

# MRV Guidebook for Policy Makers

April 2014



**International Partnership  
on Mitigation and MRV**

**IGES** Institute for Global Environmental Strategies  
公益財団法人 地球環境戦略研究機関

# Objective

This document was prepared by the International Partnership on Mitigation and MRV. The International Partnership on Mitigation was launched in Bonn, Germany on May 2010 by South Africa, the Republic of Korea and Germany. The overall aim of the Partnership is to support a practical exchange on mitigation-related activities and MRV between developing and developed countries in order to help close the global ambition gap.

This guidebook aims to present information on existing MRV arrangements for greenhouse gases under the United Nations Framework Convention on Climate Change. The guidebook's target audience is policy makers and practitioners in Annex I and non-Annex I countries embarking on their MRV work and looking for an overview about MRV. This resource will be available online and should continue to be updated on an annual basis. Authors are responsible for all errors or omissions that may remain.

An original version of this document was prepared by the Institute for Global Environmental Strategies (IGES). With their permission, it has been updated and modified to reflect the mission and goals of the International Partnership on Mitigation and MRV.



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on Mitigation and MRV



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# Abbreviations

AFOLU	Agriculture, Forestry, Land Use
AusAID	Australian Agency for International Development
BAU	Business-as-usual
BRs	Biennial Reports
BURs	Biennial Update Reports
CGE	Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention
CH <sub>4</sub>	Methane
CO <sub>2</sub>	Carbon dioxide
COP	Conference of Parties (to the UNFCCC)
CMP	Conference of Parties serving as the meeting of the Parties to the Kyoto Protocol
CRF	Common Reporting Format
ERT	Expert Review Team
GEC	Global Environment Centre Foundation
GEF	Global Environment Facility
GHGMI	Greenhouse Gas Management Institute
GHGs	Greenhouse Gases
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)

GPG	Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories
GPG-LULUCF	Good Practice Guidance for Land Use, Land-Use Change and Forestry
HFCs	Hydrofluorocarbons
HCFC	Hydrochlorofluorocarbon
IAR	International Assessment and Review
ICA	International Consultation and Analysis
ICLEI	International Council for Local Environmental Initiatives
IE	Included Elsewhere
IGES	Institute for Global Environmental Strategies
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Processes and Product Use
JICA	Japan International Cooperation Agency
LDCs	Least developed country Parties
LULUCF	Land use, land-use changes, and forestry
MRV	Measurable, Reportable and Verifiable
N <sub>2</sub> O	Nitrous oxide
NA	Not Applicable
NAMAs	Nationally Appropriate Mitigation Actions

NCs	National Communications
NCSP	National Communication Support Program
NE	Not Estimated
NF <sub>3</sub>	Nitrogen trifluoride
NIES	National Institute for Environmental Studies, Japan
NIR	National Greenhouse Gas Inventory Report
NO	Not Occurring
OECD	Organisation of Economic Development Cooperation
PFCs	Perfluorocarbons
QA	Quality Assurance
QC	Quality Control
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SF <sub>6</sub>	Sulphur hexafluoride
SIDS	Small Island Developing States
TCCCA	Transparency, Consistency, Comparability, Completeness and Accuracy
TTE	Technical Team of Experts
UNEP	United Nations Environment Programme

UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services
USAID	U.S. Agency for International Development
U.S.EPA	U.S. Environmental Protection Agency
WRI	World Resources Institute



# 1. Introduction

## Background

Since its adoption in 1992, the United Nations Framework Convention on Climate Change (UNFCCC) has consistently placed a high importance on complete and transparent communication of information from the Parties. In 2007, Parties adopted the Bali Action Plan, with the goal of enabling the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, including through “measurable, reportable and verifiable” (MRV) commitments and actions as an essential part of international processes. These include commitments and actions by developed country Parties and nationally appropriate mitigation actions (NAMAs) by developing country Parties. Since 2007, decisions by the Conference of the Parties have led to a marked increase in the scope, procedures and methodological guidance for MRV for both developed and developing country Parties.

In Durban in 2011, Parties agreed to embark on a new process to adopt a universal legal agreement on climate change as soon as possible, and no later than 2015. It is expected that the measurement, reporting and review guidelines and procedures included in the new agreement will be built on the existing framework, which to date includes elements such as the national GHG inventories, national communications, biennial reports and biennial update reports, as well as various review procedures for these documents.

To date, almost all developed and developing country parties to the UNFCCC have been involved with MRV of greenhouse gases (GHGs) under different schemes.

## Why this book has been made

One of the tasks at leading up to 2015 is to strengthen the understanding of existing MRV schemes.

With this in mind, the aim of this guidebook is to help those who work, or are beginning to work with MRV in climate change issues to gain an overview of the foundations of MRV under the Convention. As such, our approach is has been to objectively organize and present information drawn from UNFCCC decisions and guidelines developed by the COP related to MRV by developed and developing countries, as well as a few specific cases where outside resources are referenced to complement these sources. As much as possible, COP decisions and guidelines are referenced to facilitate follow-up by the user.

## How this guidebook is useful

Our unique approach – approximately one hundred questions and answers about MRV – can guide you to understand the foundations of MRV in an easy-to-understand manner. The authors of this book have many years of experience with various MRV schemes in developed and developing countries. Based on these experiences, we try to use our own words and also try to be as simple as possible.

We hope that this guidebook proves useful for those who want to learn about MRV in general, including policy makers, private sector representatives, NGOs, students and donor agencies. Categorizations of questions and answers by theme are available with visual marks. An index of questions is also attached at the end of this book.

The book is intended to be a living product, meaning that it will continue to be revised and improved as more information becomes available. To this end, we would welcome any and all comments from readers.

### MRV components introduced in this guidebook

<b>Annex I Parties</b>	National Communications
	Biennial Reports
	National GHG Inventories
<b>Non-Annex I Parties</b>	National Communications
	Biennial Update Reports
	National GHG Inventories

# 2. Our Approach

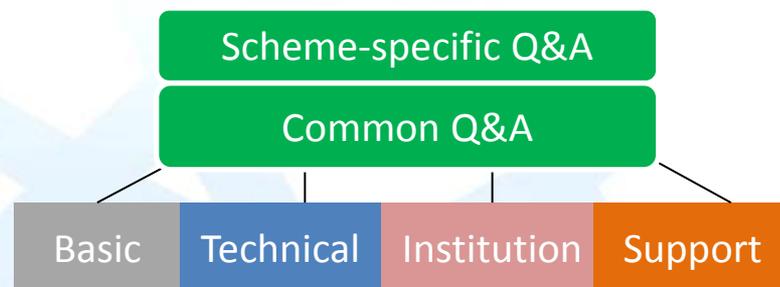
## 2.1 Questions & answers on MRV

The following slides pose specific questions and answers for understanding the ‘why’, ‘what’, ‘how’, ‘who’, ‘how often’, etc. for existing national MRV requirements under the UNFCCC.

The total of almost one hundred Q&As are comprised of two types of Q&As: common and scheme-specific. The common Q&As are prepared for all of the six MRV schemes. The scheme-specific Q&As are to cover aspects of MRV that are considered to be unique to that particular scheme. Q&As are divided into four themes as follows:

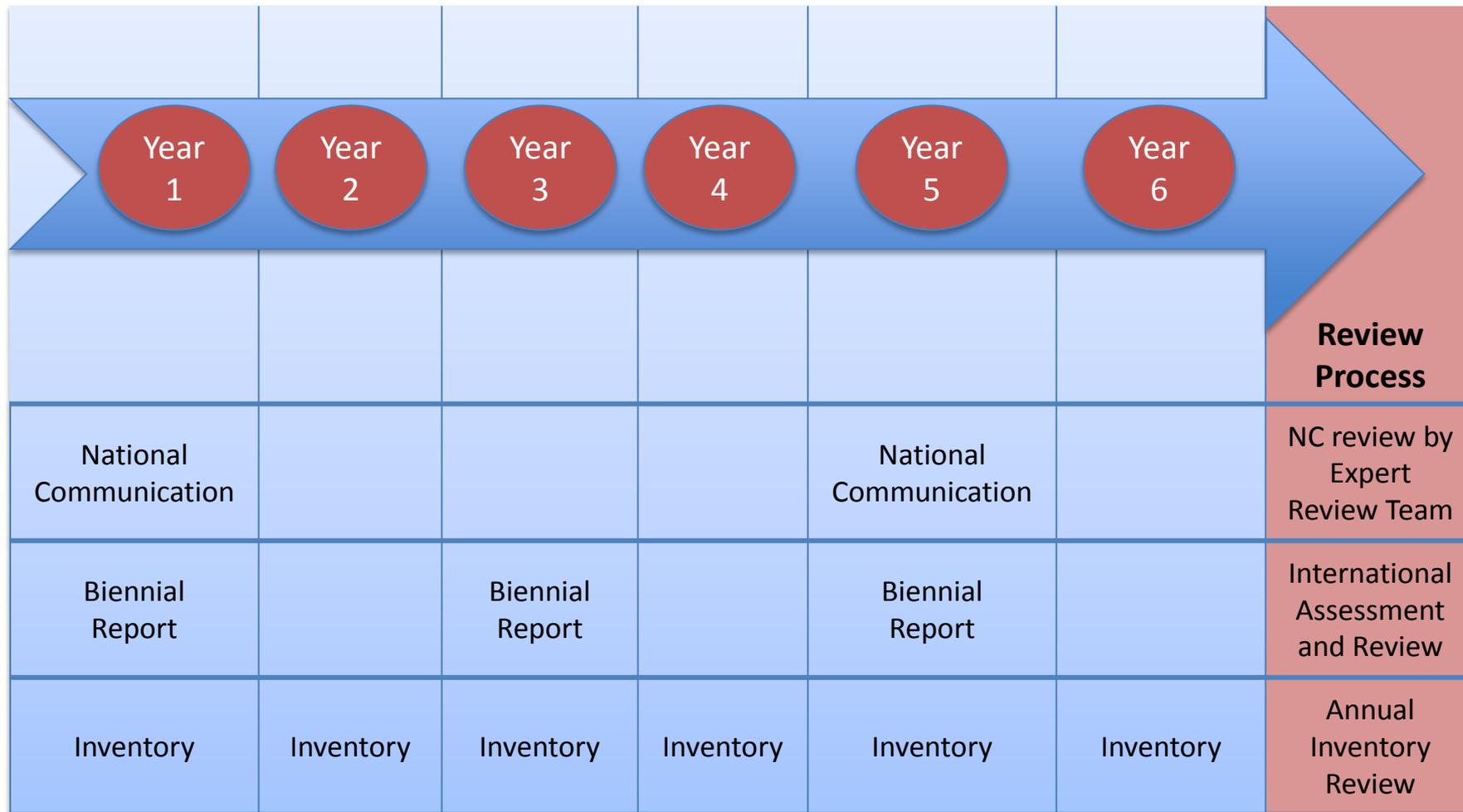
- Basic: *why and what is it about?*
- Technical: *how to do it?*
- Institution: *who will do it?*
- Support: *what kind of support is available? (applicable to developing countries)*

Structure of questions & answers



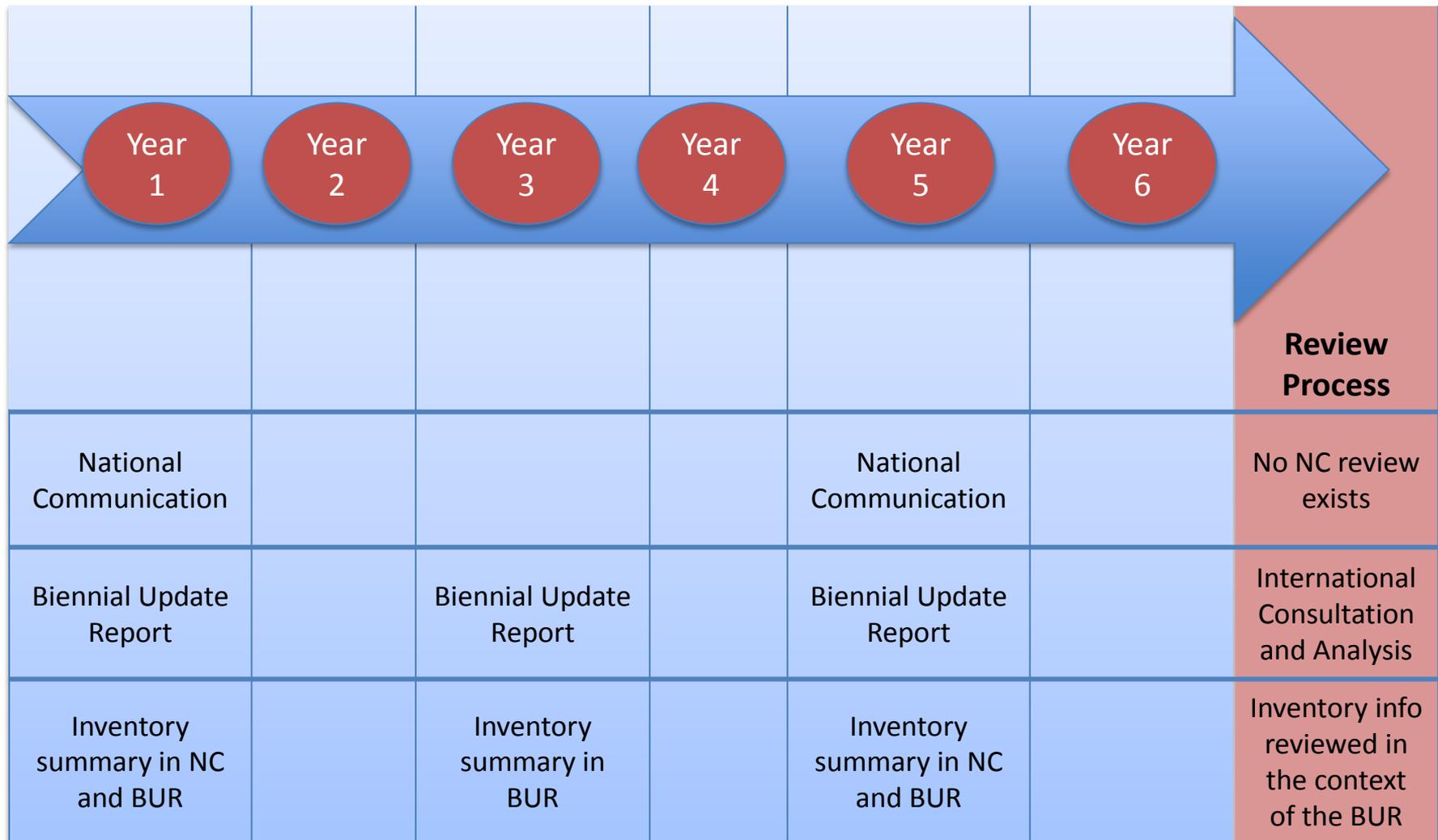
# 3. MRV at a Glance

## An Overview of MRV by Annex I Parties



# 3. MRV at a Glance

## An Overview of MRV by Non-annex I Parties



## National Communications: Annex I

	M	R	V
Why is it necessary?	To gather information from Parties regarding such issues as GHG emissions and removals, mitigation programs, adaptation measures and other aspects of climate change. To enhance transparency for better national policy making.	To meet reporting requirements under the Convention and to ensure the COP has accurate, consistent and relevant information in order to review the implementation of the Convention.	To provide a thorough, objective and comprehensive technical review of all aspects of implementation of the Convention.
What is it about?	<ul style="list-style-type: none"> <li>✓ National circumstances</li> <li>✓ National greenhouse gas inventory</li> <li>✓ Policies and measures</li> <li>✓ Projections and the total effects of policies and measures</li> <li>✓ Vulnerability assessment, impacts and adaptation measures</li> <li>✓ Financial resources and transfer of technology</li> <li>✓ Research and systematic observation</li> <li>✓ Education, training and public awareness</li> </ul>		To review all aspects of implementation of the Convention and identify any potential issues relating to: transparency, completeness, timeliness, adherence to reporting guidelines (4/CP.5)
How to do it?	NC coordinating entity collects relevant data/information in cooperation with a broad range of relevant ministries and organizations.	Submit NC to the UNFCCC	Each AI Party undergoes technical review
Who will do it?	NC coordinating entity, relevant ministries, institutions, organizations, etc.	National Government	Technical review carried out by an Expert Review Team
Any standard or guidelines for it?	<ul style="list-style-type: none"> <li>✓ Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications (Decision 4/CP.5)</li> </ul>		<ul style="list-style-type: none"> <li>✓ General procedures for review (2/CP.1)</li> <li>✓ “Process for consideration” of NCs (9/CP.2)</li> <li>✓ Guidelines for technical review of information reported related to GHG Inventories, BRs and NCs by Parties included in Annex I (23/CP.19)</li> </ul>

## National Communications: non-Annex I

	M	R	V
Why is it necessary?	To gather information from Parties regarding such issues as GHG emissions and removals, mitigation programs, adaptation measures and other aspects of climate change. To enhance transparency for better national policy making.	To meet reporting requirements under the Convention. To ensure the COP has accurate, consistent and relevant information in order to review the implementation of the Convention	-
What is it about?	<ul style="list-style-type: none"> <li>✓ National circumstances</li> <li>✓ National greenhouse gas inventory</li> <li>✓ General description of steps taken or envisaged to implement the Convention, including adaptation measures and mitigation programs.</li> <li>✓ Other information, including technology transfer, research and systematic observation, education, training and public awareness, capacity-building, information and networking)</li> <li>✓ Constraints and gaps, and related financial, technical and capacity needs</li> </ul>		-
How to do it?	NC coordinating entity collects relevant data/information in cooperation with a broad range of relevant ministries and organizations.	Submit NC to the UNFCCC	-
Who will do it?	NC coordinating entity, relevant ministries, institutions, organizations, etc.	National Government	-
Any standard or guidelines for it?	Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention (Decision 17/CP.8)		-

# Compare/Contrast AI National Communications with NAI National Communications

	NCs by Annex I	vs.	NCs by Non-annex I
Why necessary?	To meet reporting requirements under the Convention to ensure the COP can review the implementation of the Convention. To enhance transparency for better national policy making.	vs.	To meet reporting requirements under the Convention to ensure the COP can review the implementation of the Convention. To enhance transparency for better national policy making.
Contents	<ul style="list-style-type: none"> <li>✓ National circumstances</li> <li>✓ National greenhouse gas inventory</li> <li>✓ Policies and measures</li> <li>✓ Projections and the total effects of policies and measures</li> <li>✓ Vulnerability assessment, impacts and adaptation measures</li> <li>✓ Financial resources and transfer of technology</li> <li>✓ Research and systematic observation</li> <li>✓ Education, training and public awareness</li> </ul>	vs.	<ul style="list-style-type: none"> <li>✓ National circumstances</li> <li>✓ National greenhouse gas inventory</li> <li>✓ General description of steps taken or envisaged to implement the Convention, including adaptation measures and mitigation programs.</li> <li>✓ Other information, including technology transfer, research and systematic observation, education, training and public awareness, capacity-building, information and networking)</li> <li>✓ Constraints and gaps, and related financial, technical and capacity needs</li> </ul>
Frequency	Every 4 years	vs.	Every 4 years
Guidelines for preparation	Guidelines for the preparation of national communications by Parties included in Annex I to the Convention	vs.	Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention
Who prepares?	NC coordinating entity, relevant ministries, institutions, organizations for national government	vs.	NC coordinating entity, relevant ministries, institutions, organizations for national government
NC review process	Technical review of all AI NCs	vs.	None
Guidelines for review	Most recently, Guidelines for technical review of information reported related to GHG Inventories, BRs and NCs by Parties included in Annex I (23/CP.19)	vs.	N/A
Who reviews?	Expert Review Team	vs.	N/A

