV System i.e. the KMS as well as design a pilot project to test the functionality of the MRV system.
- The ICAT is expected to assist in the implementation of the pilot project testing MRV System functionality.
- Expected to be completed in the last quarter of 2019.

Technology Needs Assessment- Phase III

- Trinidad and Tobago is part of a multi-country project with funding from the Global Environment Facility (GEF) and with support from UNEP to conduct a technology needs assessment.
- The objective is to provide participating developing countries with targeted financial and technical support to assist in
 - carrying out improved Technology Needs Assessments (TNAs) within the framework of Article 4.5 of the UNFCCC, and
 - developing national Technology Action Plans (TAPs) for prioritized technologies that reduce greenhouse gas emissions, supporting adaptation to climate change consistent with national sustainable development objectives and Nationally Determined Contributions (NDCs).
- Project activities have commenced. Barrier analysis being conducted for the sectors in the current NDC.

Third National Communication and First Biennial Update Report

- Trinidad and Tobago ratified the United Nations Framework Convention on Climate Change (UNFCCC) in June 1994 and its Kyoto Protocol (KP) in January 1999 and ratified the Paris Agreement on February 22, 2018.
- Parties to the Convention must submit national reports on implementation of the Convention to the Conference of the Parties (COP) in accordance with Article 4, paragraph 1 and Article 12, paragraph 1.
- Project commenced in September 2017.
- An updated greenhouse gas inventory for the country will be prepared.
- Vulnerability and risk assessment being finalised.

Capacity Development for improved management of Multilateral Environmental Agreements for Global Environmental Benefits

- Funding from the Global Environment Facility;
- Project activities will commence in April 2018;
- Objective: to implement capacity development activities in Trinidad and Tobago to improve the synergistic implementation of MEAs and contribute to increase national and global environmental benefits.
- The outcomes include:
 - The institutional framework is strengthened and more coordinated, and more able to address global environmental concerns;
 - The Green Fund is effective as a funding mechanism to support the implementation of MEAs in Trinidad and Tobago.
- Consultancies for policy and legislative review and mapping of CSOs have been finalized.
- Training programme being developed.

Technical Assistance to the European Union (EU) Environment Programme

- To support the Ministry of Planning and Development (MPD) in undertaking climate change vulnerability and risk assessments that will be developed and presented in a geo-spatial format to: (a) provide a comprehensive picture of the impacts of climate change, climate variability and projected climate change impacts; and (b) facilitate decision-making on climate change risk management by key agencies in Trinidad and Tobago.
- To facilitate the surveying and mapping of the Tobago Main Ridge Forest Reserve (MRFR), which is one of the country's principal carbon sinks, in order to support national efforts aimed at mitigating greenhouse gas emissions as defined in the National Climate Change Policy.
- Project completed in November 2018. Reports are finalised. Engagement strategy being developed.

Toco Health Centre Retrofit Project

- TT\$900,000 granted to the Eastern Regional Health Authority (ERHA) from the European Union Environment Programme (2014-2015) to undertake works to aid in building climate resilience at the Toco Health Centre.
- Works to include upgrade of the sewer system, installation of solar power, installation of a rainwater harvesting system.
- Work ongoing with expected completion by the end of 2019.

Thank You
Questions?