CGE TRAINING MATERIALS-
BIENNIAL UPDATE REPORTS

Mitigation Actions and Their Effects

Presentation Outline

I. Objectives of the biennial update report (BUR) training material

II. Reporting context: Decisions 17/CP.8 and 2/CP.17, annex III, section IV

III. Paragraph 11: Presentation of information in a tabular format

IV. Paragraph 12(a): Description of mitigation actions and their effects

V. Paragraph 12(b): Information on methodologies and assumptions

VI. Paragraph 12(c): Objectives of the action and steps taken or envisaged to achieve that action

VII. Paragraph 12(d): Progress of implementation

VIII. Paragraph 12(e): Information on international market mechanisms

IX. Paragraph 13: Information on domestic measurement, reporting and verification arrangements

I. Objectives

The **objectives of the BUR training material are to:**

1. Serve as a **suggestive toolkit** for Parties not included in Annex I to the Convention (non-Annex I Parties) on **how to report** the relevant information in BURs in accordance with decision 2/CP.17, annex III, section IV;

2. Provide **illustrative examples** for reference and from which Parties **can select** to use as the basis for reporting information in their BURs;

3. **Build on and enhance** the updated Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) training materials.

II. Reporting Context : Reporting on Mitigation

- **Decision 17/CP.8**
  - **IV. GENERAL DESCRIPTION OF STEPS TAKEN OR ENVISAGED TO IMPLEMENT THE CONVENTION**
    - **26**. Non-Annex I Parties may provide information on programmes containing **measures to mitigate** climate change by addressing anthropogenic emission by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change, following the provisions in these guidelines.

II. Reporting Context (cont'd.)

- **B: Programmes containing measures to mitigate climate change .**

  - **37.** Each Party shall, in accordance with Article 12, paragraphs 1 (b) and (c), of the Convention, provide to the COP information on the general descriptions of steps taken or envisaged for formulating, implementing, publishing and regularly updating national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol, and any other information they consider to be relevant to the achievement of the objective of the Convention and suitable for inclusion in their communications.

II. Reporting Context (cont'd.)

- **B I. <u>Methodological approaches</u>**
  - **38**. Based on national circumstances, non-Annex I Parties are encouraged to use whatever **methods are available and appropriate** in order to formulate and prioritize programmes containing **measures to mitigate** climate change; this should be done within the framework of sustainable development objectives, which should include social, economic and environmental factors.
  - **39.** In their assessment of these programmes on various sectors of the economy, non-Annex I Parties may use the appropriate technical resources.

- **<u>B II. Reporting</u>**
  - **40.** Based on national circumstances, non-Annex I Parties are encouraged to provide, to the extent their capacities allow, information on programmes and measures implemented or planned which contribute to mitigating climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol, including, as appropriate, relevant information by key sectors on methodologies, scenarios, results, measures and institutional arrangements.

II. Reporting Context (cont'd.)

Decision 2/CP.17, Annex III, Section I - Objectives

Objective 1	• To assist NAI Parties in meeting their reporting requirements
Objective 2	• To encourage the presentation of information in a consistent, transparent, complete, accurate and timely manner
Objective 3	• To enable enhanced reporting by non-Annex I Parties on mitigation actions and their effects, needs and support received
Objective 4	• To provide policy guidance to an operating entity of the financial mechanism for the timely provision of financial support
Objective 5	• To facilitate the presentation of information on finance, technology and capacity-building support needed and received, including for the preparation of biennial update reports
Objective 6	• To facilitate reporting, to the extent possible, on any economic and social consequences of response measures

Reporting on Mitigation Actions and Their Effects

- Methodologies and assumptions
- Objectives of the action and steps taken or envisaged to achieve that action
- Progress of implementation of the mitigation actions and the underlying steps taken or envisaged, and the results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible
- International market mechanisms
- Description of domestic MRV arrangements

In tabular format

Reporting on Mitigation Actions and Their Effects (cont.)

❑ Decision 2/CP.17, Annex III, Section I V

- **Paragraph 11:** Non-Annex I Parties should provide information, in a tabular format, on actions to mitigate climate change, by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.

- **Paragraph 12:** For each mitigation action or groups of mitigation actions including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing country Parties shall provide the following information to the extent possible:

  (a) Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;
  (b) Information on methodologies and assumptions;
  (c) Objectives of the action and steps taken or envisaged to achieve that action;
  (d) Information on the progress of implementation of the mitigation actions and the underlying steps taken or envisaged, and the results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;
  (e) Information on international market mechanisms.

Reporting on Mitigation Actions and Their Effects (cont.)

- **Paragraph 13:** Parties should provide information on the description of domestic measurement, reporting and verification arrangements.

The Conference of the Parties (COP), by **decision 1/CP.16, paragraph 48,** agreed that developing countries will take nationally appropriate mitigation actions (NAMAs) **in the context of sustainable development**, supported and enabled by technology, financing and capacity-building, and with the aim of achieving a deviation in emissions relative to business-as-usual emissions in 2020.

The COP by decision **24/CP.18** decided that actions and plans in pursuit of economic diversification that have co-benefits in the form of, among other things, emission reductions, will be anchored under decision 1/CP.13, paragraph 1b II. It also decided, that MRV of the relevant aspects of such actions and plans will proceed as per the arrangements under decision 1/CP.16, 2/CP.17 and 1/CP.18.

III. Paragraph 11: Presentation of Information in a Tabular Format

Non-Annex I Parties should provide information, **in a tabular format**, on actions to mitigate climate change, by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.

- Because the guidelines do not provide further information on the design and format of such a table, the CGE has provided some examples **from Non-Annex I Parties** that could be used as a reference or template. The tables can be used as presented, combined with other tables, simplified or modified in some other way.