## Biennial Reports: Annex I

	M	R	V
Why is it necessary?	To enhance reporting from AI Parties on progress in achieving emissions reductions and on the provision of financial, technology and capacity-building support to NAI non Annex I Parties. To enhance transparency for better national policy making.	To enhance reporting from Annex I Parties on progress in achieving emissions reductions and on the provision of financial, technology and capacity-building support to non Annex I Parties. To meet Annex I Parties' reporting requirements under the Convention.	To review progress made in achieving emissions reductions and assess provision of support to developing countries
What is it about?	<ul style="list-style-type: none"> <li>✓ Information on greenhouse gas emissions and trends</li> <li>✓ Quantified economy-wide reduction target</li> <li>✓ Progress in achievement of emission reduction targets</li> <li>✓ Projections</li> <li>✓ Provision of financial, technological and capacity-building support to developing country Parties</li> </ul>		<ul style="list-style-type: none"> <li>✓ To review the progress made in achieving emission reductions and assess the provision of support to developing country parties</li> <li>✓ To assess the implementation of methodological and reporting requirements</li> </ul>
How to do it?	Biennial report coordinating entity collects relevant data/information in cooperation with a broad range of relevant ministries and organizations.	Submit to the UNFCCC	International Assessment and Review (IAR), which consists of the following: <ul style="list-style-type: none"> <li>✓ Technical review</li> <li>✓ Multilateral assessment</li> </ul>
Who will do it?	BR coordinating entity, relevant ministries, institutions, organizations, etc.	National Government	Technical review: Team of Technical Experts (TTE) Multilateral assessment : SBI
Any standard or guidelines for it?	UNFCCC biennial reporting guidelines for developed country Parties (2/CP.17, Annex I)		Modalities and procedures for international assessment and review (2/CP.17, Annex II)

## Biennial Update Reports: non-Annex I

	M	R	V
Why is it necessary?	To enhance reporting from non-Annex I Parties on GHG emissions and removals and measures taken to mitigate climate change. To enhance transparency for better national policy making.	To meet non-Annex I Parties' reporting requirements under the Convention.	To increase transparency of mitigation actions and their effects.
What is it about?	<ul style="list-style-type: none"> <li>✓ National circumstances and institutional arrangements</li> <li>✓ Mitigation actions and their effects</li> <li>✓ Constraints and gaps, and related financial, technical and capacity needs</li> <li>✓ Domestic measurement reporting and verification;</li> <li>✓ Other information</li> </ul>		<ul style="list-style-type: none"> <li>✓ National greenhouse gas inventory report</li> <li>✓ Information on mitigation actions</li> <li>✓ Analysis of the impacts of mitigation actions and the associated methodologies and assumptions</li> <li>✓ Progress made in their implementation</li> <li>✓ Information on domestic MRV</li> <li>✓ Support received</li> </ul>
How to do it?	Biennial updates reports (BURs) coordinating entity collects relevant data/information in cooperation with a broad range of relevant ministries and organizations.	Submit to the UNFCCC	International Consultations and Analysis (ICA), which consists of the following: <ul style="list-style-type: none"> <li>✓ Technical analysis</li> <li>✓ Facilitative sharing of views</li> </ul>
Who will do it?	BURs coordinating entity, relevant ministries, institutions, organizations, etc.	National Government	Technical analysis: Team of Technical Experts (TTE) Facilitative sharing of views : SBI
Any standard or guidelines for it?	UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention (2/CP.17, Annex III)		Modalities and guidelines for international consultation and analysis (2/CP.17, Annex IV)

## Compare/Contrast Biennial Reports with Biennial Update Reports

	BRs by Annex I	vs.	BURs by Non-annex I
Why necessary?	Enhanced reporting on achieving emissions reductions and providing support to NAI Parties. To enhance transparency for better national policy making.		To enhance reporting on GHG emissions and removals and measures taken to mitigate climate change. To enhance transparency for better national policy making.
Contents	<ul style="list-style-type: none"> <li>✓ GHG emissions and trends</li> <li>✓ Progress in implementing emission reduction targets</li> <li>✓ Projections</li> <li>✓ Provision of support</li> </ul>		<ul style="list-style-type: none"> <li>✓ Circumstances and institutional arrangements</li> <li>✓ Mitigation actions and effects</li> <li>✓ Constraints, gaps and needs</li> <li>✓ Domestic MRV</li> </ul>
Frequency	Every two years		Every two years
Guidelines for preparation	UNFCCC biennial reporting guidelines for developed country Parties (2/CP.17, Annex I)		UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention (2/CP.17, Annex III)
Who and how?	Relevant national entities collect and prepare info and submit to UNFCCC		Relevant national entities collect and prepare info and submit to UNFCCC
Report review process	International Assessment and Review		International Consultation and Analysis
Guidelines for review	Modalities and procedures for international assessment and review (2/CP.17, Annex II)		Modalities and guidelines for international consultation and analysis (2/CP.17, Annex IV)
Who reviews?	TTE with multilateral assessment by SBI		TTE with facilitative sharing of views by SBI

## National Greenhouse Gas Inventories: Annex I

	M	R	V
Why is it necessary?	To estimate GHG emissions and removal at the national level. To enhance transparency for better national policy making.	To report estimates on GHG emissions and removals in annual inventory reports, NCs and BRs.	To promote the provision of consistent, transparent, comparable, accurate and complete information by AI Parties on GHG emissions and removals
What is it about?	National GHG emission/removal estimation prepared based on UNFCCC Reporting Guidelines and IPCC Guidelines.	Annual National Inventories (including Common Reporting Format and National Inventory Report) and summary info in chapters in the NCs and BRs.	Annual reviews of individual inventories of each Annex I Party by inventory experts
How to do it?	Determined by each Annex I country based on “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories” (Decision 18/CP.8) and revisions.		Based on the “Guidelines for the technical review of greenhouse gas inventories from Parties included in AI of the Convention” (Decision 6/CP.5) and revisions
Who will do it?	Depends on each Annex I country’s national circumstances.		Expert Review Team
Any standard or guidelines for it?	<ul style="list-style-type: none"> <li>✓ Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories” (Decision 18/CP.8) and revisions (Decision 14/CP.11 for LULUCF and Decision 24/CP.19)</li> <li>✓ Revised 1996 IPCC Guidelines and 2006 IPCC Guidelines</li> <li>✓ IPCC Good Practice Guidance (2000) and IPCC Good Practice Guidance for LULUCF (2004)</li> <li>✓ Common reporting format (CRF) Reporter software</li> </ul>		<ul style="list-style-type: none"> <li>✓ Guidelines for the technical review of greenhouse gas inventories from Parties included in AI of the Convention” (Decision 6/CP.5) and revisions (Decision 19/CP.8 and Decision 23/CP.19).</li> </ul>

## National Greenhouse Gas Inventories: non-Annex I

	M	R	V
Why is it necessary?	To estimate GHG emissions and removal at the national level. To enhance transparency for better national policy making.	To report estimates on GHG emissions and removals as a part of NCs and BURs.	To encourage presentation of information in a consistent, transparent, complete, accurate and timely manner.
What is it about?	National GHG emission/removal estimation prepared based on UNFCCC Reporting Guidelines and IPCC Guidelines.	Chapters on the national GHG inventories in the NCs and BURs.	International Consultation and Analysis (ICA)
How to do it?	Determined by each non-Annex I country based on Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention (Decision 17/CP.8).		Based on modalities and guidelines for ICA (Decision 2/CP.17) and the Composition, modalities and procedures of the team of technical experts under ICA (Decision 20/CP.19)
Who will do it?	Depends on each non-Annex I country's national circumstances.		Team of Technical Experts
Any standard or guidelines for it?	<ul style="list-style-type: none"> <li>✓ Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention (Decision 17/CP.8)</li> <li>✓ UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention (Decision 2/CP.17, Annex III)</li> <li>✓ Revised 1996 IPCC Guidelines and 2006 IPCC Guidelines</li> <li>✓ IPCC Good Practice Guidance (2000) and IPCC Good Practice Guidance for LULUCF (2004)</li> <li>✓ 2006 IPCC Guidelines</li> </ul>		<ul style="list-style-type: none"> <li>✓ Modalities and guidelines for ICA (Decision 2/CP.17)</li> <li>✓ Composition, modalities and procedures of the team of technical experts under ICA (Decision 20/CP.19)</li> </ul>

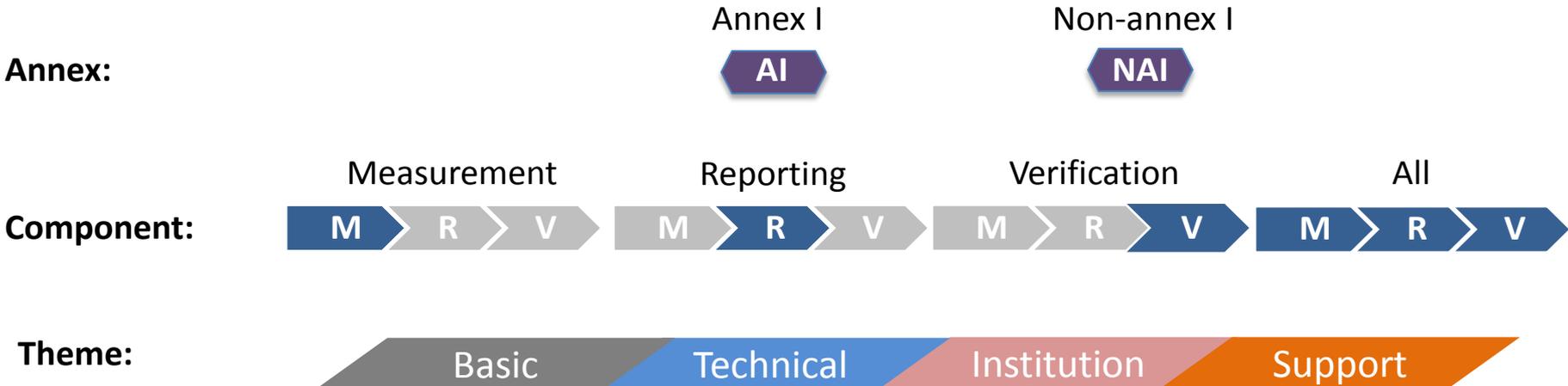
## Compare/Contrast AI GHG Inventories with NAI GHG Inventories

	Inventories by Annex I		Inventories by Non-annex I
Why necessary?	To estimate and report on GHG emissions and removals. To enhance transparency for better national policy making.	vs.	To estimate and report on GHG emissions and removals. To enhance transparency for better national policy making.
Contents	National GHG emission/removal estimation based on UNFCCC Reporting Guidelines and IPCC Guidelines	vs.	National GHG emission/removal estimation prepared based on UNFCCC Reporting Guidelines and IPCC Guidelines
Frequency	Annually	vs.	Every 4 years as part of NCs and 2 years as part of BURs
Guidelines for preparation	Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories	vs.	Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention
Who prepares?	Depends on each Annex I country's national circumstances	vs.	Depends on each Non-Annex I country's national circumstances
Inventory review process	Annual reviews of individual inventories of each Annex I Party	vs.	Part of in the ICA process
Guidelines for review	Guidelines for the technical review of greenhouse gas inventories from Parties included in AI of the Convention and revisions	vs.	Modalities and guidelines for ICA and Composition, modalities and procedures of the team of technical experts under ICA
Who reviews?	Expert Review Team appointed for annual review	vs.	Team of Technical Experts appointed for ICA

# 4. Questions and Answers

## Guide to Q&A

The following sections present questions and answers on MRV schemes. The icons below serve as a guide with regards to which group of countries the slide applies to, which component part of MRV it refers to and the theme that it covers. There is also a button on each slide which, when clicked, will automatically link the reader to the slide covering the same question but for the other group of countries.



**Compare AI and NAI buttons:**  
(click to jump from AI to NAI/NAI to AI)



## 4.1. National Communications: Annex I Parties

This section covers questions and answers on national communications, as follows:

### Common

1. What are national communications?
2. Why do national communications need to be prepared?
3. How frequently should national communications be prepared?
4. Who should develop national communications and biennial reports?
5. How do countries establish institutional arrangements to prepare national communications and biennial reports?
6. How should we develop national communications and biennial reports?
7. Are there any standards or guidelines for national communications?

### Scheme-specific

8. What information is included in national communications?
9. How should we estimate the effects of individual mitigation policies and measures?
10. What is the status of submission of national communications by Annex I Parties?
11. Are national communications from Annex I Parties verified or reviewed?
12. Are there standards or guidelines for the review of national communications by Annex I Parties?

# Q1: What are national communications?

Compare to NAI

A: National communications (NCs) are reports for providing information on how each Party is implementing their Convention commitments.

## In detail

- ✓ In accordance with Article 4, paragraph 1, and Article 12, paragraph 1, of the UNFCCC, each Party shall provide the Conference of the Parties (COP) with the information on national greenhouse gas inventories; national or, where appropriate, regional programmes containing measures to mitigate climate change, and measures to facilitate adequate adaptation to climate change; and any other information that the Party considers relevant to the achievement of the objective of the Convention.
- ✓ Article 12 of the Convention specifies the elements of information to be reported by all Parties in their NCs and also lists additional information to be provided by developed country Parties.
- ✓ The frequency of NCs for Annex I Parties is differentiated from those of non-Annex I Parties based on the principle of “common but differentiated responsibilities and respective capability”.

### Content of NCs of Annex I Parties



Elements
National circumstances
National GHG inventory
General description of steps taken or envisaged to implement the Convention
Policies and measures to mitigate, projections, vulnerability assessment
Other information

Reference:

1. UNFCCC. (1992)

•Details of contents of NCs is shown in page 29, “What information is included in national communications?”

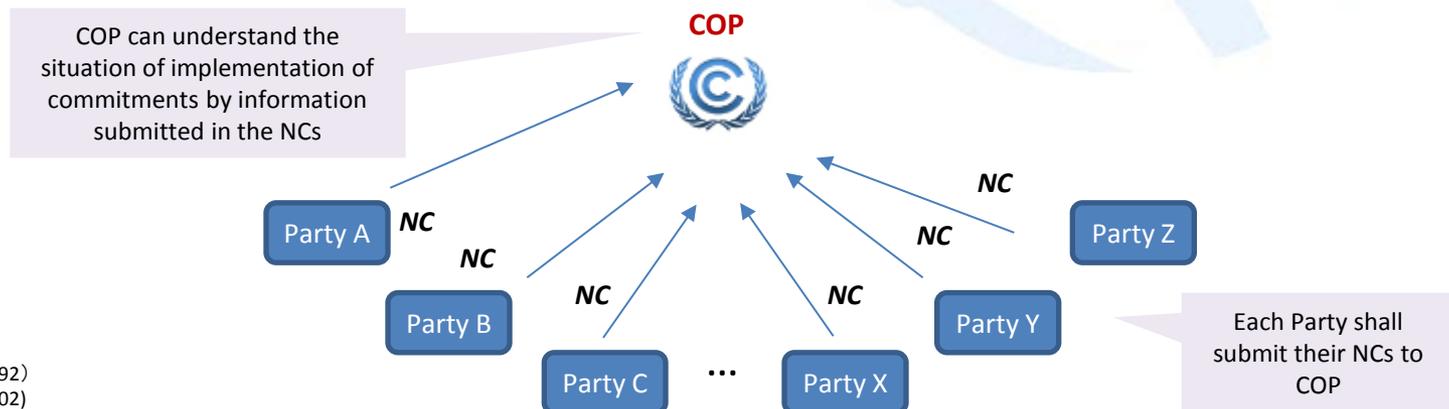
## Q2: Why do national communications need to be prepared?

[Compare to NAI](#)

A: Preparing NCs and reporting it to the COP are commitments for all Parties under the Convention. This process also serves to enhance transparency on emissions sources and sinks and other information, thereby supporting more effective policy making.

### In detail

- ✓ The ultimate objective of the UNFCCC is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. In order to achieve the objective, all Parties shall fulfill the following commitments:
  - Develop and periodically update national GHG inventories
  - Formulate, implement, publish and regularly update programmes containing mitigation and adaptation measures
  - Communicate information to COP that is related to the implementation of commitments etc.
- ✓ NCs reporting seeks to ensure that the COP has accurate, consistent and relevant information to review the implementation of the Convention. In particular, information included in the NCs is significant for assessing the situation of GHG emissions/removals and implementation of mitigation and adaptation measures by each Party.



Reference:

1. UNFCCC. (1992)
2. UNFCCC. (2002)

## Q3: How frequently should national communications be prepared?

[Compare to NAI](#)

A: Each Annex I Party shall submit its initial NC within six months of the entry into force of the Convention for that Party. Historically, the deadlines of subsequent NCs have been set by the COP at every 4-5 years but COP 17 decisions have led to a defined 4-year cycle. The deadline for the 6<sup>th</sup> National Communications from Annex I Parties is 1 January 2014.

### Initial NC



- ✓ Each non-Annex I Party shall submit its initial NCs within 6 months of the entry into force of the Convention for that Party.

### Second NC Third NC Subsequent NCs



...



- ✓ NCs by Annex I Parties are submitted every 4-5 years following decisions for each submission by the COP.
- ✓ Annex I Parties have a deadline of 1 January 2014 for submitting their 6<sup>th</sup> NC.

#### Reference:

1. UNFCCC. (1992)
2. UNFCCC. (2011)

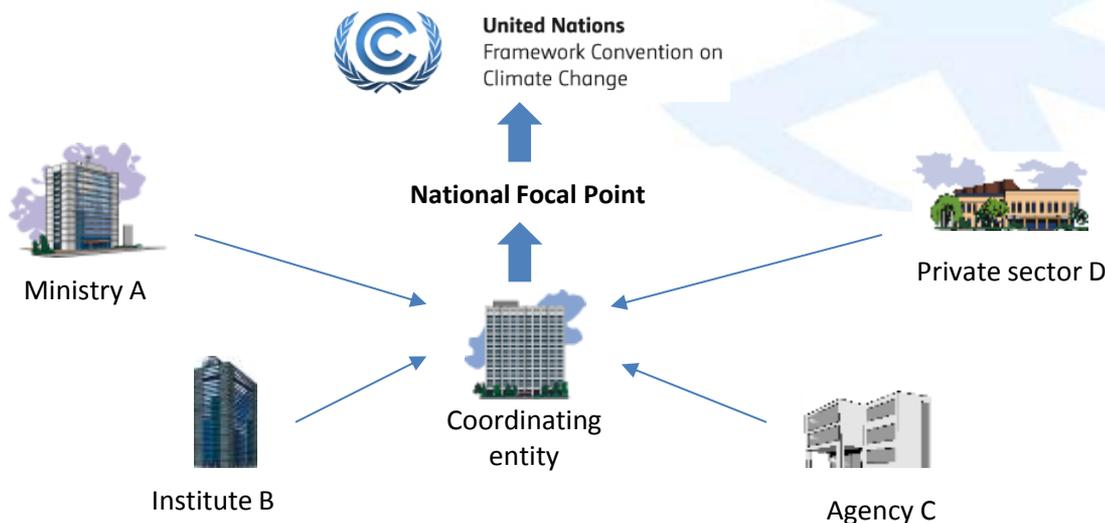
## Q4: Who should develop national communications and biennial reports?

