



Training Workshop: Hands-on Training on Tracking NDC Mitigation Commitments under the Paris Agreement

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Tracking progress of NDC: Mitigation assessment and elements of mitigation tracking

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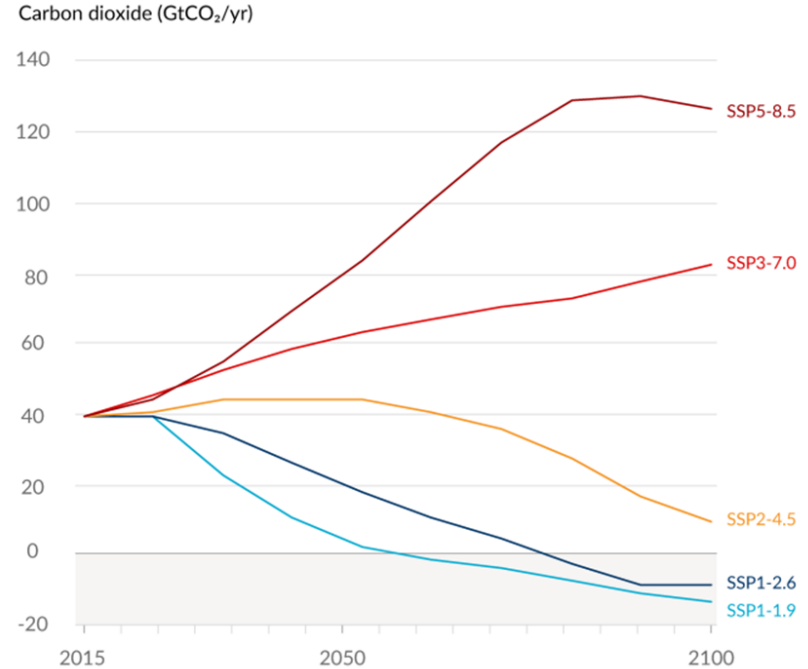


MITIGATION

Mitigation contributes to the objective of stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG sequestration.

Organization for Economic Co-operation and Development (OECD)

Future annual CO2 emissions in next decades



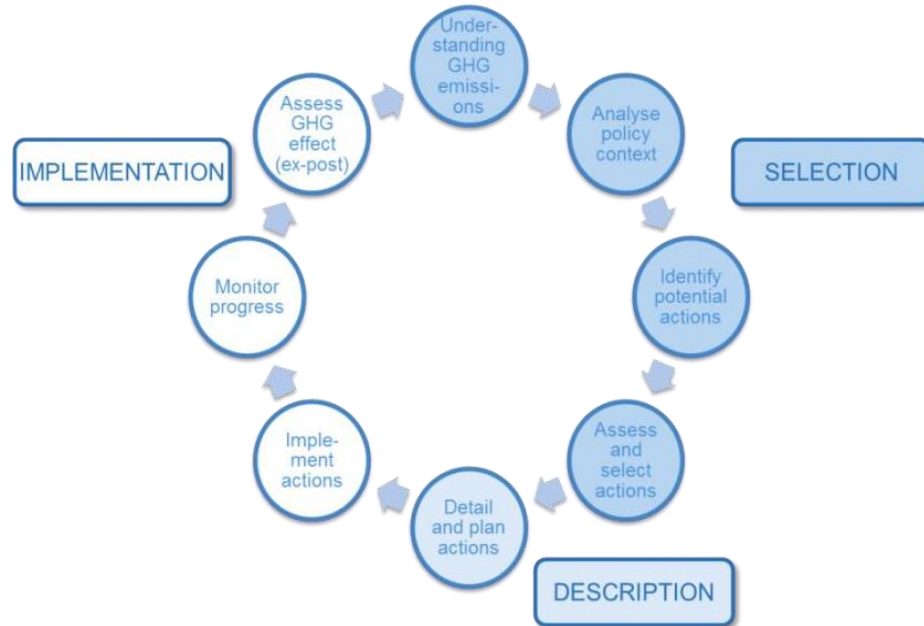
Source: Figure SPM-4 IPCC AR6 Volume I (2021)