Suggested Tabular Format 1: Description of Mitigation Actions

This table serves as a suggested tabular format for item (a) of paragraph 12

Name: State the name of the action here

Description: Provide a description of the action here and provide further details in the columns below

Nature of the action	Coverage		Quantitative goals	Progress indicators
	Sectors	Gases		
Eg.	i.	i.	i.	i.
	ii.	ii.	ii.	ii.

Source: Consultative Group of Experts (CGE), 2013

Suggestion Tabular Format 2: Details of Mitigation Actions

This table serves a suggested tabular format for items (b), (c), (d) and (e) of paragraph 12

Name: State the name of the action here

Information	
Methodologies	**Assumptions**
i.	1.a
ii.	2.a
	3.b

Objectives and progress of implementation

Objectives of the action	**Steps taken or envisaged to achieve the action**		**Results achieved, such as estimated outcomes (metrics depending on type of action)**	**Estimated emission reductions, to the extent possible**
	Steps taken	Steps envisaged		
i.	i.	i.	i.	i.
	ii.	ii.	ii.	ii.

Information on international market mechanisms

State information on international mechanisms relevant to the action's implementation

Source: CGE, 2013.

Suggested Tabular Format 3: Summary of Mitigation Actions

Mitigation Action	Status (planned/ ongoing/ implemented)	Specific Objectives	Description (Type of action, type of reduction, target gas, time frame)	Coordination and Management	Estimated Emissions Reduction Potential	Co-benefits	Other Effects	Type of Support Received	Cost of Preparation and Implementation
Action 1									
Action 2									
Action 3									
...									

Source: CGE, 2013.

Example: Reporting on Mitigation Actions from Viet Nam

From Viet Nam's Centre for Clean Air Policy (CCAP) NAMA proposal:

Mitigation Action	Description (type of action, type of reduction, target gas, start year, end year, etc.)	Estimated Emission Reduction Potential (tCO2e) (GHG and key category affected)	Methodologies and Assumptions	Status (planned/ on going / implemented actions) (progress indicators in start year and each subsequent year)	Coordination and Management (implementing entities)	Co-Benefits and Other Effects	Costs (preparation and implementation)	Type and Sources of Support Received
NAMA in the Waste Sector: Waste to Resources for Cities in Vietnam	Waste management polices will be developed and implemented based on financial viability of advanced waste management practices from pilot projects.	Goal: Reduce GHG emissions by 5% in waste sector by 2020 relative to 2005 levels.	In NAMA-readiness project, IMHEN calculated baseline emission of waste sector in 21 cities. Use BAU and Mitigation scenarios to track emissions reductions.	Preparation (data collection and trainings) 2013, Pilot Projects 2014-2015, Implementaion of NAMA nationwide 2015-2010	Headed by Ministry of Natural Resource and Environment (MONRE), Steering Committee Vietnam IMHEN and UN-ESCAP	Environmental benefits: •Reduced dependence on inorganic fertilizers•The use of compost enriches soils•Protection of water resources	Amount requested: $10-20 million	(Expected) IMHEN in-kind contribution;unilateral contribution from national and municipal governments; UN-ESCAP studies, trainings, seed funding; international support in form of infrastructure and training; private sector aid on project to project basis
	NAMA Objectives: i.Improvement of waste collection services in cities in Vietnam, and the promotion of 3R principles; ii.The diversion of waste streams from landfill disposal and other end-of-pipe solutions; iii.Sorting out of the organic and inorganic components of waste streams through the separation of waste at source; iv.Promotion of the biological treatment of the organic waste; v.The recycling and reuse of inorganic waste. IRRC Model i) collection of segregated waste; ii) storage and processing of waste iii) sale of the resources produced from the waste Timeframe: 2013-2020	A typical IRRC facility can process up to 20 ton organic waste per day, which can potentially reduce 6,600 tonnes of methane per year compared to BAU				Economic benefits: •Reduction of waste disposal costs incurred by municipalities • Potential source of revenues Social benefits: •Eliminate malodorous compounds•Reduction of vermin and pathogens•Deactivation of weed seeds•Potential for creating jobs		

Source: CCAP, 2013. Available at http://ccap.org/assets/NAMA-Proposal-Executive-Summaries_CCAP_May-8-2013.pdf

IV. Paragraph 12(a): Description of Mitigation Actions

Information other than that presented in the suggested tabular formats can also be included, such as from the UNFCCC NAMA Registry:

- *Overview*
- *Name of the mitigation action(s)*
- *Description of the mitigation action(s)*
- *Objective and activity affected*
- *Sector*
- *Technology*
- *Type of action*
- *Greenhouse gases covered by the action*
- *Estimated emissions reduction*
- *Type of instrument*
- *Relevant national policies or strategies*
- *Links with other mitigation activities*
- *National implementing entity*

- *Cost*
- *Comments on full cost of preparation*
- *Source of finance*
- *Support required to prepare the mitigation action*
- *Comments on technical support*
- *Support received*
- *Progress indicators*

Example: Reporting on Mitigation Actions from the Cook Islands

- **NAMA Seeking Support for Implementation**
- **A.1 Party:** Cook Islands
- **A.2 Title of Mitigation Action:** Supporting Implementation of 100% Renewable Electricity by 2020
- **A.3 Description of mitigation action:** The Cook Islands Government (CIG) has set a policy goal for 100% renewable electricity by 2020 with a phased-in implementation plan that achieves 50% by 2015. NAMA.)

- **A.3 Description of mitigation action:** This NAMA sets out the support requirements beyond that which has already been secured from international sources. (For further detail, see the separate "Full Description" file of this NAMA)
- **A.4 Sector:** Energy supply
- **A.5 Technology**: Bioenergy, Energy Efficiency, Solar energy, Wind energy, Other: see "Full Description" of NAMA
- **A.6 Type of action:**
- Project: Investment in machinery
- Project: Investment in infrastructure

Source: <http://unfccc.int/files/cooperation_support/nama/application/pdf/nama_implementation_renewable_energy_cook_islands.pdf>.