[Compare to NAI](#)

A: NCs/Biennial reports (BRs) coordinating entity in each Party designated as responsible for the overall NCs/BRs preparation should develop their NCs and BRs. The role and nature of NCs/BRs coordinating entity depends on their national circumstances.

### In detail

- ✓ Since the development and submission of NCs and BRs are commitments of all Parties under the UNFCCC, the government of each country Party should develop their NCs and BRs.
- ✓ Which ministry, agency and/or other organisation has responsibility for developing NCs/BR in the country depends on its national circumstances. Generally, the ministry related to the environmental issues in the country concerned becomes a coordinating agency and other related ministries, agencies and organisations cooperate together in the development of NCs/BRs.



## Q5: How do countries establish institutional arrangements to prepare national communications and biennial reports?

Compare to [NAI](#)

A: Key elements for establishing institutional arrangements is to designate a NCs/BRs coordinating entity which is responsible for the overall preparation process. This entity would then manage the effective coordination with a broad range of stakeholders, institutional and technical in-country capacity building, and the establishment of legal/formal arrangements for NCs/BRs preparation, as appropriate.

### In detail

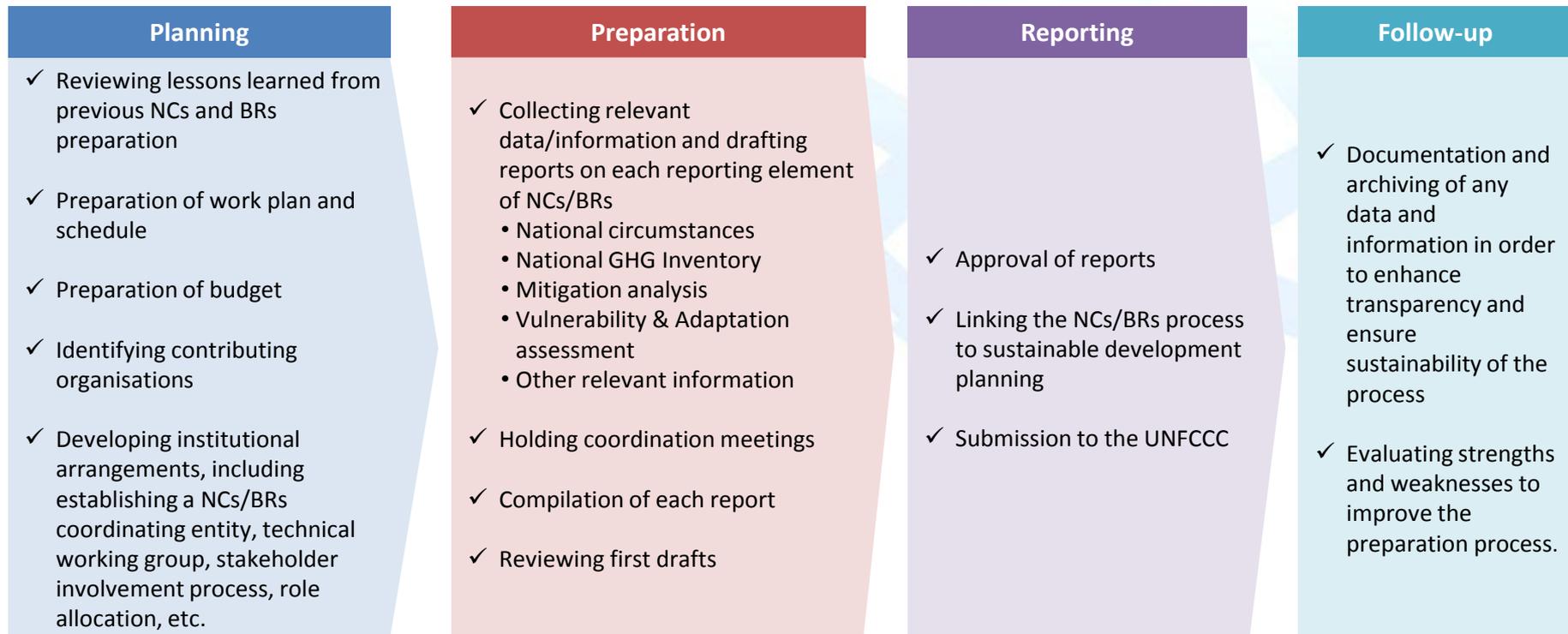
- ✓ It is quite important that a single national NCs/BRs coordinating entity is designated as responsible for the overall coordination and management for the NCs/BRs preparation process for establishing effective institutional arrangements. The NCs/BRs coordinating entity should be responsible for the following tasks:
  - Develop a work plan and time schedule for preparing NCs/BRs
  - Identify all stakeholders that should be involved in the preparation process of NCs/BRs
  - Arrange and coordinate the task of each component of NCs/BRs
  - Allocate roles and responsibilities between organisations
  - Coordinate with relevant ministries, agencies, organisations and others
  - Manage the overall budget
- ✓ The coordinating entity should be maintained and motivated in order to enhance and improve the next NCs/BRs preparation.
- ✓ It is recommended that a national legal arrangement for the preparation of NCs/BRs, be established as necessary.
- ✓ In addition, it is also recommended that a Memorandum of Understanding or some other formal agreement between the coordinating entity and other relevant organisations involved in NCs/BRs process be established to define roles and responsibilities.
- ✓ In-country capacity building for domestic experts and organisations is key so that the Party can produce subsequent NCs/BRs in a consistent and sustained manner.

## Q6: How should we develop national communications and biennial reports?

[Compare to NAI](#)

A: NCs/BRs coordinating entity proceeds and manages the preparation process for NCs and BRs, and collects relevant data/information and prepares reports on each reporting element of NCs/BRs in cooperation with a broad range of relevant ministries and organisations.

### Overview of NCs/BRs preparation process



## Q7: Are there any standards or guidelines for national communications?

Compare to [NAI](#)

A: The COP adopted “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention” (4/CP.5). Annex I Parties should use these guidelines for the preparation of their NCs.

### In detail

- ✓ Guidelines for the preparation of the first and second NCs by Annex I Parties were elaborated in the Annex to decision 9/2 of the Committee (before COP 1).
- ✓ These guidelines were revised at COP 2 and COP 5 (Decision 4/CP.5), where they were adopted for the preparation of third NCs. These guidelines were also used for the preparation of the fourth, fifth and sixth NC. (“Guidelines for the preparation of national communications from Parties included in Annex I to the Convention”).

### Contents of the **guidelines** for the preparation of NCs from Annex I Parties

- I. INTRODUCTION
- II. EXECUTIVE SUMMARY
- III. NATIONAL CIRCUMSTANCES
- IV. NATIONAL GREENHOUSE GAS INVENTORY
- V. POLICIES AND MEASURES
- VI. PROJECTIONS AND THE TOTAL EFFECTS OF POLICIES AND MEASURES
- VII. VULNERABILITY ASSESSMENT, CLIMATE CHANGE IMPACTS AND ADAPTATION MEASURES
- VIII. FINANCIAL RESOURCES AND TRANSFER OF TECHNOLOGY
- IX. RESEARCH AND SYSTEMATIC OBSERVATION
- X. EDUCATION, TRAINING AND PUBLIC AWARENESS
- XI. UPDATING OF THE GUIDELINES

#### Reference:

1. UNFCCC. (1994)
2. UNFCCC. (1997)
3. UNFCCC. (1999)

## Q8: What information is included in national communications?

[Compare to NAI](#)

A: The components that should be included in NCs are information on national circumstances, national GHG inventory, mitigation measures and their effects, adaptation measures, financial resources and transfer of technology, research and systematic observation, as well as education, training and public awareness.

Elements	Details
National circumstances	<ul style="list-style-type: none"> <li>Description of national circumstances, how these circumstances affect GHG emissions and removals, and how national circumstances and changes in these affect GHG emissions and removals over time.</li> </ul>
National GHG inventory	<p>Information on GHG emissions and removals</p> <ul style="list-style-type: none"> <li>Inventory years : Summary tables for the period from 1990 (or other base year) to the last but one year prior to year of submission. Should be consistent with annual inventory.</li> <li>Methodologies : Revised 1996 IPCC guidelines and IPCC good practice guidance</li> <li>Gases : Required to (shall) report CO<sub>2</sub> equivalent and emissions trend tables for the following gases: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>.</li> </ul>
Policies and measures, projections and total effects	<ul style="list-style-type: none"> <li>Selection of policies and measures for the NC and a description of the policy making process</li> <li>Effects of individual policies and measures (PAMs)</li> <li>Projection of future trends in GHG emissions and removals and estimation of total effects of PAMs on emissions and removals</li> </ul>
Vulnerability assessment, impacts and adaptation measures	<ul style="list-style-type: none"> <li>Expected impacts of climate change</li> <li>Action taken to implement measures to facilitate adequate adaptation</li> <li>Actions taken to cooperate in preparing for adaptation to the impacts of climate change</li> </ul>
Financial resources and transfer of technology	<ul style="list-style-type: none"> <li>Measures taken to carry out financial commitments under the Convention <ul style="list-style-type: none"> <li>Provision of new and additional resources to developing countries to meet reporting commitments</li> <li>Provision of financial resources and transfer of technology to meet agreed full incremental costs of implementing measures through multilateral, bilateral and regional channels</li> <li>Assistance to particularly vulnerable Parties in meeting the costs of adaptation</li> </ul> </li> </ul>
Other information	<ul style="list-style-type: none"> <li>Research and systematic observation</li> <li>Education, training and public awareness</li> <li>Additional or supporting information</li> </ul>

Reference:

1. UNFCCC. (1999)

## Q9: How should we estimate the effects of individual mitigation policies and measures?

Compare to NAI

A: Annex I NC Guidelines request that Annex I Parties provide specific information pertaining to each of the policy and measures presented by Parties in their Communications .

### Information that SHOULD be included on mitigation policies and measures

Name and short description of the policy or measure

Objectives of the policy or measure

Greenhouse gas or gasses affected

Type of policy or measure

Status of implementation

Implementing entity or entities

Quantitative estimate of the impacts of individual policies and measures or collections of policies and measures, including a brief description of estimation methods. Information should be presented for a particular years, not for a period of years.

### Information that MAY be included on mitigation policies and measures

Information about the costs of policies and measures

Information about non-GHG mitigation benefits of policies and measures

How the policy or measures

Type of policy or measure interacts with other policies and measures at the national level

Information on how policies and measures and modifying long-term GHG trends in GHG emissions

## Q10: What is the status of the submission of national communications by Annex I Parties?

Compare to NAI

A: Annex I Parties' sixth national communications were due on 1 January 2014. As of the end of February, 38 Annex I Parties have submitted their sixth NCs to the secretariat.

### In detail

- ✓ Annex I Parties' sixth NCs were due on 1 January 2014.
  - ✓ 24 Annex I Parties submitted their sixth NC before the due date.
  - ✓ 14 Annex I Parties submitted their sixth NC after the due date.
  - ✓ 6 Annex I Parties have yet to submit their sixth NC.
- ✓ Upon request from the Subsidiary Body of Implementation, the secretariat prepares compilation and synthesis reports of the NCs that summarize information provided in the individual NCs. The latest C&S report of the fifth NCs was presented to the SBI in June of 2011.



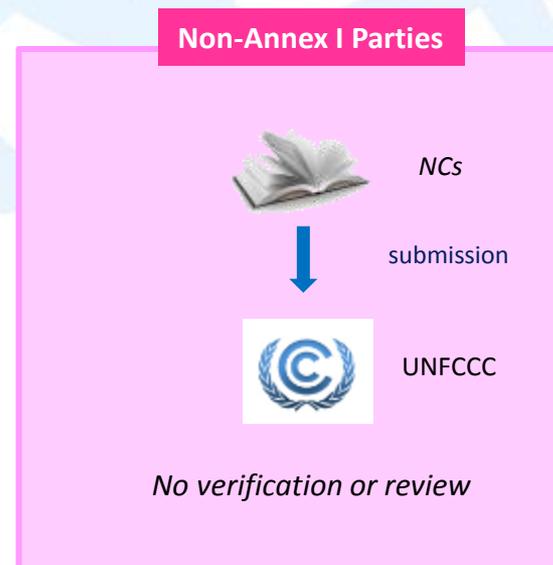
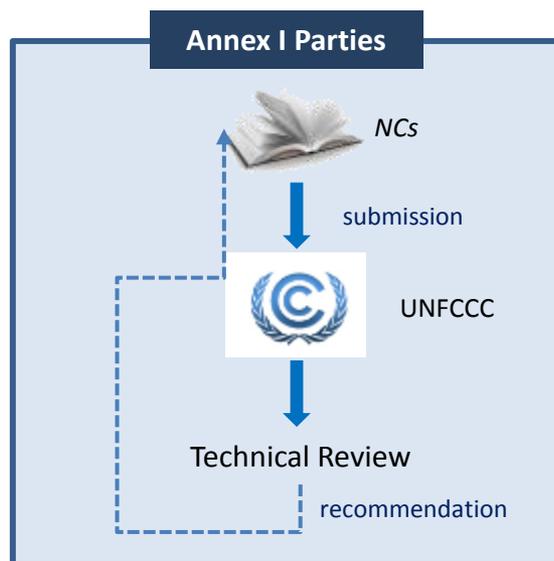
## Q11: Are national communications from Annex I Parties verified or reviewed?

[Compare to NAI](#)

A: Yes. Each NC of an Annex I Party is subject to an “in-depth” review conducted by an international team of experts, coordinated by the UNFCCC secretariat .

### In detail

- ✓ NCs from each Annex I Parties is subject to individual technical review. The technical reviews of NCs are conducted by an expert review team (ERT) nominated by a roster of experts. The reports of these reviews contribute to facilitating the assessment of the implementation of the commitments under the Convention by Annex I Parties, and assist Annex I Parties in improving their reporting.



Reference:

1. UNFCCC. (1999)

## Q12: Are there standards or guidelines for the review of national communications by Annex I Parties?

[Compare to NAI](#)

A: Yes. General procedures for the review of NCs by Annex I Parties were adopted at COP 1. COP 2 adopted “Guidelines, schedule and process for consideration” of communications from Annex I Parties, which have been updated over time. Most recently, COP 19 adopted “Guidelines for the technical review of information related to GHG Inventories, BRs and NCs by Parties included in Annex I (Decision 23/CP.19).

### In detail

- ✓ NCs from each Annex I Parties is subject to individual technical review.
- ✓ The guidelines for the review of national communications by Annex I Parties lay out the **process** that for the review of the National Communications by Annex I Parties by the ERTs.
- ✓ The UNFCCC secretariat has developed “checklists” that the ERT uses to assess whether the Party being reviewed has provided all of the required information and how it could improve the completeness and transparency of its NC report . These checklists help ensure accurate and consistent reviews.
- ✓ The guidelines for the review of national communications by Annex I Parties were updated at COP 19 through Decision 23/CP.19).

#### Reference:

1. UNFCCC. (1995)
2. UNFCCC. (1999)
3. UNFCCC. (2013)

## 4.2. Biennial Reports by Developed Country Parties

This section covers questions and answers on biennial reports, as follows:

### Common

13. What are biennial reports?
14. Why do biennial reports need to be prepared?
15. How frequently should biennial reports be prepared?
16. Who should develop national communications and biennial update reports? (see Q4 on page 25)
17. How to establish institutional arrangements to prepare national communications and biennial update reports? (see Q5 on page 26)
18. How to develop national communications and biennial update reports? (see Q6 on page 27)
19. Are there any standards or guidelines for biennial reports?

### Scheme-specific

20. What information is included in the biennial reports?
21. How are biennial reports verified or reviewed?
22. How are biennial reports analysed?
23. What is the relationship between national communications and biennial reports?

## Q13: What are biennial reports?

[Compare to NAI](#)

A: BRs are reports which Annex I Parties shall submit every two years from 2014 to provide information on how each Party is implementing its commitments under the Convention.

### In detail

- ✓ In accordance with 1/CP.16, developed country Parties should submit BRs **every two years**.
- ✓ Developed country Parties should submit their first BRs to the secretariat by **1 January 2014**.

#### Content of BRs of Annex I Parties



Elements
(a) Information of greenhouse gas emissions and trends
(b) Quantified economy wide-emission reduction target
(c) Progress in achievement of quantified economy-wide emission reduction targets and relevant information
(d) Projections
(e) Provision of financial, technological and capacity-building support to developing country Parties
(f) Any other information

\* Details of contents of BRs is shown in page 39, "What information is included in biennial reports?"

## Q14: Why do biennial reports need to be prepared?

Compare to NAI

A: COP 16 agreed that the reporting of NCs from developed country Parties is enhanced by the submission of BRs. This process also serves to enhance transparency on emissions sources and sinks and other information, thereby supporting more effective policy making.

### In detail

- ✓ COP 16 decided that developed country BRs should focus on their progress in achieving emissions reductions, including information on mitigation actions to achieve their quantified economy-wide emission targets and emission reductions achieved, projected emissions and the provision of financial, technology and capacity-building support to developing country Parties.

#### Before 2014

*GHG Inventories*



Every year

*NCs*



Every 4-5 years

Each Annex I Party shall submit an annual GHG inventory every year and an NC every 4-5 years.

*Enhancement of reporting*



#### After 2014

*GHG Inventories*



Every year

+

*BURs*



Every 2 years

+

*NCs*



Every 4 years

Each Annex I Party shall submit a GHG inventory every year, a BR every 2 years and an NCs every 4 years.

Reference:

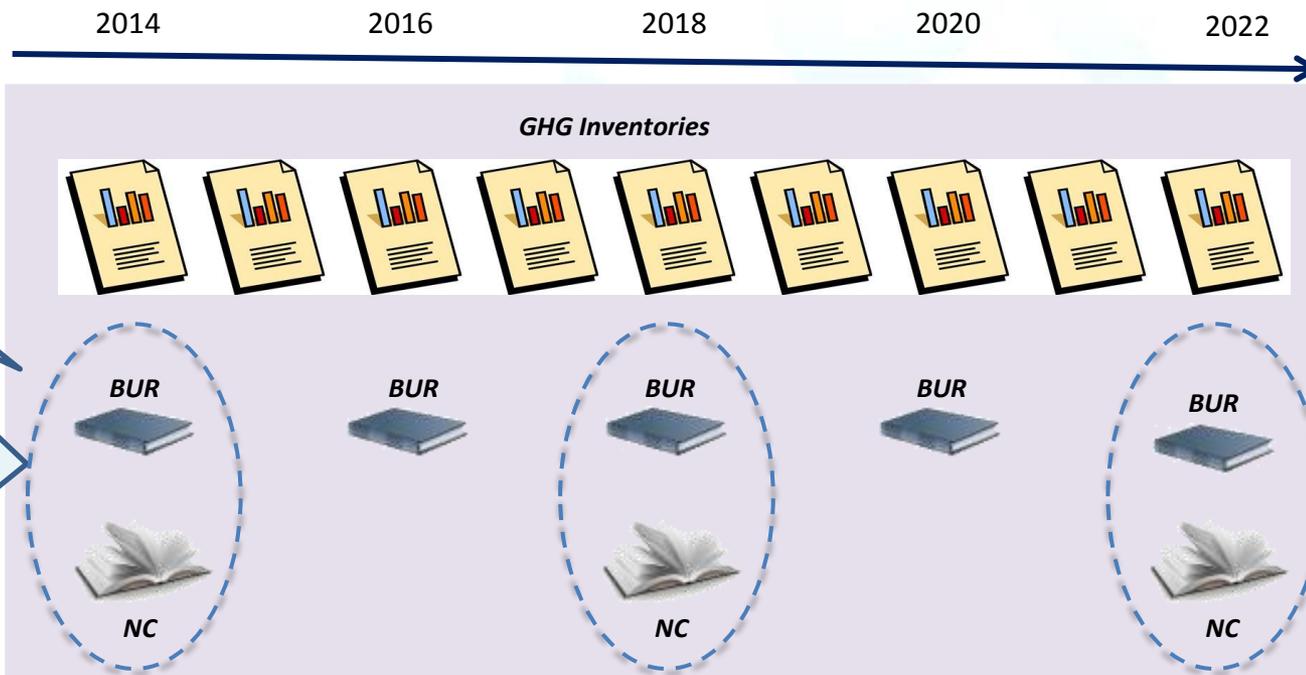
1. UNFCCC. (2010)
2. UNFCCC. (2011)

## Q15: How frequently should biennial reports be prepared?

Compare to NAI

A: As the name suggests, BRs should be prepared every two years. The submission due date for the first BRs is 1 January 2014.