Mitigation

The identification of **mitigation measures, policies, actions, and plans** that can be formulated and implemented is a key part of Party reporting to the UNFCCC, established

- First under the UNFCCC, later under the Kyoto Protocol, and now under the Paris Agreement and its Enhanced Transparency Framework (ETF).
- Parties need to identify the type of actions, policies, plans, and measures that can contribute to the amount of **GHG available in the atmosphere, their associated objectives, and the co-benefits** (i.e., economic or social benefits) expected from their implementation.
- Parties need to report on envisaged steps to achieve envisaged reductions.
- This includes measures that may still need to be implemented.

The Cycle of Assessment of Mitigation Actions



An illustrative example of a design and implementation cycle for mitigation actions

Identifying Best Mitigation Options

Mitigation measures that are in line with and support the development priorities of a country will likely be more successful and effective



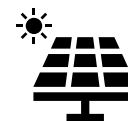
Greenhouse gas effects

- Significance of emissions impact (t CO₂e)
- Cost-effectiveness (e.g. marginal abatement cost).



Sustainable development effects

- Consistency with national development plans and goals
- Social and macroeconomic impact (employment, trade etc)
- Environmental impacts (e.g, biodiversity, air quality etc.)
- Equity (differential impacts on income groups



Other considerations

- Feasibility, including institutional capacity Replicability (adaptability to different settings);
- Technology transfer.

Selection and coverage of mitigation initiatives for assessment

Choose which mitigation initiatives to report

- **Establish common criteria for evaluating initiatives**
 - the GHG emissions profile,
 - national development priorities, and
 - the policy context of the initiative of interest.

Select the mitigation initiatives for assessment and reporting,

- identify a sub-set of key mitigation initiatives that can be easily reported instead of identifying the entire set of mitigation initiatives undertaken in a country.
- Sub-sets that have a more significant and observable impact on GHG emissions reductions in sectors of relevance or key categories in the National GHG inventories.

This is also echoed in the ETF's MPGs.

Mitigation Potential

Common Understanding:

“The term ‘potential’ is used to report the quantity of GHG mitigation compared with a baseline or reference case that can be achieved by a mitigation option over a given period” (Halsnaes et al., 2007)

Potential is usually expressed as megatonnes of carbon dioxide equivalent (Mt CO₂e) of avoided emissions per given time frame (e.g. year, 5-year period, etc.)

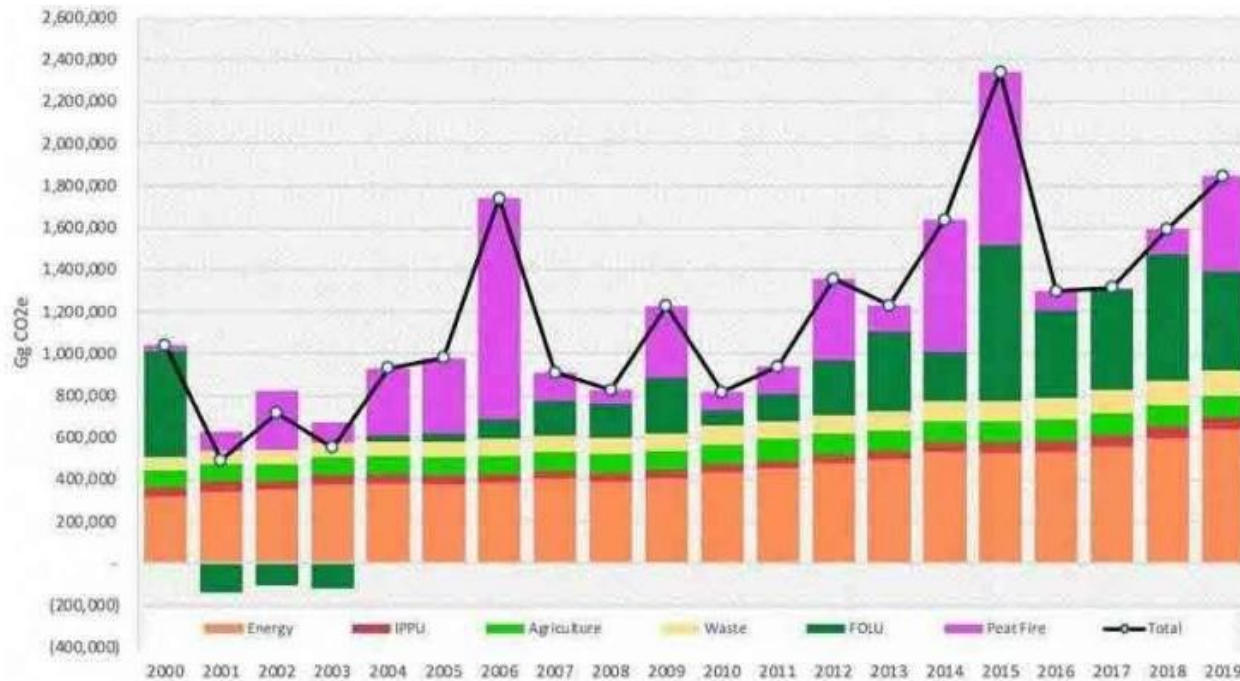
Mitigation contributes to the objective of stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG sequestration.