Reporting on any economic and social consequences of response measures

- One of the objectives of the UNFCCC biennial update reporting guidelines, for Parties not included in Annex I to the Convention contained in Annex III to decision 2/CP.17, is to facilitate reporting by non-Annex I Parties, to extent possible, on any economic and social consequences of response measures.

- A suggested tabular format below is prepared as an example to facilitate those non-Annex I Parties wishing to report such information.

Suggestion Tabular Format 4: Reporting information on any economic and social consequences of response measures

Response measures action	Social and economic consequences from the response measures action	Challenges and barriers to address the consequences	Support needed to address the consequences
1. In this column, non-Annex I Parties could provide a description of specific action(s) of response measures	*2. In this column, Parties could report on the consequences of the specific action identified in column 1, including any information regarding how the consequence has been linked to the action.* *-Disaggregate the information in terms of intensity and magnitude in:* *Low;* *Medium or moderate; and* *High* *(to create specific criteria for disaggregation)*	*3. In this column, Parties could report on challenges and barriers in address/ coping with the consequences identified in column 2.* *Parties may also provide further elaboration under the section on reporting finance, technology and capacity-building needs and support received*	*4. In this column, Parties could report on the support needed for economic diversification.* *Parties may also provide further elaboration under the section on reporting finance, technology and capacity-building needs and support received*
…….	…….		…….
……...	…….		…….
……..	…….		…….

V. Paragraph 12(b): Methodologies and Assumptions

- The guidelines do not specify which methodologies and assumptions Parties should use.

- Information on methodologies and assumptions could refer to:
  - The scope of mitigation actions;
  - The effects of mitigation actions;
  - Quantitative goals and progress indicators;
  - Estimated emission reductions.

- Parties shall report on methodologies and assumptions used in the preparation of the BUR to the extent possible.

Example: Reporting on Mitigation Actions from Malaysia

Table 3.4
Scenarios for the Energy Sector

SCENARIOS	ASSUMPTIONS
Energy Efficiency and Conservation (EEC)	1. Total Electricity Demand in Industrial Sector (INEL) Potential reduction of electricity demand in industrial sector from the year 2015 until 2020 by 0.8 percent per annum (total of 4.8 percent) 2. Final energy demand in Industrial Sector (INTT) Potential reduction of final energy demand (electricity + petroleum products + coal + natural gas) in industrial sector by 1.0 percent per annum from 2015 until 2020 (total of 5.0 percent) 3. Final energy demand in Commercial Sector Potential reduction of electricity demand in commercial sector from the year 2015 until 2020 by 0.8 percent per annum (total of 4.8 percent)
Renewable Energy (RE)	1. By 2020, Malaysia will be expected to have renewable energy (RE) capacity in power generation. The breakdown of the capacity based on type of fuels are shown below:
Total Combination of Assumptions (APS[43])	APS = EEC + RE

	Cumulative Capacity (MW)					
Year	Bio-mass	Biogas	Mini-hydro	Solar PV	Solid Waste	Total
2015	330	100	290	65	200	985
2020	800	240	490	190	360	2,080

2. By 2015, 5 percent of Malaysia's share of diesel consumption in the transport sector will come from biodiesel.

- This is Malaysia's reporting of its assumptions for the construction of its projections.
- These assumptions are a necessary part of creating a projection, and the reporting of them is a part of the BUR guidelines.

Source <http://unfccc.int/resource/docs/natc/malnc2.pdf>

VI. Paragraph 12(c): Objectives and Steps

- Parties should report on the
  - Objectives of the mitigation actions, which can include emission reductions, other climate change benefits, or sustainable development benefits;
  - Steps taken to achieve those actions.

- The CGE has collected some examples from Non-Annex I Parties who have reported on the objectives of mitigation actions and the steps taken to achieve these actions.

- The two examples, which follow, are purely illustrative, and offer a useful option of approaches used by Non-Annex I Parties that have reported on mitigation actions

- While these examples are for NCs, they are consistent with the guidelines for BURs and offer a framework for documenting the information required.

Example: Reporting on Mitigation Actions from Francophone Africa: Benin

- Benin is not a net emitter of greenhouse gases (GHGs) but nevertheless has identified policies and measures to reduce GHG emissions and to strengthen the sink capacity. Benin has outlined a few of the methodologies used to collect the information reported:
  - Expert judgement;
  - Priority sectors, based on share of GHG emissions.

- Table 11 (p. 94) of the second national communication (NC2) provides an overview of sectorial policies in relation to mitigation.

- In several cases, the primary objective of the actions is not emissions reduction. The guidelines provide flexibility for Parties to report on actions whose primary objective is not emissions reduction.

- Table 12 (p. 98) of NC2 provides an overview of specific policies and measures and their effects.

- The translation within both the following tables reflects examples related to the agriculture and forestry sectors.

Example: Reporting on Mitigation Actions from Francophone Africa: Benin (cont.)

Table 11 (overview of sectoral policies) from Benin's NC2:

Policy	Objectives	Principle measures/actions	Status of implementation	Barriers
Development of improved crop production systems	• Reduce GHG emissions by C-fixation in the soil • Improve agricultural productivity	Promotion of soil fertilizing techniques (composting, agro-forestry) Promotion of improved varieties Installation of a mechanism to improve access to agricultural inputs and credits	Ongoing Planned Starting	High price of compost Reluctance by farmers due to competition of trees and crops in agro-forestry systems Difficulty to find the financial resources to start implementation Difficult access to inputs (grains and fertilizers)
Development of the national forest potential	• Reduce the pressure on forests • Increase the carbon sequestration potential	Creation of private, community and state-owned plantations Development and implementation of management plans for plantations	Ongoing	Complexity of the land access process for plantations Temptation to harvest plantations too early

Source: Republic of Benin, 2011. Second National Communication. Available at <http://unfccc.int/resource/docs/natc/bennc2f.pdf>.