Timeframe for submission of GHG Inventories, BRs and NCs



Annex I Parties should submit their first BRs by 1 January 2014 in accordance with 2/CP.17.

Annex I Parties shall submit BRs every two years. In years when the full NC is submitted, developed country Parties should present the BRs as an annex to the NC **OR** as a separate report.

## Q19: Are there any standards or guidelines for biennial reports?

Compare to NAI

A: The COP adopted “UNFCCC biennial reporting guidelines for developed country Parties” (2/CP.17, Annex I). Annex I Parties should use these guidelines for the preparation of BRs.

### In detail

- ✓ COP 16 agreed on a work programme for the revision of guidelines for the BR.
- ✓ COP 17 adopted “UNFCCC biennial reporting guidelines for developed country Parties” (2/CP.17, Annex I).

### Contents of the guidelines for BRs from developed country Parties

- I. Objectives**
- II. Information on greenhouse gas emissions and trends**
- III. Quantified economy-wide emission reduction target**
- IV. Progress in achievement of quantified economy-wide emission reduction targets and relevant information**
- V. Projections**
- VI. Provision of financial, technological and capacity-building support to developing country Parties**
- VII. Other reporting matters**
- VIII. Reporting**
- IX. Updating of the guidelines**

## Q20: What information is included in biennial reports?

Compare to NAI

A: The components that should be included in the BURs are information on the national GHG inventory, mitigation actions and their effects, needs and support received and any other relevant information.

Elements	Detail
<b>(a) Information on GHG emissions and trends</b>	<ul style="list-style-type: none"> <li>• Summary information from the national GHG inventory on emissions and emission trends for 1990 to the latest year in most recent inventory submission.</li> <li>• Summary information on national inventory arrangements.</li> </ul>
<b>(b) Quantified economy-wide emission reduction target</b>	<p>Description of target, including any condition and assumptions, including:</p> <ul style="list-style-type: none"> <li>• Base year, gases and sectors covered, GWP values, LULUCF approach, use of international market mechanism, any other information</li> </ul>
<b>(c) Progress in achievement of quantified economy-wide emission reduction targets and relevant information</b>	<ul style="list-style-type: none"> <li>(a) Mitigation actions and their effects</li> <li>(b) Estimates of emissions reductions and removals and the use of units from the market-based mechanisms and land use, land-use change and forestry activities</li> </ul>
<b>(d) Projections</b>	<ul style="list-style-type: none"> <li>• Updated projections for 2020 and 2030</li> <li>• Changes in model or methodologies used for preparation of projections</li> </ul>
<b>(e) Provision of financial, technological and capacity-building support to developed country Parties</b>	<ul style="list-style-type: none"> <li>(a) Finance</li> <li>(b) Technology development and transfer</li> <li>(c) Capacity-building</li> </ul>
<b>(f) Other reporting matters</b>	<ul style="list-style-type: none"> <li>• Domestic arrangements established for the process of self-assessment of compliance with emission reductions in comparison with commitments or level required by science.</li> <li>• Establishment of national rules for taking local action against domestic non-compliance with targets.</li> <li>• Any other information that the developed country Party considers relevant to the achievement of the objective of the Convention and suitable for inclusion in BRs.</li> </ul>

## Q21: How are biennial reports verified or reviewed?

Compare to NAI

A: At COP 16, the Parties established International Assessment and Review (IAR), a process to review the progress made by developed country Parties in achieving emissions reductions and the provision of support to developing country Parties.

### In detail

- ✓ The objectives of the IAR process are to review the progress made in achieving emission reductions and assess the provision of financial, technological and capacity-building support to developing country Parties, and to assess emissions and removals related to emissions reduction targets.
- ✓ IAR is to be implemented in accordance with the modalities and guidelines for IAR contained in Annex II of decision 2/CP.17 and the “Guidelines for technical review of the information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention” (Decision 23/CP.19).
- ✓ The 1<sup>st</sup> round of IAR should commence **two months** after the submission of the first round of BRs.
- ✓ IAR will be conducted every two years for the BRs, whether independently or in conjunction with a NC.

### Comparison of International Assessment and Review (IAR) for BRs from Annex I Parties and ICA for BURs from non-Annex I Parties

	IAR for BRs from Annex I Parties	ICA for BURs from non-Annex I Parties
Step 1	<b>Technical review</b> by expert review team (ERT)	<b>Technical analysis</b> by technical team of experts (TTE)
Step 2	<b>Multilateral assessment</b> under the SBI	<b>Facilitative sharing of views</b> under the SBI

Reference:

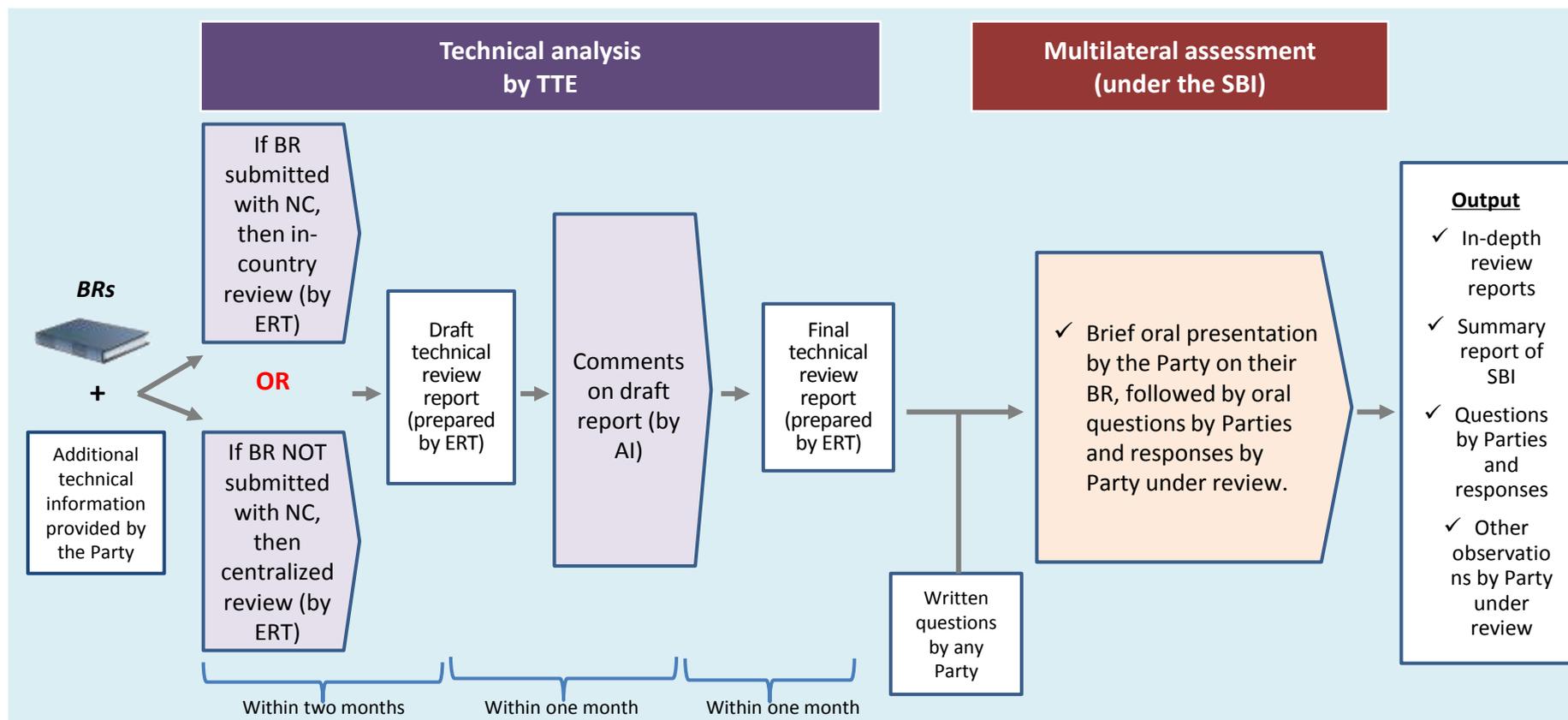
1. UNFCCC. (2011b)
2. UNFCCC. (2013)

## Q22: How are biennial reports analysed?

Compare to NAI

A: Each BR submitted will be subject to a technical review, which is the first step of the IAR process. The technical review is carried out by an Expert Review Team (ERT), composed of experts selected by the secretariat from the UNFCCC roster of experts.

### Overview of IAR process



## Q23: What is the relationship between national communications and biennial reports of Annex I Parties?

Compare to NAI

A: The BRs are additional to the annual GHG inventories and the NCs and can be submitted either separately or in addition to the NCs on coinciding years.

### NCs

- ✓ **National circumstances**
- ✓ **National greenhouse gas inventory**
  - Summary tables for the period from 1990 (or other base year) to the last but one year prior to year of submission.
- ✓ **Policies and measures**
- ✓ **Projections and total effects**
  - Selection of policies and measures for the NC and a description of the policy making process
  - Effects of individual policies and measures (PAMs)
  - Projection of future trends in GHG emissions and removals and estimation of total effects of PAMs on emissions and removals
- ✓ **Vulnerability assessment, impacts and adaptation measures**
- ✓ **Financial resources and transfer of technology**
- ✓ **Research and systematic observation**
- ✓ **Education, training and public awareness**
- ✓ **Additional or supporting information**
  - Any other information the Party considers relevant

overlapped

### BRs

- ✓ **Information on GHG emissions and trends**
  - Summary information from the national GHG inventory on emissions and emission trends for 1990 to the latest year in most recent inventory submission.
  - Summary information on national inventory arrangements.
- ✓ **Quantified economy-wide emission reduction target**
- ✓ **Progress in achievement of quantified economy-wide emission reduction targets and relevant information**
- ✓ **Projections**
- ✓ **Provision of financial, technological and capacity-building support to developed country Parties**
- ✓ **Other reporting matters**
  - Domestic arrangements established for the process of self-assessment of compliance and national rules for taking local action against non-compliance
  - Any other information the Party considers relevant

✓ **Additional or supporting information**

Reference:

1. UNFCCC. (1999)
2. UNFCCC. (2011)

## 4.3. National Greenhouse Gas Inventories: Annex I Parties

This section covers questions and answers on national greenhouse gas (GHG) inventories, as follows:

### Common

24. What is a national GHG inventory?
25. Why prepare a national GHG inventory?
26. How frequently should national GHG inventories be prepared?
27. Who should prepare national GHG inventories?
28. How do countries establish institutional systems to prepare national GHG inventories?
29. How should we prepare national GHG inventories?
30. How should we verify national GHG inventories?
31. Are there any standards or guidelines for national GHG inventory preparation?

### Scheme-specific

32. Are there any principles for preparing national GHG inventories?
33. What categories and gases should non-Annex I Parties cover in their national GHG inventories?
34. How should we estimate national-level GHG emissions and removals?
35. Are the national GHG inventories submitted by non-Annex I Parties reviewed?
36. Are there different levels of estimation methods?
37. What should we do if it is not possible to estimate all emission sources and removal sinks?
38. Are there any standards or guidelines for for the review of GHG inventories?

## Q24: What is a national GHG inventory?

Compare to NAI

A: A national GHG inventory is an inventory which provides information on national-level emissions and removals of GHGs, which is one of the fundamental pieces of information for a country to develop and monitor policies and measures on mitigation of climate change.

### In detail

- ✓ Annex I Parties shall submit annual national GHG inventories to the UNFCCC secretariat, as well as inventory data in summary form as part of their NCs and BRs.
- ✓ Basic information on GHG emissions and removals provided by the national GHG inventory are:
  - National total GHG emissions and removals due to anthropogenic causes.
- ✓ Annual GHG inventory submissions are composed of two parts:
  - Common Reporting Format (CRF)
  - National Inventory Report (NIR)



## Q25: Why prepare a national GHG inventory?

[Compare to NAI](#)

A: Preparation of national GHG inventories is required by all Parties under Article 4, paragraph 1, and Article 12 of the UNFCCC in order to figure out quantity of GHG emissions and removals from each Party due to human activities. This process also enhances transparency on emissions sources and sinks, and supports more effective policy making.

### In detail

- ✓ The UNFCCC aims to stabilise GHG concentrations in the atmosphere at a level that would prevent and reduce dangerous human-induced interference with the climate system.
- ✓ In order to achieve this objective, it is necessary to accurately understand anthropogenic GHG emissions trends and our collective ability to alter these trends.
- ✓ Therefore, all Parties in the UNFCCC must prepare and submit their national GHG inventories to the COP.
  - **Annex I Parties:**
    - Need to submit an **annual national GHG inventory** by April 15<sup>th</sup> each year
    - Need to submit their national GHG inventory data in summary form every four years in their NCs and biennially as a part of their BRs

#### Reference:

1. UNFCCC. (1999)
2. UNFCCC. (2011)



## Q26: How frequently should national GHG inventories be prepared?

Compare to NAI

A: Annex I Parties need to prepare and submit their national GHG inventories every year and in summary form every two years as part of their NCs and/or BRs.

### In detail

- ✓ Annex I Parties must prepare and submit national GHG inventories on an annual basis. The annual inventory is a complete, independent inventory.
- ✓ In addition, Annex I Parties provide inventory data in summary form in their NCs every four years (Decision 1/CP.16) and BRs every two years (Decision 2/CP.17) -- a frequency comparable to non-Annex I Parties.

### Compare/Contrast

- ✓ Non-annex I Parties do not have to prepare annual inventories as independent reports to the COP, instead they submit inventory information as part of their NCs and BURs.

#### Reference:

1. UNFCCC. (1999)
2. UNFCCC. (2010)
3. UNFCCC (2011)

## Q27: Who should prepare national GHG inventories?

[Compare to NAI](#)

A: The national government of each Party shall prepare its national GHG inventories. Allocation of detailed roles for the preparation depends on each Party's national circumstances.

### In detail

- ✓ National GHG inventories shall be prepared as a part of NCs and BURs. As stated in Article 12 of the UNFCCC and Decision 2/CP.17, Parties are responsible for preparing and submitting the NCs and BURs to the UNFCCC. Hence, the national government of each party is responsible for preparing the national GHG inventories as well as NCs and BURs.
- ✓ In order to ensure periodical national GHG inventory preparation, it is necessary to clearly allocate which entity shall implement which role of the preparation.

Steps for designating roles of national GHG inventory preparation:

1. Designate a single national entity with overall responsibility for the national inventory,
2. Define and allocate specific responsibilities in the inventory development process by specifying the roles of, and cooperation between, government agencies and other entities relevant to inventory preparation. For example, specific responsibilities include the following roles:
  - a. Choice of estimation methods,
  - b. Data collection,
  - c. Processing and archiving of inventory information,
  - d. Quality assurance/quality control (QA/QC).

Reference:

1. UNFCCC. (1992)
2. UNFCCC. (2011))
3. U.S. EPA. (2013)

## Q28: How do countries establish institutional systems to prepare national GHG inventories?

Compare to NAI

A: The institutional systems for each Annex I Parties to prepare national GHG inventories can be established by considering the key elements of the inventory preparation process, such as planning, preparation, and management.

### Key elements in the preparation of national GHG inventories

Planning	Designation of a single national entity with overall responsibility for the preparation
	Allocation of specific responsibilities in the inventory preparation process, such as choice of estimation methods, data collection, estimation of GHG emissions/removals, quality assurance/quality control (QA/QC) activities
	Elaboration of an inventory QA/QC plan
	Establishment of processes for the official consideration and approval of the inventory
Actual Preparation	Data collection, preparation of estimates on GHG emissions/removals, recalculation, key category analysis, uncertainty assessment, documentation of estimation methodologies and other relevant information
Management	Archiving of inventory information on data used for the inventory preparation, estimation methodologies, QA/QC procedures and inventory improvement plan

- ✓ Both Annex I Parties and non-Annex I Parties need to organize their institutional systems to best facilitate the planning, preparation and management of their national GHG inventories.



## Q29: How should we prepare national GHG inventories?

[Compare to NAI](#)

A: We should prepare national GHG inventories by following a procedural arrangement determined in accordance with each country's national circumstances.

### In detail

- ✓ A procedural arrangement for national GHG inventory preparation is important for clarifying the process for periodically preparing national GHG inventories.
- ✓ The procedural arrangement should be documented and disclosed to relevant stakeholders in order to enhance smooth preparation of national GHG inventories.
- ✓ There are various procedural arrangements according to each country's national circumstances, but the main steps of the procedural arrangement are planning, preparation and management.

Example: Japan's procedural arrangement:

- I. Planning Phase:
  1. Discussion on the inventory improvement
  2. Holding a meeting of the Committee regarding the methods for estimating Greenhouse Gas Emissions
- II. Preparation Phase:
  3. Collection of data for the national inventory
  4. Preparation of a draft of the Common Reporting Format (CRF)
  5. Preparation of a draft of the National GHG Inventory Report (NIR)
  6. Implementation of the exterior quality control (QC) and the coordination with the relevant ministries and agencies
  7. Correction of the drafts of CRF and NIR
- III. Management Phase:
  8. Submission and official announcement of the national inventory
  9. Holding a meeting of the Greenhouse Gas Inventory Quality Assurance Working Group



## Q30: How should Parties verify their own national GHG inventories?

Compare to NAI

A: As domestic verification, we should verify national GHG inventories by utilising QA/QC procedures.

### In detail

QA/QC procedures in national GHG inventory preparation contributes to the accomplishment of the development of national GHG inventories that can be readily assessed in terms of quality and completeness.

- ✓ QC is a system of routine technical activities, to measure and control the quality of the inventory as it is being compiled.
  - QC is done mainly by inventory compilers.
  - The main purpose of QC is to control the accuracy of estimated GHG emissions and removals.
- ✓ QA is a planned system of review procedures conducted by personnel not directly involved in the inventory compilation/development process.

## Q31: Are there any standards or guidelines for national GHG inventory preparation?

Compare to NAI

A: Yes. Parties must use the “Guidelines for the preparation of national communications from Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” adopted in 1999 and updated in 2011 for the preparation of their annual inventory, which is then summarized and provided in the NCs and BRs.