Halsnæs K et al. 2007. Framing Issues. In: *Climate Change 2007: Mitigation of Climate Change. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.*

Understand highest potentials

The GHG inventory and observed trends can provide a good insight into where mitigation potential is high. Areas that might become important in the future

This gives a good first indication of where the highest potentials can be found to start a 'long-list' of possible mitigation measures.



Uganda's Total GHG Emissions by sector from 2000-2019

Narrow Down The List



The number of possible mitigation actions may be large



a) The assessment of the individual possible mitigation actions provides insights into:

- i) The possible mitigation potential and cost of actions;
- ii) Expected sustainable development benefits of actions;



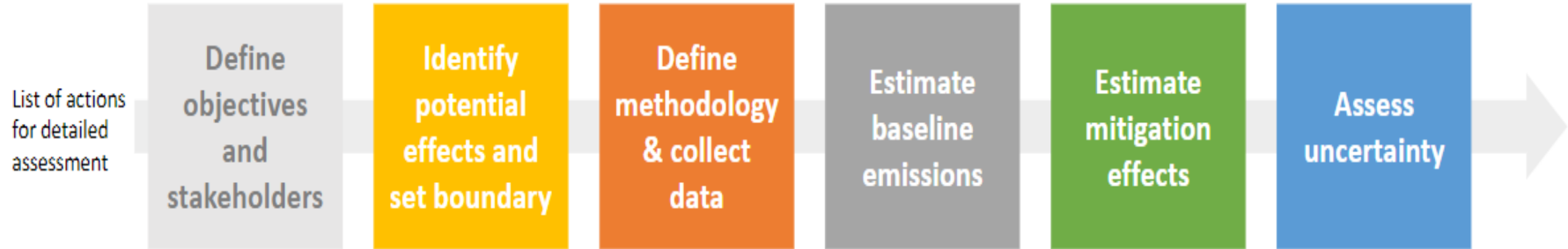
b) The subsequent selection of mitigation actions then provides further clarity on:

- iii) Expected effects (GHG emissions, sustainable development benefits);
- iv) Feasibility of implementation (capacity, funding, technology, politics).

Some Parties may choose not to prioritize and select actions but instead to assess and report the full set of mitigation actions that have been identified;

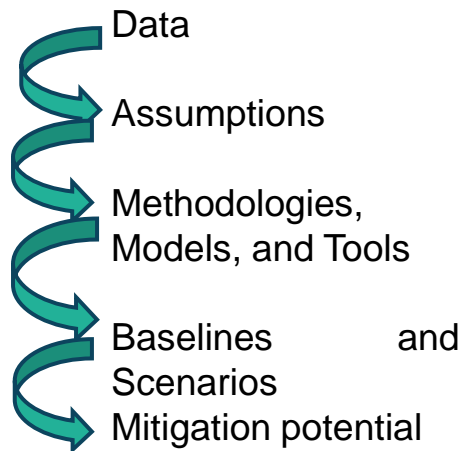
- Maximize opportunities for support and to demonstrate the full representation