Example: Reporting on Mitigation Actions from Francophone Africa: Benin (cont.)

Table 12 (overview of specific policies and measures) from Benin's NC2:

Policy	Envisaged measures/actions	Time horizon	Effect on emissions	Link to sectorial policies and priorities
Development of low methane emission animal husbandry types and technologies	Promotion of ensilage with urea addition to improve digestibility of fodder	2020	Reduced CH_4 emissions	Not envisaged in sectorial policy
Development of sequestration potential of the forest cover	Promotion of plantations with species with high sequestration potential	2015–2020	Reduction of CO_2 emissions	Not envisaged in sectorial policy

Source: Republic of Benin, 2011. Second National Communication. Available at <http://unfccc.int/resource/docs/natc/bennc2f.pdf>.

Example: Reporting on Mitigation Actions from Francophone Africa: Burundi

The following example for the energy sector is translated from Annex 5 of Burundi's NC2 (p.134) and contains the GHG mitigation action plan. The table is a summary that includes the sector, objectives, specific activities, performance indicators, actors, cost and timeline.

Energy Sector: Specific Objective 2: Promotion of electrification by solar PV systems

Goal/Guidance	Activities	Performance indicators	Actors	Cost in Franc Burundais (FBU) × 10^6	Calendar
Substitution of wood energy and of petroleum products for lighting by solar PV energy	- Sensitize population by field visits, spots and publicity panels - Increase government subsidies and exempt equipment from taxes - Capacity-building for extension people - Installation of these systems at 20 health centres, 10 boarding schools and 5 community offices per year	- Reduction of GHG emissions related to burning of wood or petroleum products by at least 2% per year - Increase in student success at boarding schools - 20 health centres, 10 schools and 5 community offices electrified (per year) - 20 ha of forest saved	- Ministry of Energy and Mines - Ministry of Public Health - Ministry of Primary and Secondary Education	12,745 (per year)	2010–2015

Burundi, 2010. Second National Communication. Available at <http://unfccc.int/resource/docs/natc/burnc2.pdf>.

VII. Paragraph 12(d): Progress of Implementation

- **"...information on the progress of implementation of the mitigation actions and the underlying steps taken or envisaged, and the results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible..."**

- Progress Indicators, as referenced in paragraph 12(a), and metrics, as referenced in 12(d), can facilitate reporting consistent with 12(d).

- The **BUR** process could also provide an **opportunity to consider the economic, social and environmental effects of mitigation actions** beyond GHG emissions reductions and removals.

- There are a number of **existing tools and frameworks** which could facilitate this assessment, and Parties are encouraged to explore the most appropriate of these and/or develop their own national methodology.

VII. Paragraph 12(d): Progress of Implementation (cont.)

- Progress indicators are sometimes developed based on quantitative measurements or statistics of a certain condition tracked over time. However, progress indicators can also be qualitative – descriptions of progress – rather than purely statistical.

- Progress indicators can have multiple functions, including:
  - Measuring aggregate emissions reduction from mitigation actions;
  - Identifying co-benefits of mitigation actions for sustainable development and for economic and social growth.

- There are also qualitative indicators: these are non-numerical factors for determining progress towards a specific goal.

VII. Paragraph 12(d): Progress of Implementation (cont.)

- The following tables are examples from NCs of non-Annex I Parties in Latin America.
- These examples of progress indicators are illustrative and not exhaustive.
- Many of the progress indicators, in particular those related to the energy sector and land use, are not too different from what is usually included in national statistics.
- Formulation and specification of objectives and their nature differ across countries. Progress indicators and measurement methods also differ.

Example: Reporting on Mitigation Actions from South America

Table 1a. Objectives, aims and progress indicators for mitigation actions

Objective/Aim	Progress Indicators	Source of Information
Measures against deforestation in the Amazon	Annual deforestation rate in the legal Amazon (km^2/year) Deforestation by area (km^2) and by state in the Amazon	Brazil NC2, p. 359
Increase in sugar and alcohol production between 2010 and 2020 for ethanol and bioelectricity	Sugarcane production (millions tonnes) Ethanol production (billions litres) Bioelectricity (average MW) Share in the Brazilian electricity generation mix (%)	Brazil NC2, p. 287
Use of charcoal in the Industrial Sector (iron and steel industries)	Charcoal consumption (tonnes) Reforestation share Reduced emissions (tCO_2)	Brazil NC2, p. 316

Source: National communications available at <http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php>.

Example: Reporting on Mitigation Actions from South America

Table 1b. Objectives, aims and progress indicators for mitigation actions

Catalysing industrial and commercial organic waste management	**Efficiency of biogas generation per tonne of waste treated** **Production of energy per tonne of waste** **Number of jobs created** **Emissions reduction (tCO_2)**	**Chile: NAMA National Programme for Catalysing Industrial and Commercial Organic Waste Management in Chile**
Expansion of self-supply renewable energy systems	Renewable energy capacity installed (MW) Emissions reduction (tCO_2) Number of jobs created Private sector leverage ratio (NAMA fund/private funds)	Chile: NAMA Expanding Self-Supply Renewable Energy Systems (SSRES) in Chile
Increase of area under conservation or environmental management and reduction of deforestation rate (specific objectives of the "Plan Nacional para el Buen Vivir")	Percentage of increased area under conservation or environmental management (goal for 2013 is 5%) Deforestation rate (goal for 2013 is 30%)	Ecuador NC2, p. 14

Source: National communications available at <http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php>.