### In detail

- ✓ The “Guidelines for the preparation of national communications from Parties included in Annex I to the Convention, Part 1: UNFCCC reporting guidelines on annual GHG inventories” were established by Decision 3/CP.5 and updated in 2006 to include revisions to the land use, land-use change and forestry sector.
- ✓ Decision 7/CP.11 requested that Annex I Parties use the CRF Reporter software to submit their annual GHG inventories starting from 2006.
- ✓ The IPCC Guidelines include concrete methodologies on GHG emission/removal estimation and other issues relevant to national GHG inventories. The names of the Guidelines are as follows:
  1. Revised 1996 IPCC Guidelines for National Greenhouse Inventories (1996GL),
  2. Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (GPG(2000)),
  3. Good Practice Guidance for Land Use, Land-use Change and Forestry (GPG-LULUCF),
  4. 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006GL)

### Contents of the reporting guidelines on annual GHG inventories from developed country Parties

- I. Objectives**
- II. Principles and definitions**
- III. Scope**
- IV. Base year**
- V. Methods**
- VI. Reporting**
  - I. General Guidance
  - II. Common Reporting Format
  - III. National Inventory Report
- VII. Record keeping**
- VIII. Updating of the guidelines**
- IX. Language**
- X. Annex: Common reporting format**

## Q32: Are there any principles for preparing national GHG inventories?

Compare to NAI

A: The principles for national GHG inventories are Transparency, Consistency, Comparability, Completeness and Accuracy, abbreviated as “TCCCA”. (Decision 3/CP.5)

Principle	Definition
Transparency	Transparency means that <b>the assumptions and methodologies used for an inventory should be clearly explained</b> to facilitate replication and assessment of the inventory by users of the reported information. The transparency of inventories is fundamental to the success of the process for the communication and consideration of information.
Consistency	Consistency means that an inventory should be internally consistent in all its elements over a period of years. <b>An inventory is consistent if the same methodologies are used for the base and all subsequent years and if consistent data sets are used to estimate emissions or removals</b> from sources or sinks.
Comparability	Comparability means that <b>estimates of emissions and removals reported by Parties in inventories should be comparable among Parties</b> . For this purpose, Parties should use the methodologies and formats agreed by COP for estimating and reporting inventories. The allocation of different source/sink categories should follow the split of the IPCC Guidelines adopted by the COP.
Completeness	Completeness means that <b>an inventory covers all sources and sinks as well as all gases included</b> in the Revised 1996GL in addition to other existing relevant source/sink categories which are specific to individual Parties (and therefore may not be included in the IPCC guidelines).
Accuracy	Accuracy is a relative measure of the exactness of an emission or removal estimate. Estimates should be accurate in the sense that <b>they are systematically neither over nor under true emissions or removals</b> , as far as can be judged, and that uncertainties are reduced as far as practicable. Appropriate methodologies conforming to guidance on good practices should be used to promote accuracy in inventories.

### Compare/Contrast

- ✓ The principles for preparing national GHG inventories are the same for Annex I and non-Annex I countries

## Q33: What categories and gases should Annex I Parties cover in their national GHG inventories?

Compare to NAI

A: Annex I Parties are required to (shall) communicate, at a minimum, information on the following six greenhouse gases: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, PFCs, HFCs, and SF<sub>6</sub> and should report on other GHGs as detailed below.

### In detail

GHGs which Annex I Parties <b>shall</b> provide information on	Carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF <sub>6</sub> )
GHGs which Annex I Parties <b>should</b> provide information on	Carbon monoxide (CO), nitrogen oxides (NO <sub>x</sub> ), and non-methane volatile organic compounds (NMVOCs)
GHGs which Annex I Parties are <b>encouraged</b> to provide information on	Sulfur oxides (SO <sub>x</sub> )

## Q34: How should we estimate national-level GHG emissions and removals?

Compare to NAI

A: A general method for estimating national-level GHGs is to multiply activity data by emission factors.

The basic equation for estimating GHG emissions

$$E = AD * EF$$

**E:** GHG emissions

AD: Activity data

EF: Emission factor

### In detail

Basically, national-level GHG emissions are not directly measured at emission sources but estimated by using the equation shown above.

Term	Explanation in the Glossary of 2006 IPCC Guidelines for National Greenhouse Gas Inventories	Material
AD	Data on the magnitude of human activity resulting in emissions or removals taking place during a given period of time	Data obtained from national-level statistics, such as quantity of energy consumption, cement production, and the number of domestic animals by species.
EF	A coefficient that quantifies the emissions or removals of a gas per unit activity.	Research results from measurement data, such as the carbon content of each fuel type and CH <sub>4</sub> emission per head of a ruminant animal.

## Q35: Are there different levels of estimation methods?

Compare to NAI

A: There are three levels of estimation methods provided by the IPCC Guidelines for National Greenhouse Gas Inventories. The levels of methodological complexity are referred to as “tiers” in the Guidelines.

Tier	Level	Explanation
Tier 1	Basic	Use readily available estimation methods and default emission factors provided by the IPCC Guidelines
Tier 2	Intermediate	Use readily available estimation methods provided by the IPCC Guidelines and country-specific emission factors
Tier 3	Most complex	Use country-specific estimation methods, such as complex modeling approaches, and country-specific emission factors

Reference:

1. IPCC. (2006)
2. UNFCCC. (2006)

## Q36: What should we do if it is not possible to estimate all emission sources and removal sinks?

Compare to NAI

A: If an inventory does not cover all sources and sinks as well as gases included in the IPCC Guidelines, you should clarify why the sources, sinks or gases are not covered in the inventory.

If there are sources and sinks not covered in a national GHG inventory, but which are included in the IPCC Guidelines, **using notation keys** is an effective way to indicate the reasons why sources and sinks are not covered.

Notation Key	Definition	Explanation
"NE"	Not estimated	Emissions and/or removals occur but have not been estimated or reported.
"IE"	Included elsewhere	Emissions and/or removals for this activity or category are estimated and included in the inventory but not presented separately for this category.
"C"	Confidential information	Emission and/or removals are aggregated and included elsewhere in the inventory because reporting at a disaggregated level could lead to the disclosure of confidential information.
"NA"	Not applicable	The activity or category exists but relevant emissions and removals are considered never to occur. (Such cells are normally shaded in the reporting tables.)
"NO"	Not occurring	An activity or process does not exist within a country.

## Q37: Are the national GHG inventories submitted by Annex I Parties reviewed?

Compare to NAI

A: Yes, the national GHG inventories submitted by Annex I Parties are individually reviewed annually by the secretariat and expert review teams composed of sectoral inventory experts.

### In detail

- ✓ Each expert team is led by two experts: one from an Annex I Party and the other from a non-Annex I Party
- ✓ The review of Annex I annual GHG inventories takes place in 3 stages:
  - Initial check: Quality assurance check to verify that the inventory submission is complete.
  - Synthesis and assessment: Compiles and compares basic inventory information and provides a preliminary assessment of the inventory.
  - Individual review: Expert review teams (ERTs) examine the data, methodologies and procedures used in preparing the national inventory.

### Compare/Contrast

- ✓ The GHG inventories submitted by non-Annex I Parties are not reviewed by inventory expert teams. For non-Annex I Parties, inventory information submitted in the BURs will be subject to International Consultation and Analysis (ICA).

#### Reference:

1. UNFCCC. (1999)
2. UNFCCC (2011)

## Q38: Are there any standards or guidelines for the review of GHG inventories submitted by Annex I Parties?

Compare to NAI

A: Yes. In 1999 the COP adopted “Guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention. (Decision 6/CP.5)

### In detail

- ✓ The “Guidelines for the technical review of inventories submitted by Annex I Parties” ensure that the reviews are conducted consistently in a technically sound manner.
- ✓ The Guidelines were revised in 2002 (Decision 19/CP.8).
- ✓ COP 19 adopted a “Work programme on the revision of the guidelines for the review of BRs and NCs, including national inventory reviews for developed country Parties” (Decision 23/CP.19). The decision includes a placeholder for the guidelines for the review of inventories, which are to be completed in 2014.

### Contents of the guidelines for technical review of inventories from Annex I Parties

- I. Objective**
- II. Purposes of the technical review of greenhouse gas inventories**
- III. General approach**
- IV. Initial check of annual inventories**
- V. Synthesis and assessment of annual inventories**
- VI. Review of individual annual inventories**
- VII. Annual report of emissions and trends of greenhouse gases**

#### Reference:

1. UNFCCC. (1999)
2. UNFCCC. (2002)
3. UNFCCC. (2013)

## 4.4. National Communications: non-Annex I Parties

This section covers questions and answers on national communications, as follows:

### Common

39. What are national communications?
40. Why do national communications need to be prepared?
41. How frequently should national communications be prepared?
42. Who should develop national communications and biennial update reports?
43. How do countries establish institutional arrangements to prepare national communications and biennial update reports?
44. How should we develop national communications and biennial update reports?
45. Are there any standards or guidelines for national communications?
46. Is there any financial support available to develop national communications?
47. Is there any technical support available to develop national communications?
48. What resources has the CGE developed to support NC preparation?

### Scheme-specific

49. What information is included in national communications?
50. What is the status of submission of national communications by non-Annex I Parties?
51. Are national communications from non-Annex I Parties verified or reviewed?

## Q39: What are national communications?

[Compare to AI](#)

A: National communications (NCs) are reports for providing information on how each Party is implementing their Convention commitments.

### In detail

- ✓ In accordance with Article 4, paragraph 1, and Article 12, paragraph 1, of the UNFCCC, each Party shall provide the Conference of the Parties (COP) with the information on national greenhouse gas inventories; national or, where appropriate, regional programmes containing measures to mitigate climate change, and measures to facilitate adequate adaptation to climate change; and any other information that the Party considers relevant to the achievement of the objective of the Convention.
- ✓ The frequency of NCs for non-Annex I Parties is differentiated from those of Annex I Parties based on the principle of “common but differentiated responsibilities and respective capability”.

### Content of NCs of non-Annex I Parties



Elements
National circumstances
National GHG inventory
General description of steps taken or envisaged to implement the Convention
Other information
Constraints and gaps, and related financial, technical and capacity needs

•Details of contents of NCs is shown in page 70, “What information is included in national communications?”

#### Reference:

1. UNFCCC. (1992)
2. UNFCCC. (2002)

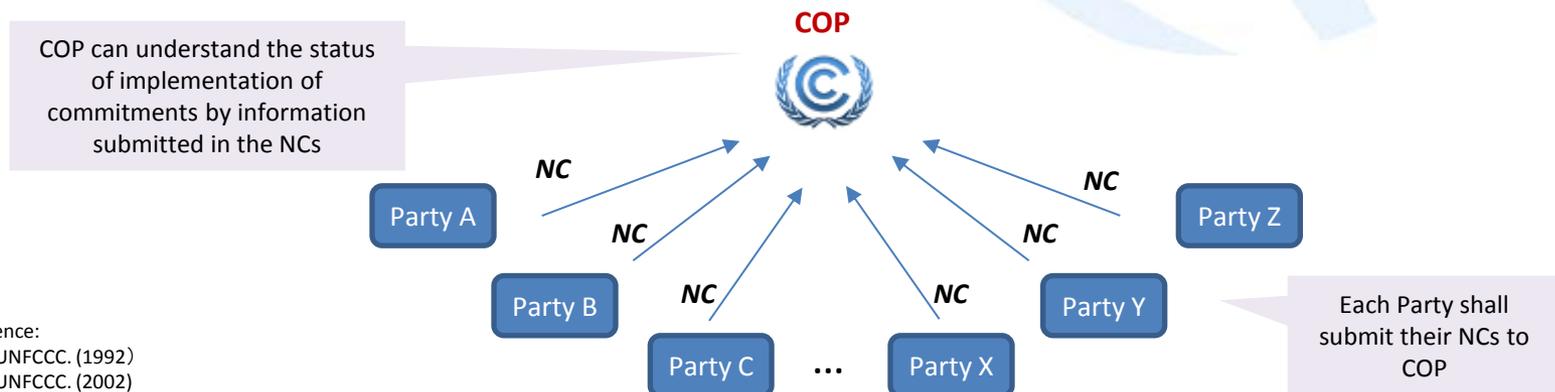
## Q40: Why do national communications need to be prepared?

Compare to AI

A: Preparing NCs and reporting it to the COP are commitments for all Parties under the Convention. This process also serves to enhance transparency on emissions sources and sinks and other information, thereby supporting more effective policy making.

### In detail

- ✓ The ultimate objective of the UNFCCC is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. In order to achieve the objective, all Parties shall fulfill the following commitments:
  - Develop and periodically update national GHG inventories
  - Formulate, implement, publish and regularly update programmes containing mitigation and adaptation measures
  - **Communicate information to COP that is related to the implementation of commitments etc.**
- ✓ NCs reporting seeks to ensure that the COP has accurate consistent and relevant information to review the implementation of the Convention. In particular, Information included in the NCs is significant for assessing the situation of GHG emissions/removals and implementation of mitigation and adaptation measures by each Party.



Reference:

1. UNFCCC. (1992)
2. UNFCCC. (2002)

## Q41: How frequently should national communications be prepared?

Compare to AI

A: Each non-Annex I Party shall submit its initial NCs within three years of the Convention for that Party coming into force. The deadlines of second and third NCs are not determined. However, non-Annex I Parties should submit future NCs every four years in accordance with the Cancun Agreements.

### Initial NC



- ✓ Each non-Annex I Party shall submit its initial NCs within three years of the Convention for that Party coming into force, or of the availability of financial resources in accordance with Article 4, paragraph 3 of the Convention.
- ✓ Least developing countries (LDCs) may make their initial NCs at their discretion.

### Second NC Third NC Subsequent NCs



- ✓ The deadlines for submitting second and third NCs have not been decided. But COP11 decided that each non-Annex I Party should make all efforts to submit second and third NCs within four years of the initial disbursement of financial resources.
- ✓ COP16 decided that non-Annex I Parties should submit future NCs **every four years**.

#### Reference:

1. UNFCCC. (1992)
2. UNFCCC. (2005)

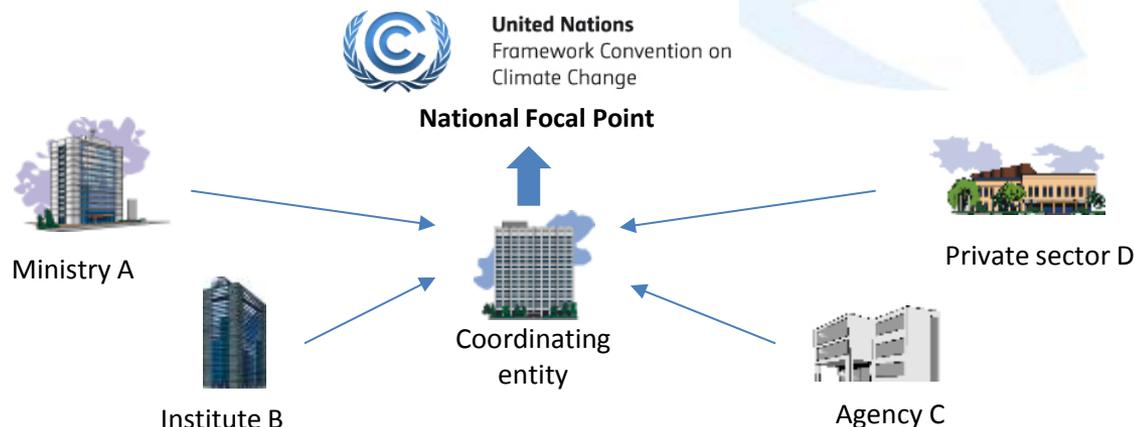
## Q42: Who should develop national communications and biennial update reports?

Compare to AI

A: NCs/Biennial update reports (BURs) coordinating entity in each Party designated as responsible for the overall NCs/BURs preparation should develop their NCs and BURs. The role and nature of NCs/BURs coordinating entity depends on their national circumstances.

### In detail

- ✓ Since the development and submission of NCs and BURs are commitments of all Parties under the UNFCCC, the government of each country Party should decide how to develop their NCs and BURs. In most cases, this simply requires a national mandate on which existing institutions and agencies will take responsibility for the work of preparing NCs and BURs.
- ✓ Which ministry, agency and/or other organization has responsibility for developing NCs/BUR in the country depends on its national circumstances. Generally, the ministry related to the environmental issues in the country concerned becomes a coordinating agency and other related ministries, agencies and organizations cooperate together in the development of NCs/BURs.



## Q43: How do countries establish institutional arrangements to prepare national communications and BURs?

Compare to AI

A: Key elements for establishing institutional arrangements is to designate a NCs/BURs coordinating entity which is responsible for the overall preparation process. This entity would then manage the effective coordination with a broad range of stakeholders, institutional and technical in-country capacity building, and the establishment of legal/formal arrangements for NCs/BURs preparation, as appropriate.

### In detail

- ✓ It is quite important that a single national NCs/BURs coordinating entity is designated as responsible for the overall coordination and management for the NCs/BURs preparation process for establishing effective institutional arrangements. The NCs/BURs coordinating entity should be responsible for the following tasks:
  - Develop a work plan and time schedule for preparing NCs/BURs
  - Identify all stakeholders that should be involved in the preparation process of NCs/BURs
  - Arrange and coordinate the task of each component of NCs/BURs
  - Allocate roles and responsibilities between organisations
  - Coordinate with relevant ministries, agencies, organisations and others
  - Manage the overall budget
- ✓ The coordinating entity should be maintained and motivated in order to enhance and improve the next NCs/BURs preparation.
- ✓ It is recommended that a national legal arrangement for the preparation of NCs/BURs, be established as necessary.
- ✓ In addition, it is also recommended that a Memorandum of Understanding or some other formal agreement between the coordinating entity and other relevant organisations involved in NCs/BURs process be established to define roles and responsibilities.
- ✓ In-country capacity building for domestic experts and organisations is key so that the Party can produce subsequent NCs/BURs in a consistent and sustained manner.