Steps for GHG assessment of mitigation actions



Source: CGE Training Material

Assessing mitigation policies, measures, actions and plans under the ETF

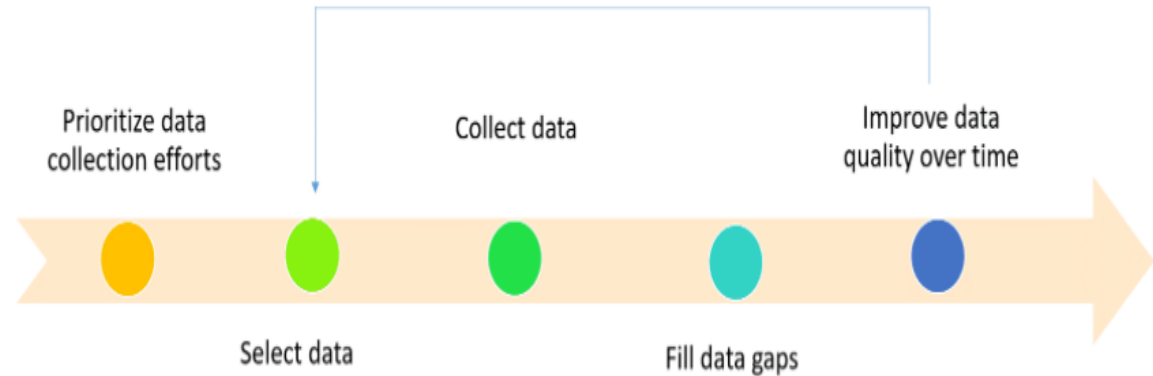


| Type of analysis | Associated action | Timeline | Results | Tool | Indicators, metrics |
|------------------|-------------------|---------------------------|---------------|----------------------------|---------------------------|
| Ex-Ante | Assessing | Future situation | Likely impact | Projections | Qualitative, Quantitative |
| Ex-Post | Tracking | ongoing or past situation | Actual impact | Progress of implementation | Baseline |
| | | | | | |

Data needs for assessing mitigation policies, measures, actions and plans under the ETF

Collecting good-quality data is paramount for transparent and valuable mitigation assessments.

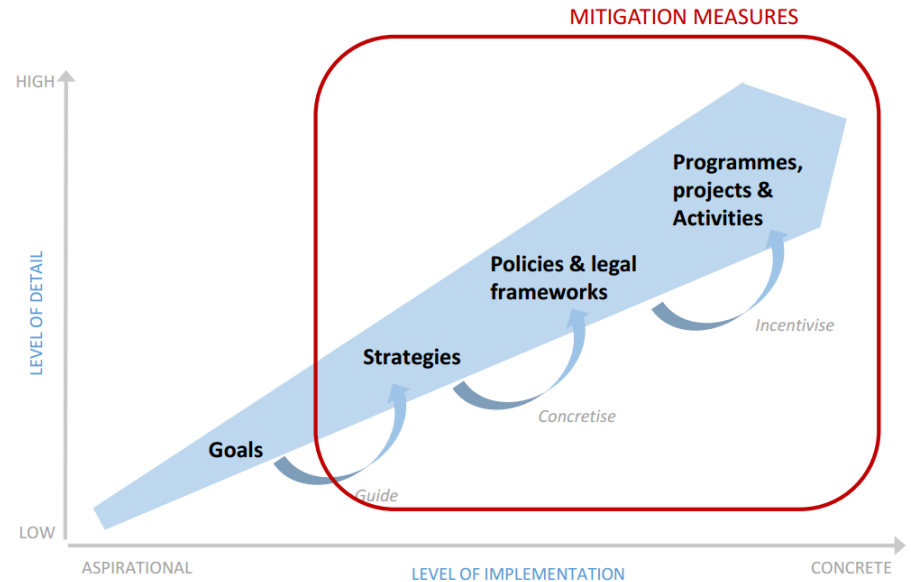
Typical cycle of data management to perform mitigation assessments:



Adapted from WRI. Policy and Action Standard (2014).