Example: Reporting on Mitigation Actions from South America

Table 1c. Objectives, aims and progress indicators for mitigation actions

Fleet renewal and scrapping	**Number of new vehicles** **Reduced emissions (tCO_2)**	**Ecuador NC2, p. 16**
Increase the share of renewables in the primary energy matrix to 50% and in electricity generation to 90%	Wind energy generation (MW) 1000 in 2015 Biomass generation (MW) 250 in 2015 Solar PV generation (MW) 200 in 2015 Decrease of oil use in transport (15% in 2015) Liquefied natural gas (LNG) regasification capacity (millions m^3/day) (10 million/day in 2015) Share of renewables in the primary energy matrix Share of renewables in electricity generation	Uruguay NC3, p. 123
Solar thermal NAMA (use of solar energy for water heating)	Number of solar water heaters installed Energy consumption reduced (kWh) Reduced emissions (tCO_2)	Uruguay: Solar thermal NAMA

Source: National communications available at <http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php>.

Example: Reporting on Mitigation Actions from Peru

- Peru has identified specific indicators to help track progress on a forestry initiative:

Strategic Action	2012 Goal	2017 Goal	2021 Goal
4.1 Reduce the rate of deforestation of primary forests, promoting their conservation and sustainable use.	- Updated national baseline on forests and deforestation. - Updated national baseline on categorized forests.	- 50% reduction in the average annual deforestation rate for the period 2000–2017. - Incorporation of 50% of forests identified as non-categorized into the existing forest management framework. - 50% reduction, compared to the year 2000, in the GHG emissions generated by land use, land use change and forestry (LULUCF).	- 100% reduction in the average annual deforestation rate for the period 2000–2021. - Incorporation of 100% of forests identified as non-categorized into the existing forest management framework. - 100% reduction, compared to the year 2000, in the GHG emissions generated by land use, land use change and forestry (LULUCF).

Source: Peru. Second National Communication. Available at <http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php>.

VII. Paragraph 12(d): Progress of Implementation (cont.)

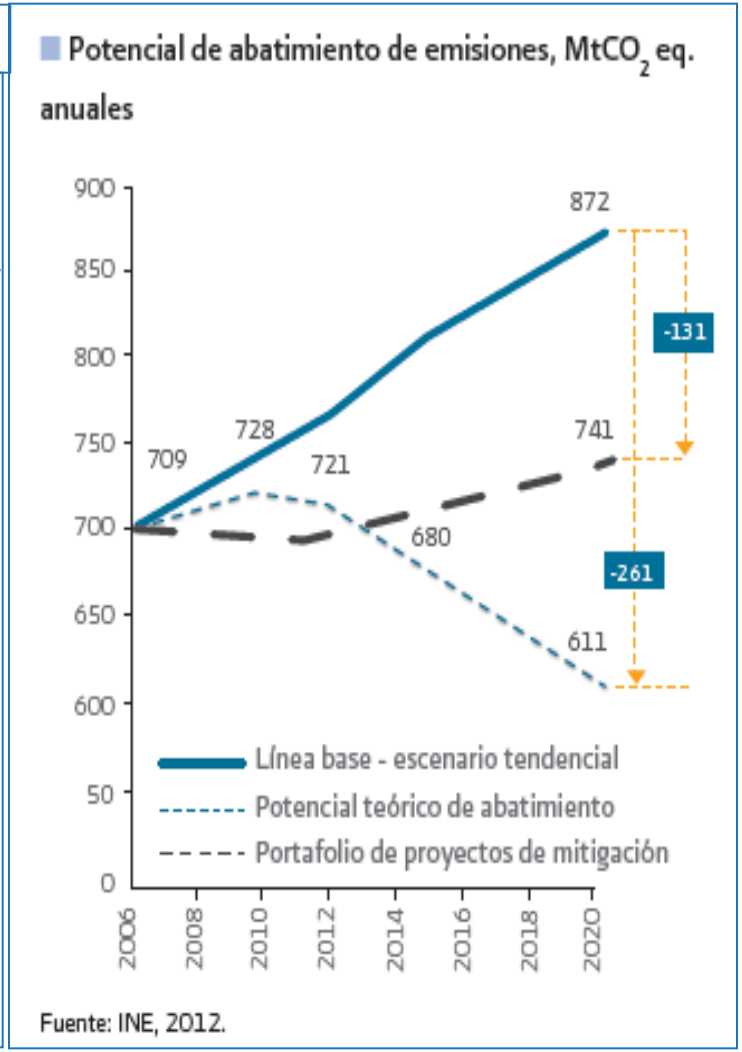
Baseline scenarios

- Three key steps are involved in the assessment example to the right (from Mexico's NC5):

1. Estimating the level of GHG emissions or other progress indicator in a given year under the baseline scenario, which serves as the reference GHG emissions level for the purpose of assessing the effect of a mitigation action;

2. Estimating the projected GHG emissions or other progress indicator in a future given year under the mitigation action scenario with the planned mitigation action before it is implemented (ex-ante assessment);

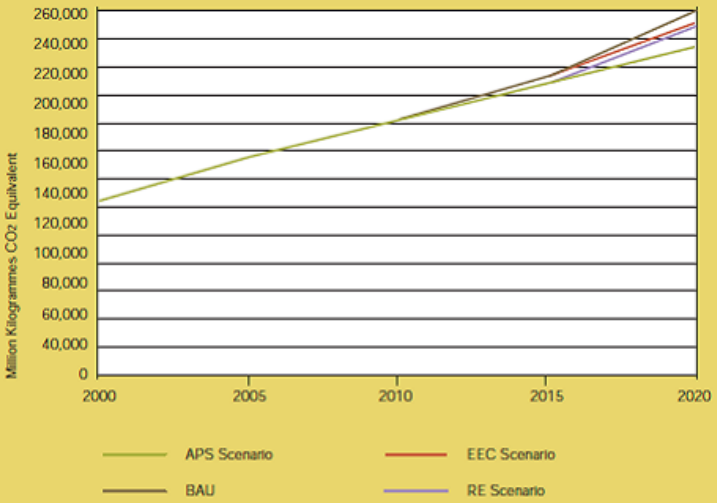
3. Measuring progress of action (ex-post assessment) against ex-ante assessment.