#### Reference:

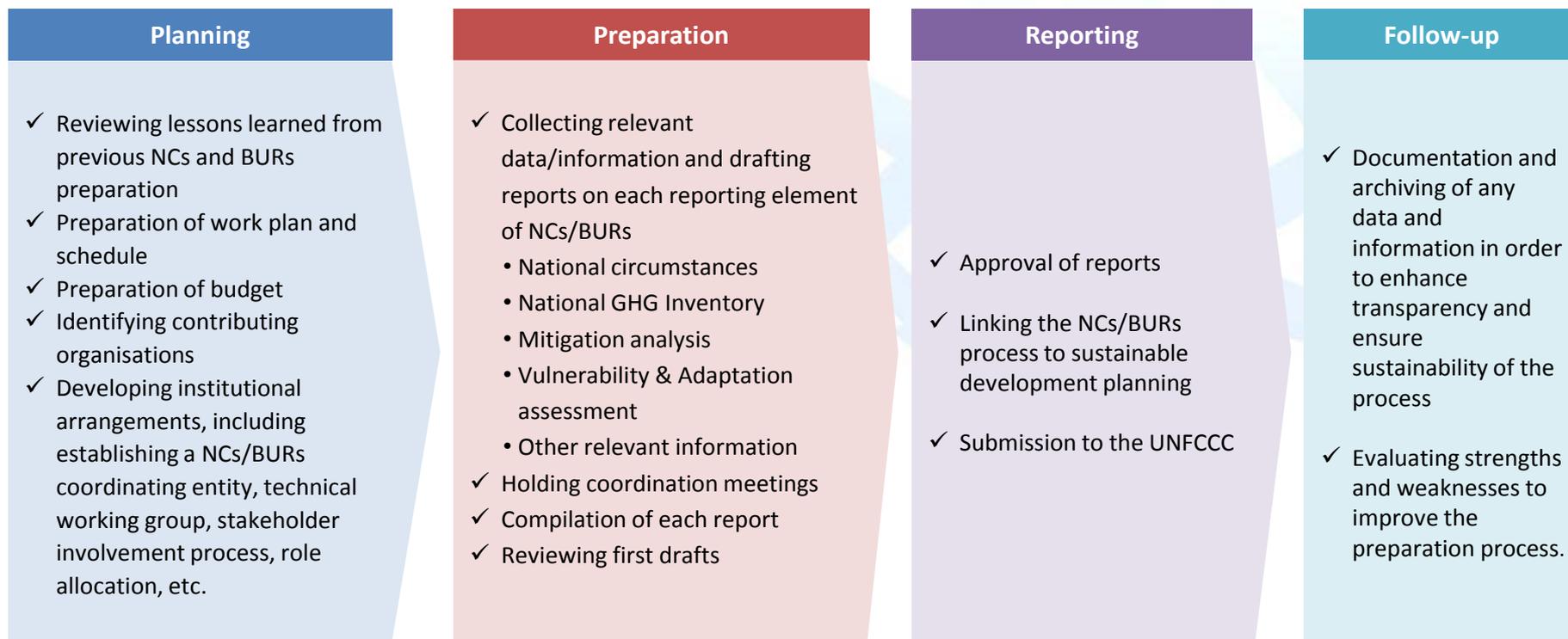
1. NCSP/UNDP-UNEP-GEF. (2012)
2. NCSP/UNDP-UNEP-GEF. (2006)

## Q44: How should we develop national communications and biennial update reports?

Compare to AI

A: NCs/BURs coordinating entity proceeds and manages the preparation process for NCs and BURs, and collects relevant data/information and prepares reports on each reporting element of NCs/BURs in cooperation with a broad range of relevant ministries and organisations.

### Overview of NCs/BURs preparation process



Reference:

1. NCSP/UNDP-UNEP-GEF. (2006)
2. UNFCCC. (2009)

## Q45: Are there any standards or guidelines for national communications?

Compare to AI

A: The COP adopted “Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention” (17/CP.8) . Non-annex I Parties should use these guidelines for the preparation of their NCs.

### In detail

- ✓ Guidelines for the preparation of initial NCs from non-Annex I Parties were adopted at COP2 (Decision 10/CP.2) and revised at COP8 (Decision 17/CP.8, “Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”).
- ✓ Non-Annex I Parties should use the above mentioned guidelines for the preparation of second and, where appropriate, first and third NCs.
- ✓ The secretariat prepared the “User manual for the guidelines on national communications from non-Annex I Parties” in order to support and facilitate the use of the guidelines for the preparation of NCs from non-Annex I Parties (17/CP.8).

### Contents of the guidelines for NCs from non-Annex I Parties

#### I. INTRODUCTION

- A. Objectives and Scope

#### II. NATIONAL CIRCUMSTANCES

#### III. NATIONAL GREENHOUSE GAS INVENTORY

- A. Methodologies and Reporting

#### IV. GENERAL DESCRIPTION OF STEPS TAKEN OR ENVISAGED TO IMPLEMENT THE CONVENTION

- A. Programmes containing measures to facilitate adequate adaptation to CC
- B. Programmes containing measures to mitigate climate change

#### V. OTHER INFORMATION CONSIDERED RELEVANT TO THE ACHIEVEMENT OF THE OBJECTIVE OF THE CONVENTION

- A. Transfer of technologies
- B. Research and systematic observation
- C. Education, training and public awareness
- D. Capacity-building
- E. Information and networking

#### VI. CONSTRAINTS AND GAPS, AND RELATED FINANCIAL, TECHNICAL AND CAPACITY NEEDS

#### VII. SUBMISSION

#### Reference:

1. UNFCCC. (2002)
2. UNFCCC. (2003)

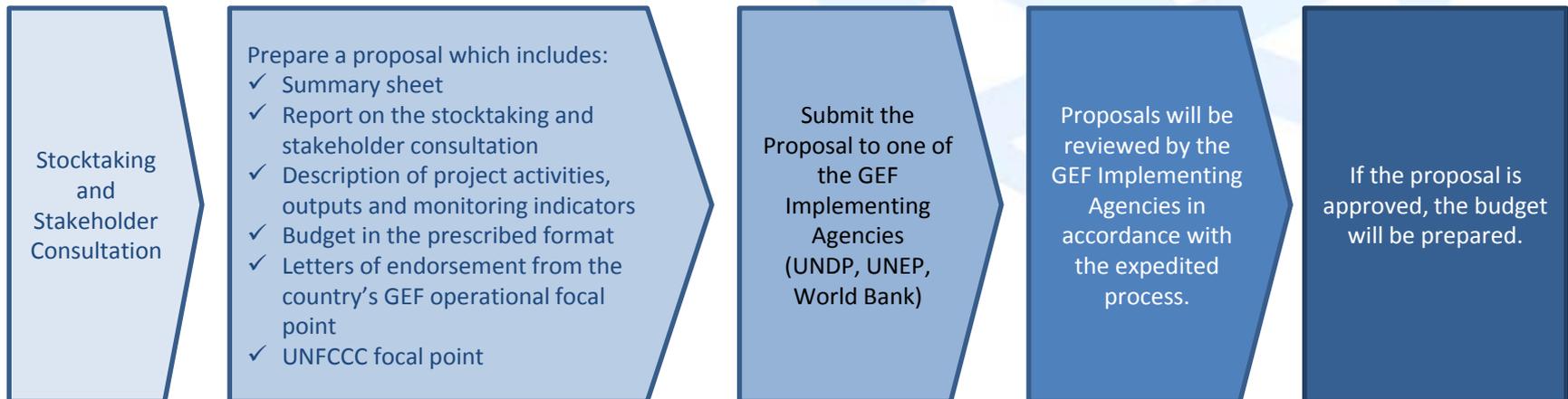
## Q46: Is there any financial support available to develop national communications?

A: The Global Environment Facility (GEF) provides non-Annex I Parties with financial support for the preparation of NCs on an agreed full-cost basis.

### In detail

- ✓ The GEF prepares operational procedures for the expedited financing of NCs from non-Annex I Parties. Up to USD405,000 per each non-Annex I party is made available for the preparation of its NCs and additional USD15,000 per each non-Annex I party can be used for stocktaking and stakeholder consultations in preparation of the project proposals.

### Procedures for financing NCs from non-Annex I Parties



#### Reference:

1. GEF. (2007)
2. UNFCCC. (2006)

## Q47: Is there any technical support available to develop national communications?

A: The following organisations provide useful materials and tools to assist non-Annex I Parties with the preparation of their national communications and recently, with the preparation of biennial update reports.

Organisation/project	Materials	Reference URL
<b>CGE</b> (Consultative Group of Experts) - CGE training materials	CGE training materials cover “Vulnerability and Adaptation Assessments”, “National GHG Inventories” and “Mitigation Assessments”. Many kinds of handbooks, presentations and exercises on the above fields are available.	<a href="http://unfccc.int/national_reports/non-annex_i_natcom/training_material/methodological_documents/items/349.php">http://unfccc.int/national_reports/non-annex_i_natcom/training_material/methodological_documents/items/349.php</a>
<b>UNFCCC</b> - UNFCCC resource guide for preparing NCs of non-Annex I Parties	UNFCCC resource guide which consists of the following four modules provides additional information as a supplement to the “User manual for the guidelines on NCs from non-Annex I Parties”  Module 1 : The Process of NCs from Non-Annex I Parties Module 2 : Vulnerability and adaptation to climate change Module 3 : National greenhouse gas inventories Module 4 : Measures to mitigate climate change	<a href="http://unfccc.int/resource/docs/publications/09_resource_guide1.pdf">http://unfccc.int/resource/docs/publications/09_resource_guide1.pdf</a> <a href="http://unfccc.int/resource/docs/publications/08_resource_guide2.pdf">http://unfccc.int/resource/docs/publications/08_resource_guide2.pdf</a> <a href="http://unfccc.int/resource/docs/publications/09_resource_guide3.pdf">http://unfccc.int/resource/docs/publications/09_resource_guide3.pdf</a> <a href="http://unfccc.int/resource/docs/publications/08_resource_guide4.pdf">http://unfccc.int/resource/docs/publications/08_resource_guide4.pdf</a>
<b>NCSP</b> (National Communication Support Program)	NCSP is funded by the GEF and jointly managed by UNDP and UNEP. NCSP provides general methodologies and guidance documents on each element of NCs and training workshops.	<a href="http://ncsp.undp.org/">http://ncsp.undp.org/</a>

## Q48: What resources has the CGE developed to support the preparation of NCs?

A: The Consultative Group of Experts (CGE) has overseen the preparation of a comprehensive collection of training materials – including handbooks, presentations and exercises on the topics listed below.

Vulnerability and Adaptation Assessments	GHG Inventories	Mitigation Assessments
<ul style="list-style-type: none"> <li>• Vulnerability and adaptation frameworks</li> <li>• Baseline socioeconomic scenarios</li> <li>• Climate change scenarios</li> <li>• Coastal resources</li> <li>• Water resources</li> <li>• Agriculture</li> <li>• Human health</li> <li>• Integration</li> <li>• Communication</li> </ul>	<ul style="list-style-type: none"> <li>• Cross cutting issues</li> <li>• Energy</li> <li>• Industrial Processes</li> <li>• Agriculture</li> <li>• LULUCF</li> <li>• Waste</li> <li>• UNFCCC software</li> </ul>	<ul style="list-style-type: none"> <li>• Mitigation of climate change</li> <li>• Mitigation in the context of NCs</li> <li>• Mitigation assessment</li> <li>• Mitigation options, issues and barriers by sector</li> <li>• Mitigation analysis: Methods and tools</li> <li>• Reporting on mitigation in NCs</li> <li>• Building national arrangements for mitigation assessment</li> <li>• Exercise</li> </ul>

## Q49: What information is included in national communications?

Compare to AI

A: The components that should be included in NCs are information on national circumstances, national GHG inventory, mitigation and adaptation measures, constraints and gaps, support needs, as well as any other relevant information.

Elements	Details
National circumstances	<ul style="list-style-type: none"> <li>Description of national and regional development priorities, objectives and circumstances</li> <li>Description of existing institutional arrangements relevant to the preparation of their NCs</li> </ul>
National GHG inventory	<p>Information on GHG emissions and removals</p> <ul style="list-style-type: none"> <li>Inventory years : 1994 or 1990 for 1<sup>st</sup> NC. 2000 for 2<sup>nd</sup> NC</li> <li>Methodologies : Revised 1996 IPCC guidelines and IPCC good practice guidance</li> <li>Gas : CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O (shall) HFCs, PFCs, SF<sub>6</sub> (encourage)</li> </ul>
General description of steps taken or envisaged to implement the Convention	<ul style="list-style-type: none"> <li>Measures to facilitate adequate adaptation to climate change</li> <li>Vulnerability to the adverse effects of climate change</li> <li>Measures to mitigate climate change</li> </ul>
Other information considered relevant to the achievement of the objective of the Convention	<ul style="list-style-type: none"> <li>Activities relating to technology transfer</li> <li>Climate change research and systematic observation</li> <li>Activities relating to education, training and public awareness</li> <li>Capacity-building activities</li> <li>Information and networking</li> </ul>
Constraints and gaps, and related financial, technical and capacity needs	<ul style="list-style-type: none"> <li>Constraints and gaps, financial, technical and capacity needs and activities for overcoming the constraints and gaps</li> <li>Financial resources and technical support provided by GEF, Annex II Parties or multilateral/bilateral institutions</li> <li>Proposed projects for financing</li> <li>Information on implementing adaptation measures</li> <li>Country-specific technology needs and assistance received from developed country Parties and the financial mechanism of the Convention</li> </ul>
Other information	Additional or supporting information

Reference:

- UNFCCC. (2002)
- UNFCCC. (2003)

## Q50: What is the status of the submission of national communications by non-Annex I Parties?

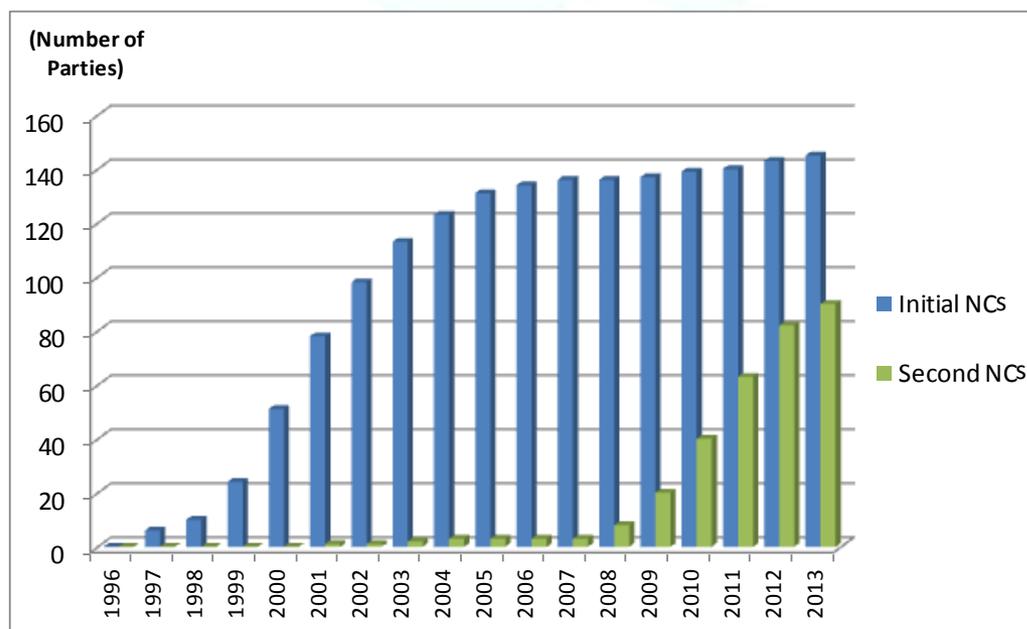
Compare to AI

A: 146 non-Annex I Parties have submitted their initial NCs and 101 have submitted second NCs as of February 2014.

### In detail

- ✓ Most of the non-Annex I Parties, except for some countries, have already submitted their initial NCs.
- ✓ The numbers of non-Annex I Parties that have submitted second NCs has increased rapidly since 2008.
- ✓ Third NCs have been submitted by five Parties (Mexico, Korea, Moldova, United Arab Emirates and Uruguay).
- ✓ Fourth and Fifth NCs have been submitted by only Mexico.

Number of Parties that have submitted initial and second NCs



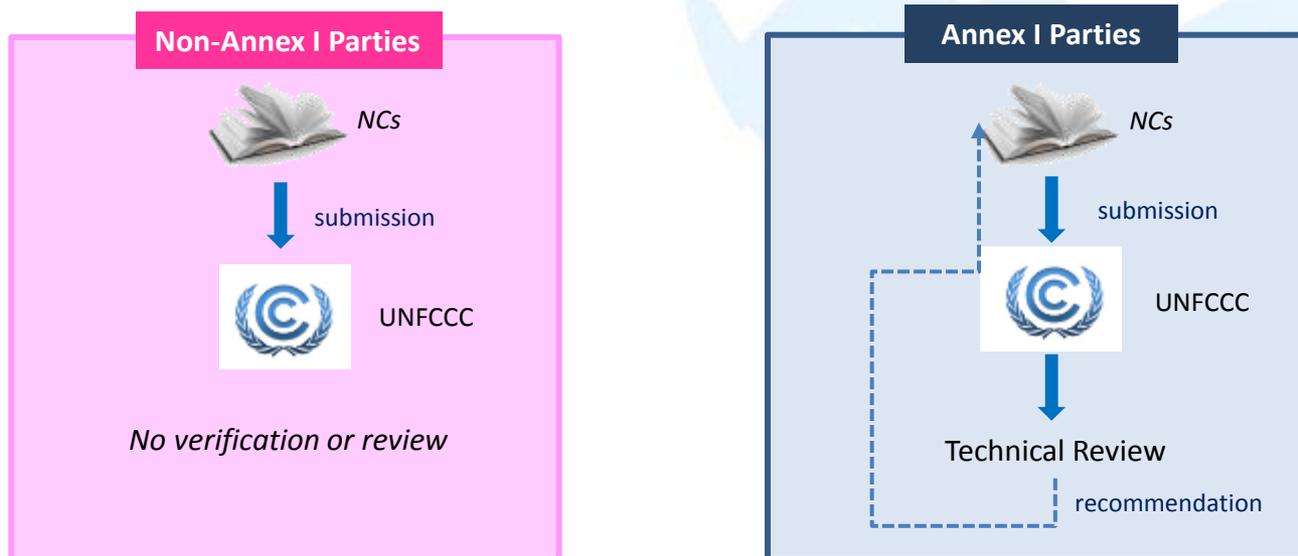
## Q51: Are national communications from non-Annex I Parties verified or reviewed?

Compare to AI

A: No. There is no official international verification or review process for NCs submitted by non-Annex I Parties. As such, there are no guidelines for the review of NCs by non-Annex I Parties.

### In detail

- ✓ NCs from non-Annex I Parties are neither verified nor reviewed.
- ✓ In contrast, all NCs of Annex I Parties are subject to individual technical review. The technical reviews of NCs are conducted by an expert review team (ERT) nominated by a roster of experts. The reports of these reviews contribute to facilitating the assessment of the implementation of the commitments under the Convention by Annex I Parties, and assist Annex I Parties in improving their reporting.



## 4.5. Biennial Update Reports: Non-Annex I Parties

This section covers questions and answers on biennial update reports, as follows:

### Common

52. What are biennial update reports?
53. Why do biennial update reports need to be prepared?
54. How frequently should biennial update reports be prepared?
55. Who should develop national communications and biennial update reports? (see Q39 on page 58)
56. How to establish institutional arrangements to prepare national communications and biennial update reports? (see Q40 on page 59)
57. How to develop national communications and biennial update reports? (see Q41 on page 60)
58. Are there any standards or guidelines for biennial update reports?
59. Is there any financial support available to develop biennial update reports?
60. Is there any technical support available to develop biennial update reports?

### Scheme-specific

61. What information is included in the biennial update reports?
62. What is the relationship between biennial update reports and nationally appropriate mitigation actions?
63. What are the guidelines for domestic MRV of domestically supported NAMAs?
64. What other resources are available addressing the measurement, reporting and verification of NAMAs?
65. How are biennial update reports verified or reviewed?
66. How are biennial update reports analysed?
67. What is the relationship between national communications and biennial update reports?

## Q52: What are biennial update reports?

Compare to AI

A: BURs are reports which non-Annex I Parties shall submit every two years from 2014 to provide information on how each Party is implementing their commitments under the Convention.

### In detail

- ✓ In accordance with 1/CP.16, developing country Parties should submit BURs **every two years** consistent with their capabilities and the level of support provided for reporting.
- ✓ Developing country Parties should submit their first BURs by **December 2014**, but the least developed country Parties (LDCs) and small island developing states (SIDS) may submit BURs at their discretion.