Helpful sources of data and assumptions for assessing mitigation

- GHG inventories and prior national communications
- Energy statistics and energy balances
- National economic and demographic statistics and surveys
- Planning reports from utilities
- Relevant studies (e.g. low carbon scenarios, renewable energy assessments).
- International data and studies can help fill data gaps.
- Develop consistent energy use and emissions accounts for the base year (and, if relevant, other historical years).



- **Strategies & strategic documents**
- **Policies & legal frameworks**
- **Programmes, projects & activities**

Supplementary instruments to implement mitigation

For a successful implementation of mitigation actions, policies, and measures it may be required the development of a regulatory framework to allow or facilitate its implementation, the staff in charge of its implementation to be adequately trained, and the awareness of different **stakeholders** towards issues related to the action to be raised.

Source: adapted from CGE Supplementary training material for the team of technical experts. Module 2.1: mitigation actions and their effects (2015).



Selection and coverage of mitigation initiatives for assessment and reporting

- To choose which mitigation initiatives to report on, it is **useful to establish common criteria for the evaluation of initiatives**. These could include, for instance, GHG emissions profile, national development priorities, and the policy context of the initiative of interest.
- When selecting the mitigation initiatives for assessment and reporting, it is more important **to identify a sub-set of key mitigation initiatives** that can be easily reported instead of identifying the entire set of mitigation initiatives undertaken in a country.
- When choosing these subsets, it is also important to identify those **initiatives that have a more significant and observable impact on GHG emissions reductions in sectors of relevance**, or key categories in the National GHG inventories. This is also echoed in the MPGs of the ETF.

Different stages in the different phases of the mitigation process

Before implementation

- Choose among mitigation options based on their expected GHG effects.
- Improve the design of measures by understanding the GHG effects of different design choices.
- Understand potential GHG reductions from options to inform GHG reduction goals.
- Report on expected future GHG effects of measures being considered or implemented (for domestic or international purposes).
- Attract and facilitate financial support for mitigation actions.

After implementation

- Understand whether measures are effective in delivering the intended results.
- Inform and improve implementation.
- Decide whether to continue current activities or implement additional measures.
- Learn from experience and share best practices.
- Evaluate the contribution of measures toward the NDC.
- Ensure that policies and actions are cost-effective and that limited resources are invested efficiently.
- Report on the GHG effects of measures over time.
- Meet funder requirements to report GHG reductions from mitigation actions.