Source: Mexico. Fifth National Communication. *Available* at <http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php>.

VII. Paragraph 12(d): Progress of Implementation (cont.)

Figure 3.4
CO2 Emissions Projections by Scenario, 2000 – 2020
Fuel: All Fuels, GHG: All GHGs



Note: The RE and APS scenarios are identical from 2010-2015.

Table 3.5
CO2 Emissions by Scenarios, 2000 – 2020 (Gg)

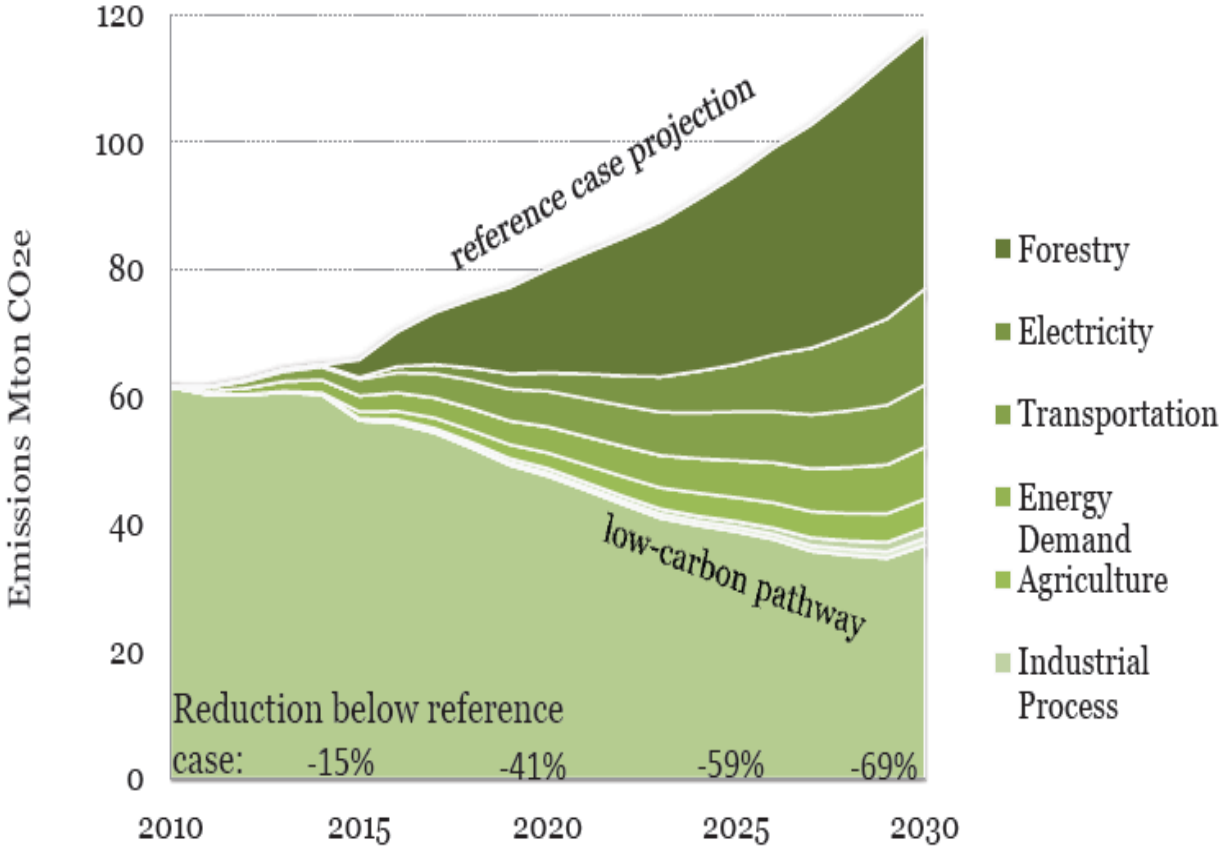
Year	2000	2005	2010	2015	2020
BAU	125,071	155,306	180,716	212,902	259,844
EEC Scenario	125,071	155,306	180,716	212,902	251,058
RE Scenario	125,071	155,306	180,716	207,447	248,433
APS Scenario	125,071	155,306	180,716	207,447	234,065

This example from Malaysia shows four scenarios for CO_2 emissions from fuels.

Source <http://unfccc.int/resource/docs/natc/malnc2.pdf>

VII. Paragraph 12(d): Progress of Implementation (cont.)

This example from Kenya shows a plotted a low carbon pathway, based on emission reductions from six sectors.