### Content of BURs of non-Annex I Parties



Elements
(a) National circumstances and institutional arrangements
(b) National GHG Inventory
(c) Mitigation actions and their effects
(d) Constraints and gaps, and related financial, technical and capacity needs
(e) Level of support received for preparation of BURs
(f) Domestic Measurement, Reporting and Verification (MRV)
(g) Any other information

\* Details of contents of BURs is shown in page 80, "What information is included in biennial update reports?"

## Q53: Why do biennial update reports need to be prepared?

Compare to AI

A: COP16 agreed that the reporting of NCs from developing country Parties is enhanced by the submission of BURs. This process also serves to enhance transparency on emissions sources and sinks and other information, thereby supporting more effective policy making.

### In detail

- ✓ COP16 agreed that developing country Parties will take nationally appropriate mitigation actions (NAMAs) and decided to enhance reporting in NCs.
- ✓ In the context, developing countries should submit BURs containing updates of national GHG inventories, information on mitigation actions, needs and support received in order to enhance their reporting to the UNFCCC consistent with capabilities and the level of support provided.

### Before 2014

#### NCs



Each non-Annex I Party shall submit only NCs.  
The frequency of the submissions of NCs is not determined.

### Enhancement of reporting



### After 2014

#### BUR



Every 2 years

#### NCs



Every 4 years

Each non-Annex I Party shall submit both BURs and NCs.  
BURs shall be submitted every 2 years and NCs shall be submitted every 4 years.

#### Reference:

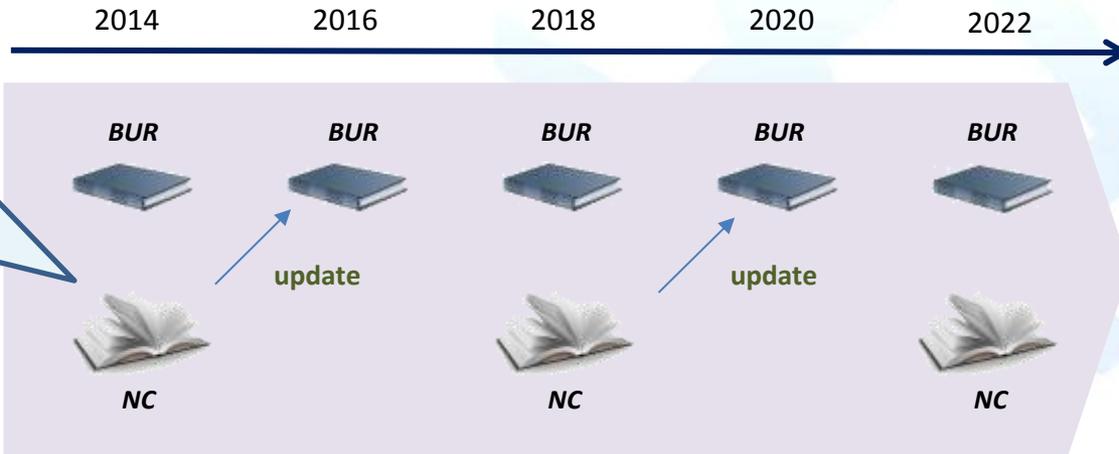
1. UNFCCC. (2010)
2. UNFCCC. (2011)

# Q54: How frequently should biennial update reports be prepared?

Compare to AI

A: As the name suggests, BURs should be prepared every two years. The submission due date for the first BURs by developing country Parties is 31 December 2014.

Timeframe for submission of BURs and NCs  
(Where next NC is submitted in 2014 along with BURs)



Non-Annex I Parties should submit their first BURs by 31 December 2014 in accordance with 2/CP.17. LDCs and SIDS may submit BURs at their discretion.

Non-Annex I Parties shall submit BURs, either as a summary of parts of their NCs in the year when they submit their NCs or as a stand-alone update report.

## Q58: Are there any standards or guidelines for biennial update reports?

Compare to AI

A: The COP adopted “UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention” (2/CP.17, Annex III). Non-annex I Parties should use these guidelines for the preparation of BURs.

### In detail

- ✓ COP16 agreed on a work programme for the development of guidelines for BURs from non-Annex I Parties.
- ✓ COP17 adopted “UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention” (2/CP.17, Annex III) .
- ✓ COP17 also decided that non-Annex I Parties should take into account their development priorities, objectives, capacities and national circumstances in using the UNFCCC biennial update reporting guidelines, and that the guidelines should be used as a basis to provide guidance to the GEF for funding the preparation of first BURs from non-Annex I Parties.

### Contents of the guidelines for BURs from non-Annex I Parties

- I. Objectives**
- II. Scope**
- III. National greenhouse gas inventory**
- IV. Mitigation actions**
- V. Finance, technology and capacity-building needs and support received**
- VI. Submission**
- VII. Updating the guidelines**

## Q59: Is there any financial support available to develop biennial update reports?

A: GEF provides financial support to non-Annex I Parties preparing their first BURs on the basis of agreed full cost funding.

### In detail

- ✓ COP17 decided to urge non-Annex I Parties to submit their requests to the GEF for support, in a timely manner and that enhanced support for the preparation of BURs should be ensured by developed country Parties by means of resources on the basis of agreed full cost funding.
- ✓ The COP requests the secretariat to facilitate assistance to non-Annex I Parties in the preparation of their BURs.
- ✓ The COP urges and requests the GEF to make support available to non-Annex I Parties preparing their first BURs as early as possible in 2012.
- ✓ Non-annex I Parties can access up to USD352,000 through a GEF Agency or via direct access. Non-Annex I Parties that wish to access the fund for the preparation of BURs can submit project proposals using the following template.  
(<http://www.thegef.org/gef/content/gef-5-enabling-activity-template-sept-2011>)

#### Reference:

1. UNFCCC. (2011)
2. GEF. (2012)

### Indicative guide for the budget of BURs

Components of BURs	Suggested funding (USD)
(a) Information on national circumstances and institutional arrangements	~10,000
(b) National GHG inventory , including a national inventory report	~120,000
(c) Information on mitigation actions and their effects	~100,000
(d) Constraints and gaps, and related financial, technical and capacity needs, including a description of support needed and received	~5,000
(e) Information on the level of support received to enable the preparation and submission of BURs	~5,000
(f) Information on domestic MRV	~45,000
(g) Any other information	~5,000
(h) Monitoring, reporting and preparation of financial audits	~15,000
(i) Publication and submission of BURs	~15,000
<b>Sub total</b>	<b>320,000</b>
(j) Project Management (maximum -10% of project total)	32,000
<b>Total</b>	<b>352,000</b>

## Q60: Is there any technical support available to develop biennial update reports?

A: Most of the technical support that is available for NCs is also available for BURs because many of the reporting elements of both overlap. At COP 19, Parties mandated the CGE to provide technical support for the preparation of BURs. As a result, the CGE is developing **new training materials specifically for the preparation of BURs**.

### Technical assistance from the CGE for the preparation of BURs

Contents of BURs	Coverage of the existing CGE training materials on NCs for BURs	Additional materials developed by CGE
(a) National circumstances and institutional arrangements	Partial	New training materials (a <b>presentation</b> and <b>handbook</b> ) have been prepared and are available on the UNFCCC website.
(b) National GHG inventory	Extensive	No new additional materials.
(c) Mitigation actions and their effects	Partial	New training materials (a <b>presentation</b> ) have been prepared and are available on the UNFCCC website.
(d) Constraints and gaps, and related financial, technical and capacity needs	Partial	New training materials ( <b>presentation</b> and <b>handbook</b> ) have been prepared and are available on the UNFCCC website.
(f) Level of support received for preparing BURs	Partial	
(g) Domestic Measurement, Reporting and Verification (MRV)	None	No new additional materials.
(h) Any other information	None	No new additional materials.

## Q61: What information is included in biennial update reports?

Compare to AI

A: The components that should be included in the BURs are information on the national GHG inventory, mitigation actions and their effects, needs and support received and any other relevant information.

Elements	Detail
<b>(a) National circumstances</b>	Information on national circumstances and institutional arrangements relevant to the preparation of the NCs on a continuous basis;
<b>(b) National GHG inventory, including a national inventory report</b>	Update of national GHG inventories according to the guidelines for the preparation of NCs. <ul style="list-style-type: none"> <li>• Inventory years : Calendar year no more than 4 years prior to the date of submission or more recent years. Consistent time series back to the years reported in the previous NCs.</li> <li>• Methodologies : Revised 1996 IPCC guidelines and IPCC good practice guidance</li> </ul>
<b>(c) Mitigation actions and their effects</b>	<ul style="list-style-type: none"> <li>(a) Name and description of the mitigation action</li> <li>(b) Methodologies and assumptions</li> <li>(c) Objectives of the action and steps taken or envisaged to achieve that action</li> <li>(d) Progress of implementation of the mitigation actions and the underlying steps taken or envisaged, and the results achieved</li> <li>(e) Information on international market mechanisms.</li> </ul>
<b>(d) Constraints and gaps, and related financial, technical and capacity needs</b>	Updated information on financial resources, technology transfer, capacity-building needs Updated information on financial resources, technology transfer, capacity-building and technical support received from the GEF, developed country Parties and multilaterals institutions
<b>(e) Information on the level of support received to enable the preparation and submission of BURs</b>	Information on support received for the preparation of the BURs.
<b>(f) Information on domestic measurement reporting and verification arrangements</b>	No specific detail included in the BUR Guidelines. However, COP 19 adopted general guidelines for domestic MRV of domestically supported NAMAs. (see next slide)
<b>(g) Any other information</b>	Any other information that the non-Annex I Party considers relevant to the achievement of the objective of the Convention and suitable for inclusion in its BURs.

## Q62: What is the relationship between biennial update reports and nationally appropriate mitigation actions?

[Compare to AI](#)

A: Non-Annex I Parties shall provide information in their BURs on the progress of implementation of nationally appropriate mitigation actions (NAMAs) listed in “FCCC/SBI/2013/INF.12”.

### In detail

- ✓ The document FCCC/SBI/2013/INF.12 presents a compilation of the information on all NAMAs communicated by developing country Parties.
- ✓ In accordance with the UNFCCC guidelines for the preparation of the BURs, developing country Parties shall provide the following information, in a tabular format, for each mitigation action or groups of mitigation actions including, as appropriate, those listed in document FCCC/SBI/2013/INF.12 to the greatest extent possible:
  - 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;
  - Information on methodologies and assumptions;
  - Objectives of the action and steps taken or envisaged to achieve that action;
  - 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 greatest extent possible;
  - Information on international market mechanisms.
- ✓ Non-annex I Parties can report the progress of NAMAs included in FCCC/SBI/2013/INF.12 in the BURs.

#### Reference:

1. UNFCCC. (2002)
2. UNFCCC. (2011)

## Q63: What are the guidelines for the domestic MRV of domestically supported NAMAs?

Compare to AI

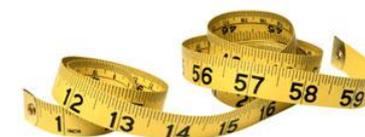
A: At COP 19, Parties agreed on general guidelines for domestic measurement, reporting and verification of domestically supported NAMAs, which could be used in the preparation of BURs (Decision 21/CP.19).

### In detail

- ✓ The guidelines are general, voluntary, pragmatic, non-prescriptive, non-intrusive and country driven.
- ✓ The guidelines encourage developing country Parties to utilize existing domestic processes, arrangements, systems, information, methodologies, experts and other aspects for domestic MRV.
- ✓ Parties may also voluntarily establish domestic processes, arrangements of systems for domestic MRV of domestically supported NAMAs.
- ✓ These Parties may indicate the approach adopted to:
  - Establish institutions, entities, arrangements and systems involved in domestic MRV of NAMAS.
  - Measure domestically supported NAMAs.
  - Verify domestically supported NAMAs

### Contents of the general guidelines for domestic MRV of domestically supported NAMAs by developing country Parties

- I. Principles
- II. Purpose
- III. Recognizing, using and reporting on the domestic measurement and verification of nationally appropriate mitigation actions



## Q64: What other resources are available addressing the measurement, reporting and verification of NAMAs?

A: There are a number of resources on the MRV of NAMAs from sources outside the UNFCCC. Below is a list of some of the organizations developing these resources with an example of the documents they have each made available on the subject.

Organization	Document Title
<b>Center for Clean Air Policy</b>	MRV of NAMAs: Guidance for Selecting Sustainable Development Indicators
<b>Ecofys</b>	Building blocks for Nationally Appropriate Mitigation Actions
<b>GIZ</b>	1. Institutional Arrangements for MRV 2. Measurement, Reporting, Verification: How to Set up National MRV Systems
<b>IISD</b>	Developing Financeable NAMAs: A Practitioner's Guide
<b>Mitigation Momentum</b>	Measuring, Reporting and Verifying Nationally Appropriate Mitigation Actions
<b>OECD</b>	GHG Mitigation Actions: MRV Issues and Options
<b>UNDP</b>	Nationally Appropriate Mitigation Actions: Key Issues for Consideration
<b>UNEP Riso Centre</b>	Measuring, Reporting and Verifying: A Primer on MRV for Nationally Appropriate Mitigation Actions
<b>World Resources Institute</b>	1. Enhancing Today's MRV Framework to Meet Tomorrow's Needs 2. Greenhouse Gas Protocol Policy and Action Accounting and Reporting Standard (second draft for pilot testing)

## Q65: How are biennial update reports verified or reviewed?

[Compare to AI](#)

A: There is no official international verification and review process for BURs submitted by non-Annex I Parties. Instead, international consultation and analysis (ICA) of BURs is implemented.

### In detail

- ✓ Although the BURs submitted by non-Annex I Parties **are neither verified nor reviewed**, those are subject to **ICA** for the purpose of increasing the transparency of mitigation actions and their effects. ICA is implemented in accordance with the modalities and guidelines for ICA contained in Annex IV of decision 2/CP.17 and Composition, modalities and procedures of the team of technical experts under ICA adopted at COP19.
- ✓ The 1<sup>st</sup> round of ICA will commence **within six months** of the submission of the first round of BURs.
- ✓ The frequency of participation in subsequent rounds of ICA will be determined by the frequency of the submission of BURs based on their respective capabilities and national circumstances.
- ✓ LDCs and SIDS may undergo ICA as a group of Parties at their discretion.

### Comparison of International Assessment and Review (IAR) for BRs from Annex I Parties and ICA for BURs from non-Annex I Parties

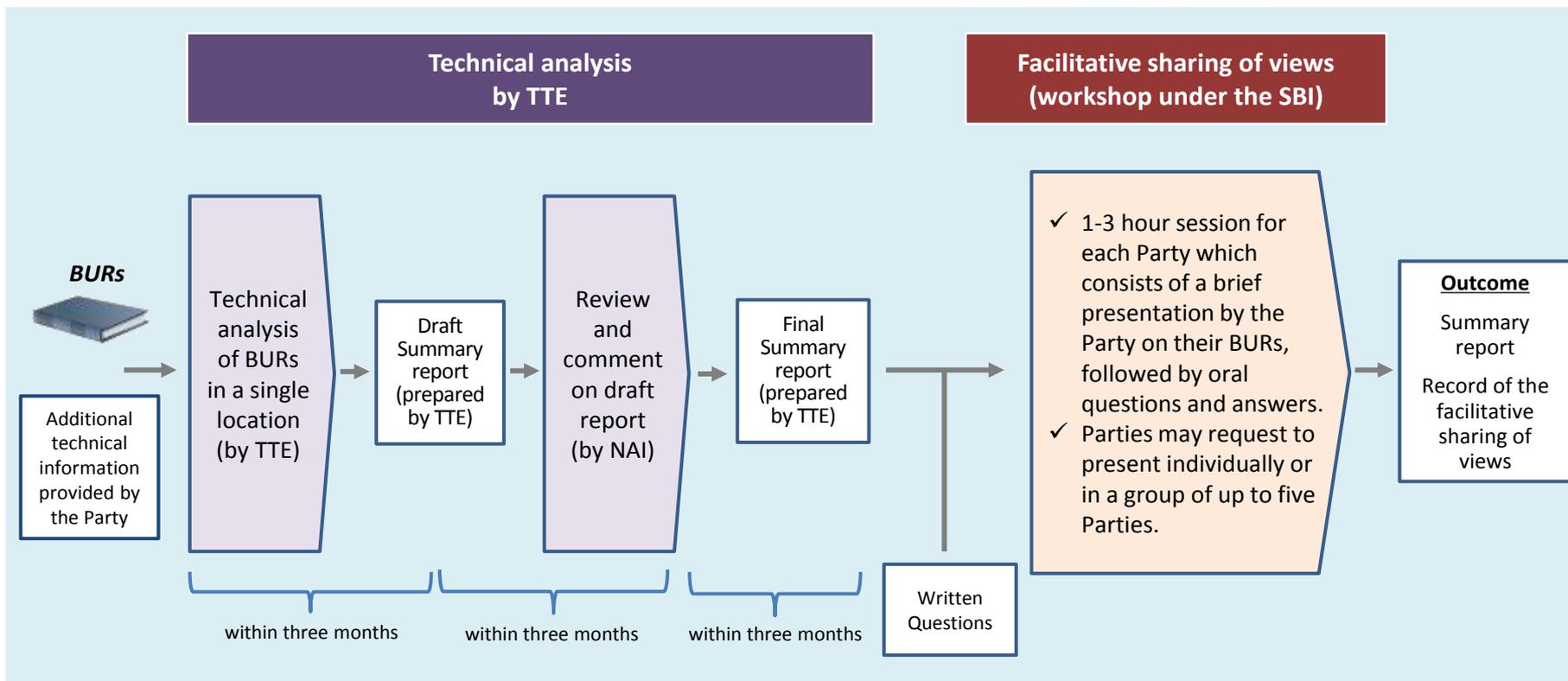
	IAR for BRs from Annex I Parties	ICA for BURs from non-Annex I Parties
Step 1	<b>Technical review</b> by expert review team (ERT)	<b>Technical analysis</b> by technical team of experts (TTE)
Step 2	<b>Multilateral assessment</b> under the SBI	<b>Facilitative sharing of views</b> under the SBI

## Q66: How are biennial update reports analysed?

Compare to AI

A: BURs are analysed by a technical team of experts (TTE) in a manner that is non-intrusive, non-punitive and respectful of national sovereignty, and ICA is conducted to increase the transparency of mitigation actions and their effects. TTE is composed of a UNFCCC roster of experts selected by the UNFCCC secretariat under the guidance of the CGE.