Multiple benefits of mitigation assessment



United Nations
Climate Change Secretariat

International reporting

- Meeting reporting requirements under the UNFCCC



National policy-making

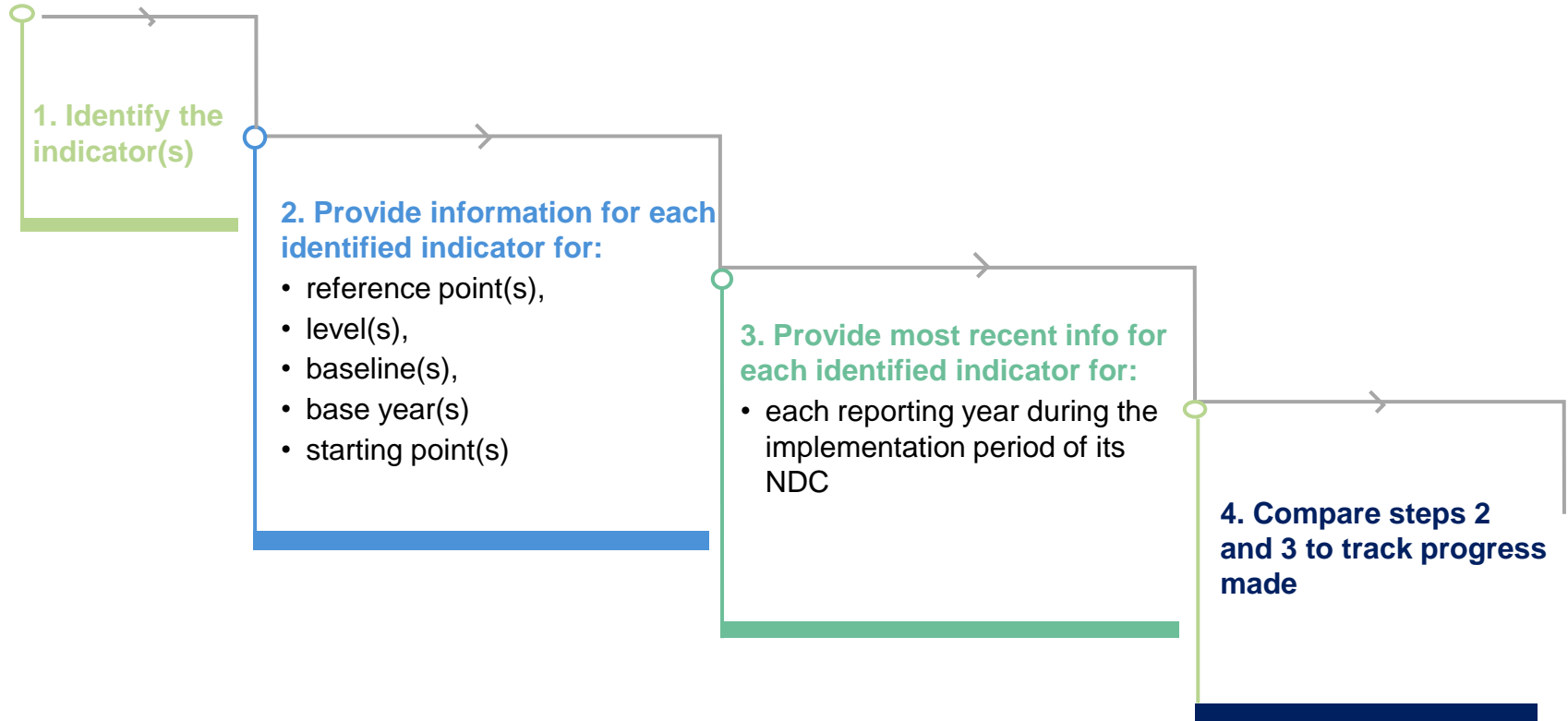
- Providing policy-makers a robust basis for decisions
- Enhance understanding of available options and associated GHG results, cost and benefits
- Enable tracking of effectiveness of measures to facilitate corrective measures and gain acceptance



Financing of measures

- Prioritization of support
- Demonstrate potential to funders and investors
- Enable MRV of projects and programs
- Build trust

Overview of steps for Parties to track the progress of their NDCs by indicators



Data needs for assessing mitigation under the ETF

National Communication

General description of steps taken or envisaged to implement the Convention

- Mitigation Measures

Biennial Update Report

Mitigation action and their effects

- Mitigation action and their effects

Biennial Transparency Report

Tracking progress

- NDC description
- NDC Progress
- Mitigation policies and measures
- Projections