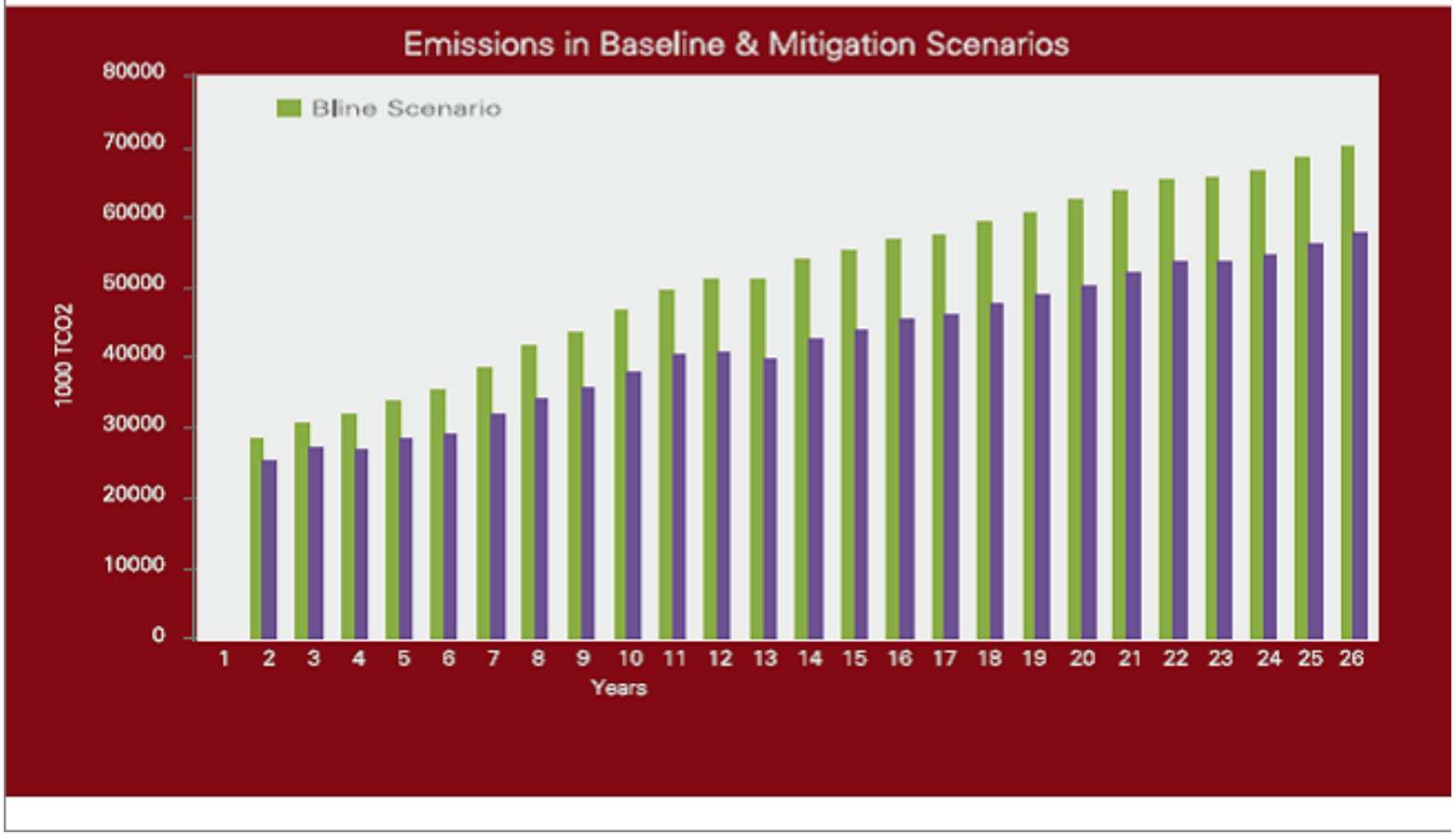


Source:<http://cdkn.org/wp-content/uploads/2013/03/Kenya-National-Climate-Change-Action-Plan.pdf>

VII. Paragraph 12(d): Progress of Implementation (cont.)

This example from Jordan shows a time series approach to reporting baselines.

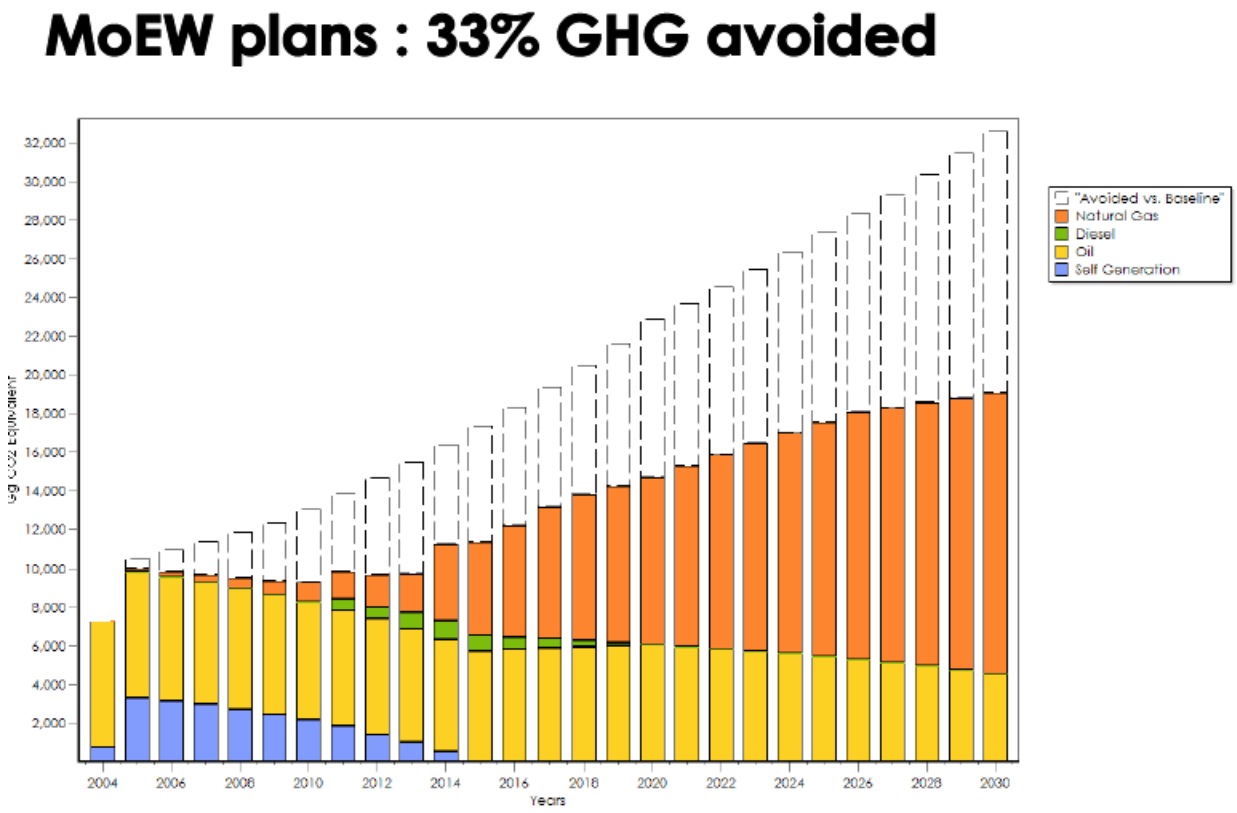
Figure 3.1: Emissions in Baseline & Mitigation Scenarios



Source <http://unfccc.int/resource/docs/natc/jornc2.pdf>

VII. Paragraph 12(d): Progress of Implementation (cont.)

This example from Lebanon shows a time series approach to reporting baselines.