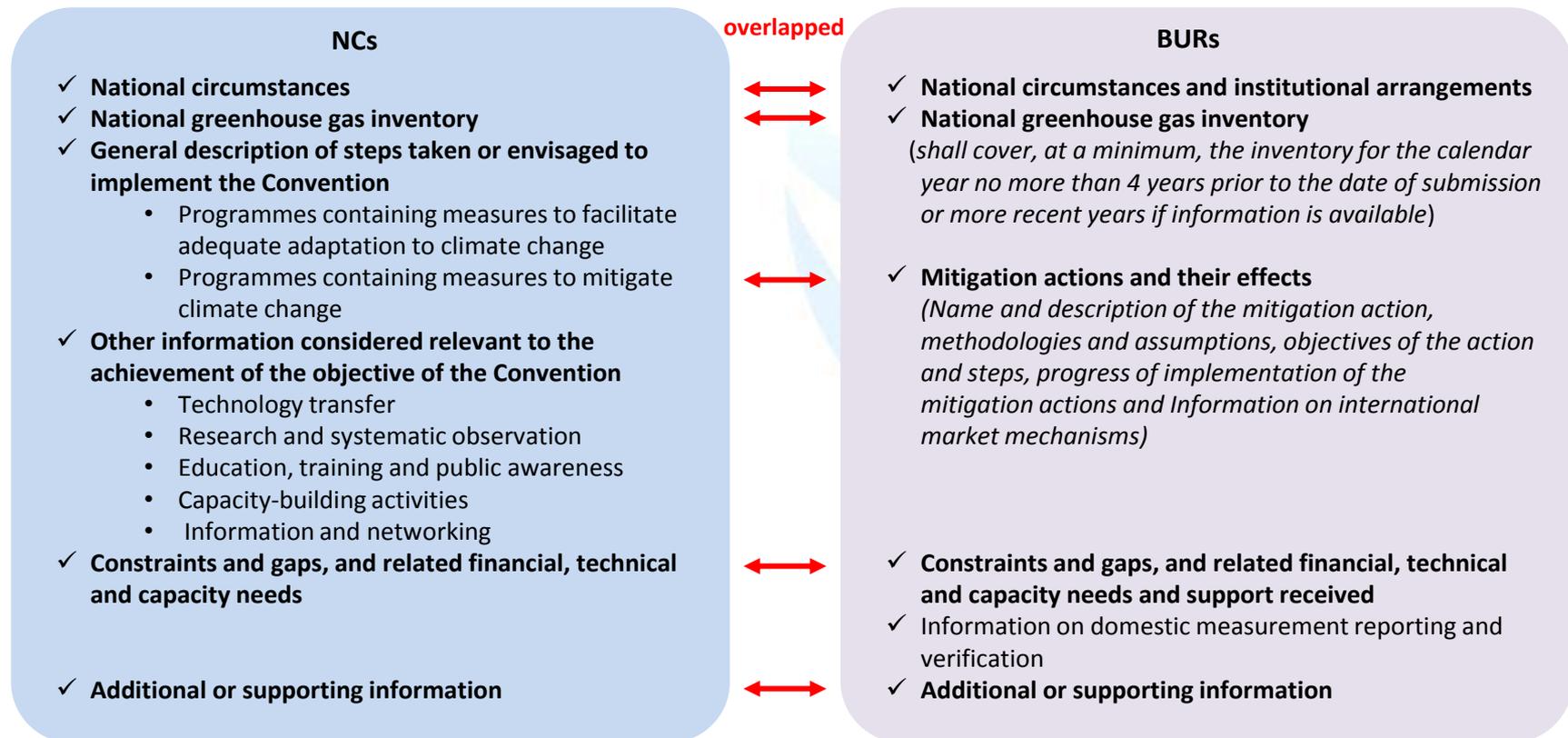
### Overview of ICA process



## Q67: What is the relationship between national communications and biennial update reports?

Compare to AI

A: The BURs are the update of the most recently submitted NCs. BURs are submitted at some point between the submission of NCs.



Reference:

1. UNFCCC. (2002)
2. UNFCCC. (2011)

## 4.6. National Greenhouse Gas Inventories: non-Annex I Parties

This section covers questions and answers on national greenhouse gas (GHG) inventories, as follows:

### Common

68. What is a national GHG inventory?
69. Why prepare a national GHG inventory?
70. How frequently should national GHG inventories be prepared?
71. Who should prepare national GHG inventories?
72. How do countries establish institutional systems to prepare national GHG inventories?
73. How should we prepare national GHG inventories?
74. How should we verify national GHG inventories?
75. Are there any standards or guidelines for national GHG inventory preparation?
76. Is there any financial support available to prepare national GHG inventories?
77. Is there any technical support available to prepare national GHG inventories?

### Scheme-specific

78. Are there any principles for preparing national GHG inventories?
79. What categories and gases should non-Annex I Parties cover in their national GHG inventories?
80. How should we estimate national-level GHG emissions and removals?
81. Are there different levels of estimation methods?
82. What should we do if it is not possible to estimate all emission sources and removal sinks?
83. Are the national GHG inventories submitted by non-Annex I Parties reviewed?

## Q68: What is a national GHG inventory?

[Compare to AI](#)

A: A national GHG inventory is an inventory which provides information on national-level emissions and removals of GHGs, which is one of the fundamental pieces of information for a country to develop and monitor policies and measures on mitigation of climate change.

### In detail

- ✓ Non-Annex I Parties shall submit their national GHG inventories to the COP under the UNFCCC as a part of their NCs and BURs.
- ✓ Basic information on GHG emissions and removals provided by the national GHG inventory are:
  - National total GHG emissions and removals due to anthropogenic causes.
- ✓ In addition, non-Annex I Parties are encouraged to submit the following information:
  - Methodologies for how to estimate the emissions and removals,
  - Procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories.

Reference:

1. UNFCCC. (2002)
2. UNFCCC. (2011)

## Q69: Why prepare a national GHG inventory?

[Compare to AI](#)

A: Preparation of national GHG inventories is required to all Parties under Article 4, paragraph 1, and Article 12 of the UNFCCC in order to figure out quantity of GHG emissions and removals from each Party due to human activities. This process also serves to enhance transparency on emissions sources and sinks, thereby supporting more effective policy making.

### In detail

- ✓ The UNFCCC aims to stabilise GHG concentrations in the atmosphere at a level that would prevent and reduce dangerous human-induced interference with the climate system.
- ✓ In order to achieve this objective, it is necessary to accurately understand anthropogenic GHG emissions trends and our collective ability to alter these trends.
- ✓ Therefore, all Parties in the UNFCCC must prepare and submit their national GHG inventories to the COP.
  - **Non Annex I Parties:**
    - Need to submit their national GHG inventories as a part of their NCs,
    - Need to submit their national GHG inventories biennially as a part of their BURs from December 2014.



## Q70: How frequently should national GHG inventories be prepared by non-Annex I Parties?

Compare to AI

A: Non-Annex I Parties need to prepare and submit their national GHG inventories once every two years to the COP under the UNFCCC as a part of BURs or NCs .

### In detail

- ✓ In contrast to Annex I Parties, non-Annex I Parties do not have to submit their national GHG inventories as independent reports to the COP.
- ✓ The Cancun Agreement determined that non-Annex I Parties should submit their NCs once every four years, and the Durban Outcomes states that non-Annex I Parties shall submit their BURs once every two years.
- ✓ Hence, non-Annex I Parties need to prepare their national GHG inventories and submit them to the COP once every two years as a part of their BURs or NCs.

## Q71: Who should prepare national GHG inventories?

[Compare to AI](#)

A: The national government of each Party shall prepare its national GHG inventories. Allocation of detailed roles for the preparation depends on each Party's national circumstances.

### In detail

- ✓ National GHG inventories shall be prepared as a part of NCs and BURs. As stated in Article 12 of the UNFCCC and Decision 2/CP.17, Parties are responsible for preparing and submitting the NCs and BURs to the UNFCCC. Hence, the national government of each party is responsible for preparing the national GHG inventories as well as NCs and BURs.
- ✓ In order to ensure periodical national GHG inventory preparation, it is necessary to clearly signal which entity shall implement which role of the preparation. In most cases, this simply requires a national mandate on which existing institutions and agencies will take responsibility for the work of preparing NCs and BURs.

Steps for designating roles of national GHG inventory preparation:

1. Designate a single national entity (can be existing) with overall responsibility for the national inventory.
2. Define and allocate specific responsibilities in the inventory development process by specifying the roles of, and cooperation between, government agencies and other entities relevant to inventory preparation. For example, specific responsibilities include the following roles:
  - a. Choice of estimation methods,
  - b. Data collection,
  - c. Processing and archiving of inventory information,
  - d. Quality assurance/quality control (QA/QC).

## Q72: How do countries establish institutional systems to prepare national GHG inventories?

Compare to AI

A: The institutional systems for each non-Annex I Parties to prepare national GHG inventories can be established by considering the key elements of the inventory preparation process, such as planning, preparation, and management.

### Key elements in the preparation of national GHG inventories

Planning	Designation of a single national entity with overall responsibility for the preparation
	Allocation of specific responsibilities in the inventory preparation process, such as choice of estimation methods, data collection, estimation of GHG emissions/removals, quality assurance/quality control (QA/QC) activities.
	Elaboration of an inventory QA/QC plan
	Establishment of processes for the official consideration and approval of the inventory
Actual Preparation	Data collection, preparation of estimates on GHG emissions and removals, recalculation, key category analysis, uncertainty assessment, documentation of estimation methodologies and information relevant to inventory preparation
Management	Archiving of inventory information on data used for the inventory preparation, estimation methodologies, QA/QC procedures and inventory improvement plan

## Q73: How should we prepare national GHG inventories?

[Compare to AI](#)

A: We should prepare national GHG inventories by following a procedural arrangement determined in accordance with each country's national circumstances.

### In detail

- ✓ A procedural arrangement for national GHG inventory preparation is important for clarifying the process for periodically preparing national GHG inventories.
- ✓ The procedural arrangement should be documented and disclosed to relevant stakeholders in order to enhance smooth preparation of national GHG inventories.
- ✓ There are various procedural arrangements according to each country's national circumstances, but the main steps of the procedural arrangement are planning, preparation and management.

## Q74: How should Parties verify their own national GHG inventories?

[Compare to AI](#)

A: As domestic verification, we should verify national GHG inventories by utilising QA/QC procedures.

### In detail

- ✓ QA/QC procedures in national GHG inventory preparation contributes to the accomplishment of the development of national GHG inventories that can be readily assessed in terms of quality and completeness.
  - ✓ QC is a system of routine technical activities, to measure and control the quality of the inventory as it is being compiled.
    - QC is done mainly by inventory compilers.
    - The main purpose of QC is to control the accuracy of estimated GHG emissions and removals.
  - ✓ QA is a planned system of review procedures conducted by personnel not directly involved in the inventory compilation/development process.
  
- ✓ The national GHG inventories prepared by non-Annex I Parties are not verified internationally. However, the inventories are subject to ICA as a part of BURs.

## Q75: Are there any standards or guidelines for national GHG inventory preparation?

Compare to AI

A: The “Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention” under Decision 17/CP.8 and the UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention under Decision 2/CP.17 include guidelines for national GHG inventory preparation for non-Annex I Parties.

The contents of the guidelines under Decision 17/CP.8 and Decision 2/CP.17 which are relevant to national GHG inventory preparation are as follows:

### A) Methodologies

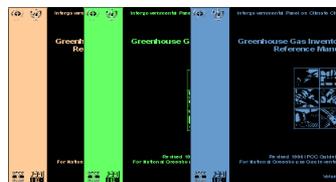
1. Choice of IPCC Guidelines
2. Choice of estimation methods, from the IPCC Guidelines, for GHG emission and removal
3. Application and development of country-specific emission factors and activity data

### B) Reporting

1. Information to be reported in the national GHG inventories
2. GHGs to be estimated
3. Choice of global warming potentials (GWP)

Decision 17/CP.8 and Decision 2/CP.17 also decide which IPCC Guidelines for national GHG inventories need to be used by non-Annex I Parties. The IPCC Guidelines include concrete methodologies on GHG emission/removal estimation and other issues relevant to national GHG inventories. The names of the Guidelines are as follows:

1. Revised 1996 IPCC Guidelines for National Greenhouse Inventories (1996GL),
2. Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (GPG(2000)),
3. Good Practice Guidance for Land Use, Land-use Change and Forestry (GPG-LULUCF),
4. 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006GL)



1996GL



GPG(2000)



GPG-LULUCF

## Q76: Is there any financial support available to prepare national GHG inventories?

A: GEF provides non-Annex I Parties with financial support for preparing national GHG inventories as a part of NCs and BURs.

### In detail

National GHG inventories prepared by non-Annex I Parties are submitted to the COP under the UNFCCC as a part of NCs and BURs; hence, the financial support for NCs and BURs for non-Annex I Parties includes those for the national GHG inventories.

Organisation	Coverage	Reference
GEF	Comprehensive financial support for NCs and BURs, including for national GHG inventories	For further information, see the following pages: “Q8: Is there any financial support available to develop national communications?”(page 25), “Q20: Is there any financial support available to develop biennial update reports?”(page35)
APN	Financial support for global change research in the Asia-Pacific region, including climate change issues, such as research funds for developing country- or regional-specific emission factors	<a href="http://www.apn-gcr.org/programmes-and-activities/arcp/">http://www.apn-gcr.org/programmes-and-activities/arcp/</a> <a href="http://www.apn-gcr.org/programmes-and-activities/capable/">http://www.apn-gcr.org/programmes-and-activities/capable/</a>

## Q77: Is there any technical support available to prepare national GHG inventories?

A: There is various technical support provided by international institutes and bilateral donors as shown below.

Organisation	Reference
Consultative Group of Experts on National Communications from Parties not included in Annex I (CGE)	For further information on these organisations, see “Q9: Is there any technical support available to develop national communications?” (page 26).
National Communication Support Program (NCSP)	
IPCC (inventory software)	<a href="http://www.ipcc-nggip.iges.or.jp/software/index.html">http://www.ipcc-nggip.iges.or.jp/software/index.html</a>
UNFCCC	<a href="http://unfccc.int/national_reports/non-annex_i_natcom/training_material/methodological_documents/items/349.php">http://unfccc.int/national_reports/non-annex_i_natcom/training_material/methodological_documents/items/349.php</a>
USEPA	<a href="http://www.epa.gov/climatechange/EPAactivities/internationalpartnerships/capacity-building.html#National">http://www.epa.gov/climatechange/EPAactivities/internationalpartnerships/capacity-building.html#National</a>
Asian Develop Bank	<a href="http://www.adb.org/projects/43100-012/main">http://www.adb.org/projects/43100-012/main</a>
Japan International Cooperation Agency	<a href="http://www-gio.nies.go.jp/wgia/wg10/pdf/3_1.pdf">http://www-gio.nies.go.jp/wgia/wg10/pdf/3_1.pdf</a>
USAID	<a href="http://www-gio.nies.go.jp/wgia/wg10/pdf/3_3.pdf">http://www-gio.nies.go.jp/wgia/wg10/pdf/3_3.pdf</a>

## Q78: Are there any principles for preparing national GHG inventories?

[Compare to AI](#)

A: The principles for national GHG inventories are Transparency, Consistency, Comparability, Completeness and Accuracy, abbreviated as “TCCCA”.

Principle	Definition
Transparency	Transparency means that <b>the assumptions and methodologies used for an inventory should be clearly explained</b> to facilitate replication and assessment of the inventory by users of the reported information. The transparency of inventories is fundamental to the success of the process for the communication and consideration of information.
Consistency	Consistency means that an inventory should be internally consistent in all its elements over a period of years. <b>An inventory is consistent if the same methodologies are used for the base and all subsequent years</b> and if <b>consistent data sets are used to estimate emissions or removals</b> from sources or sinks.
Comparability	Comparability means that <b>estimates of emissions and removals reported by Parties in inventories should be comparable among Parties</b> . For this purpose, Parties should use the methodologies and formats agreed by COP for estimating and reporting inventories. The allocation of different source/sink categories should follow the split of the IPCC Guidelines adopted by the COP.
Completeness	Completeness means that <b>an inventory covers all sources and sinks as well as all gases included</b> in the Revised 1996GL in addition to other existing relevant source/sink categories which are specific to individual Parties (and therefore may not be included in the IPCC guidelines).
Accuracy	Accuracy is a relative measure of the exactness of an emission or removal estimate. Estimates should be accurate in the sense that <b>they are systematically neither over nor under true emissions or removals</b> , as far as can be judged, and that uncertainties are reduced as far as practicable. Appropriate methodologies conforming to guidance on good practices should be used to promote accuracy in inventories.

## Q79: What categories and gases should non-Annex I Parties cover in their national GHG inventories?

Compare to AI

A: Non-Annex I Parties shall cover CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O from energy; industrial processes; solvent and other product use; agriculture; land-use change and forestry; and waste, as appropriate and to the greatest extent possible. In addition, non-Annex I Parties are encouraged to estimate the gases mentioned below:

### In detail

GHGs which non-Annex I Parties shall estimate	Carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O),
GHGs which non-Annex I Parties are encouraged to estimate	Hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF <sub>6</sub> ), carbon monoxide (CO), nitrogen oxides (NO <sub>x</sub> ), and non-methane volatile organic compounds (NMVOCs)
Sectors to be estimated in the inventories	Energy, Industrial processes, Solvent and Other Product Use, Agriculture, Land-use changes and forestry (LUCF), Waste

## Q80: How should we estimate national-level GHG emissions and removals?

Compare to AI

A: A general method for estimating national-level GHGs is to multiply activity data by emission factors.

The basic equation for estimating GHG emissions

$$E = AD * EF$$

**E:** GHG emissions

AD: Activity data

EF: Emission factor

### In detail

Basically, national-level GHG emissions are not directly measured at emission sources but estimated by using the equation shown above.

Term	Explanation in the Glossary of 2006 IPCC Guidelines for National Greenhouse Gas Inventories	Material
AD	Data on the magnitude of human activity resulting in emissions or removals taking place during a given period of time	Data obtained from national-level statistics, such as quantity of energy consumption, cement production, and the number of domestic animals by species.
EF	A coefficient that quantifies the emissions or removals of a gas per unit activity.	Research results from measurement data, such as the carbon content of each fuel type and CH <sub>4</sub> emission per head of a ruminant animal.

## Q81: Are there different levels of estimation methods?

[Compare to AI](#)

A: There are three levels of estimation methods provided by the IPCC Guidelines for National Greenhouse Gas Inventories. The levels of methodological complexity are referred to as “tiers” in the Guidelines.

Tier	Level	Explanation
Tier 1	Basic	Use readily available estimation methods and default emission factors provided by the IPCC Guidelines
Tier 2	Intermediate	Use readily available estimation methods provided by the IPCC Guidelines and country-specific emission factors
Tier 3	Most complex	Use country-specific estimation methods, such as complex modeling approaches, and country-specific emission factors

Reference:

1. IPCC. (2006)
2. UNFCCC. (2006)

## Q82: What should we do if it is not possible to estimate all emission sources and removal sinks?

Compare to AI

A: If an inventory does not cover all sources and sinks as well as gases included in the IPCC Guidelines, you should clarify why the sources, sinks or gases are not covered in the inventory.

If there are sources and sinks not covered in a national GHG inventory, but which are included in the IPCC Guidelines, **using notation keys** is an effective way to indicate the reasons why sources and sinks are not covered.

Notation Key	Definition	Explanation
"NE"	Not estimated	Emissions and/or removals occur but have not been estimated or reported.
"IE"	Included elsewhere	Emissions and/or removals for this activity or category are estimated and included in the inventory but not presented separately for this category.
"C"	Confidential information	Emission and/or removals are aggregated and included elsewhere in the inventory because reporting at a disaggregated level could lead to the disclosure of confidential information.
"NA"	Not applicable	The activity or category exists but relevant emissions and removals are considered never to occur. (Such cells are normally shaded in the reporting tables.)
"NO"	Not occurring	An activity or process does not exist within a country.

## Q83: Are the national GHG inventories submitted by non-Annex I Parties reviewed?

Compare to AI

A: No, the national GHG inventories submitted by non-Annex I Parties are not reviewed. Instead of this the national GHG inventories, which are a part of BURs, will be analysed under ICA for BURs.

### In detail

- ✓ The ICA will be conducted in a manner that is non-intrusive, non-punitive and respectful of national sovereignty.
- ✓ The ICA consists of the two steps as mentioned below:
  - Technical analysis
  - Facilitative sharing of views

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