Reporting Format

In NCs

- No format requirements – at the discretion of the Party



In BURs

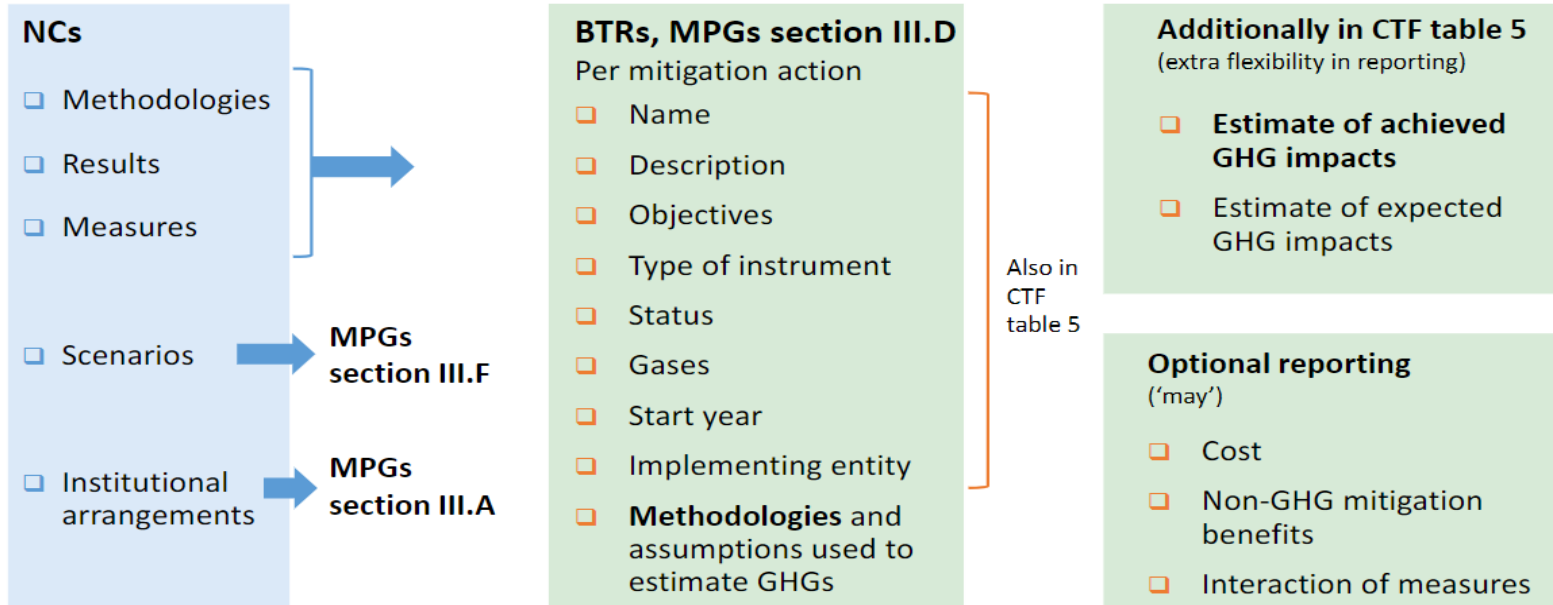
- Tabular format

| EPA/Climate Measure | SDG | Target | Indicator | Methodology (Type of Data/Source of Data) | Mitigation policy | Description | Estimated resources | 2015-2020 (USD) | | |
|--|-----|--------|---|---|---|---|---------------------|-----------------|------|------|
| | | | | | | | | Total | 2015 | 2020 |
| 1. Promote the development of low-carbon buildings (Energy Efficiency) | 13C | 13C.1 | 13C.1.1: Increase the ratio of energy efficiency in buildings from 20% to 25% of total energy consumption by 2020 | CO2 Intensity from 2010: 0.20 tCO2e/kWh | CO2 Intensity from 2010: 0.20 tCO2e/kWh | CO2 Intensity from 2010: 0.20 tCO2e/kWh | 1.2 | 1.2 | 1.2 | 1.2 |
| 2. Promote the development of low-carbon buildings (Energy Efficiency) | 13C | 13C.1 | 13C.1.1: Increase the ratio of energy efficiency in buildings from 20% to 25% of total energy consumption by 2020 | CO2 Intensity from 2010: 0.20 tCO2e/kWh | CO2 Intensity from 2010: 0.20 tCO2e/kWh | CO2 Intensity from 2010: 0.20 tCO2e/kWh | 1.2 | 1.2 | 1.2 | 1.2 |
| 3. Promote the development of low-carbon buildings (Energy Efficiency) | 13C | 13C.1 | 13C.1.1: Increase the ratio of energy efficiency in buildings from 20% to 25% of total energy consumption by 2020 | CO2 Intensity from 2010: 0.20 tCO2e/kWh | CO2 Intensity from 2010: 0.20 tCO2e/kWh | CO2 Intensity from 2010: 0.20 tCO2e/kWh | 1.2 | 1.2 | 1.2 | 1.2 |
| 4. Promote the development of low-carbon buildings (Energy Efficiency) | 13C | 13C.1 | 13C.1.1: Increase the ratio of energy efficiency in buildings from 20% to 25% of total energy consumption by 2020 | CO2 Intensity from 2010: 0.20 tCO2e/kWh | CO2 Intensity from 2010: 0.20 tCO2e/kWh | CO2 Intensity from 2010: 0.20 tCO2e/kWh | 1.2 | 1.2 | 1.2 | 1.2 |