Source: <http://www.ppiaf.org/sites/ppiaf.org/files/documents/%232Lebanon-LCE-WB-Workshop-Jordan3April2012.pdf>

VIII. Paragraph 12(e): International Market Mechanisms

- As outlined in the BUR guidelines, Parties are to provide information on international market mechanisms, where such information exists. The following is an example table of information that Parties could provide, augmenting it with other relevant information.

Information	Country Information
Type of market mechanism	
Type of project developed	
Expected impacts, both emission reductions and removals by sinks, and other effects	
Implementing partners	
Expected use of units	

Source: CGE, 2013.

IX. Paragraph 13: Domestic Measurement, Reporting and Verification Arrangements

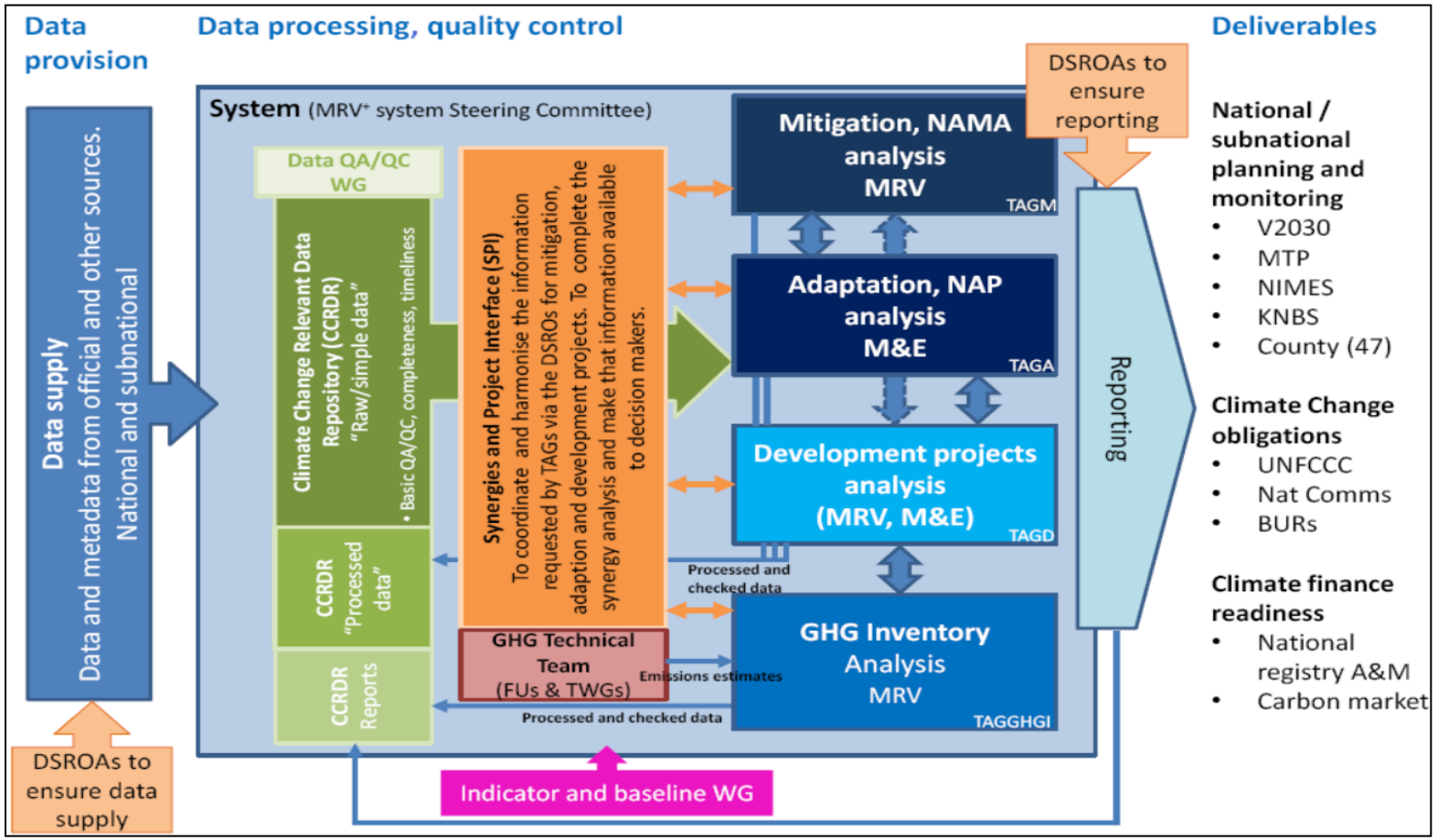
- The BUR guidelines indicate that Parties should provide descriptions of domestic measurement, reporting and verification arrangements.

- The type of information that can be reported within this section is not specified.
  - As part of the work of the Subsidiary Body for Scientific and Technological Advice (SBSTA), negotiations are taking place on informing Parties how measuring, reporting and verification of domestically supported NAMAs by developing country Parties can be described.

- Parties are free to define and describe these arrangements as they wish, in line with national circumstances.

Example: Reporting on Mitigation Actions from Kenya

The diagram shows Kenya's conceptual measuring, reporting and verification+ framework (with a GHG inventory component)



Source:<http://cdkn.org/wp-content/uploads/2013/03/Kenya-National-Climate-Change-Action-Plan.pdf>