In BTRs

- Narrative AND tabular format
- Organised by sector:
 - Energy
 - Transport
 - Industrial processes and product use
 - Agriculture
 - LULUCF
 - Waste management
 - Other

Reporting requirements on mitigation in NCs and BTRs



Overview of options to present information in the BTRs

Narrative



- Suited to provide context
- Enables more detailed explanations
- Allows the description of connections and interactions

Tabular

Individual design

- Can provide a structured summary of information
- Allows to link different elements of information that are in different CTF tables
- Enables to add additional relevant information in a structured manner

CTF tables

- Enables comparability across Parties
- Provides comprehensive information (with flexibility)

Graphic

- Makes information and data easier to understand
- Enables direct visual understanding of trends or relationships

Table 4.1: Mitigation Action 1 – Energy Industries Sector

| Name of the mitigation action | Status | Implementing institution | Duration | Sector and subsector | Scope | Quantitative targets (both GHG-related and non-GHG impacts) | GHGs covered |
|--|----------------------|---|-----------|---------------------------------|----------|--|--|
| Accelerating the transformational shift to a low-carbon economy in the Republic of Mauritius | Under implementation | Ministry of Finance Economic Planning and Development - Government of Mauritius | 2017-2025 | Energy - Electricity Generation | National | Reduction in greenhouse gas emissions of 4.27 million tCO ₂ e over the lifetimes of the investments enabled | CO ₂ , CH ₄ , N ₂ O |
| Objective of the mitigation action | | | | | | | |
| The project will provide the enabling environment for the scaling up of renewable energy in Mauritius thereby bringing the transformational change advocated by the Green Climate Fund (GCF). The project will curtail both the regulatory and infrastructural barriers for a paradigm shift in power generation in Mauritius. | | | | | | | |
| Brief description and activities planned under the mitigation action | | | | | | | |
| <p>The project is being implemented in two phases with the following three components:</p> <ul style="list-style-type: none"> ➤ Component 1: Institutional strengthening for renewable energy (Phase 1) ➤ Component 2: Improving grid absorption capacity followed by PV deployment (Phase 1 & 2) ➤ Component 3: PV mini-grids on the Outer Island of Agalega (Phase 2) <p>The principal outcome of Component 1 will be the emergence of a strengthened institutional and regulatory system for renewable energy i.e., of the Mauritius Renewable Energy Agency (MARENA), which will directly facilitate the implementation of Component 2. By the end of Component 1 (2021), the Government will have the required legal texts, systems and institutional capability to effectively manage the evolution and growth of the renewable energy sector.</p> <p>With the assistance of the GCF project, Central Electricity Board (CEB) will acquire and install equipment to absorb 185 MW of intermittent renewable energy into the grid without jeopardising the grid stability. Currently, 4MW of Battery Energy Storage System (BESS) has already been commissioned for the reinforcement of the grid. Another 14 MW is under implementation and will be commissioned in the third quarter of 2021.</p> <p>Under the GCF Phase 2 project, 25MW of solar PV system will be installed as follows:</p> <ol style="list-style-type: none"> i. households supplying 10 MW; ii. public buildings 11 MW; and iii. NGOs 4 MW. | | | | | | | |
| Estimated outcomes and estimated emission reductions | | | | | | | |

Source: Mauritius First BUR

Which mitigation actions need to be reported in BTRs?

- Those that have “the most significant impact on GHG emissions or removals”
- Those that impact key categories in the national inventory
- Mitigation co-benefits of adaptation actions, if included in the NDC
- Actions that influence international transport

To reduce the workload and ensure efficiency of reporting, the same mitigation actions should be reported in the NC and the BTR. The BTR will need to be more detailed (see details in module E).

Thank you for your attention!

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