



Office of the President

Climate Change Commission

PHILIPPINES: EXPERIENCE ON NATIONAL QA/QC

Workshop on GHG Inventories in Asia 19:
Quality Assurance and Quality Control (QA/QC)
13 JULY 2022

OUTLINE OF THE PRESENTATION



General Overview: Timeline of NIR Policies, Processes, and Institutional Arrangements



1

2



Institutionalizing NIR
Preparation: the Philippine GHG
Inventory Management and
Reporting System (PGHGIMRS)

Laying the groundwork for
NIR improvement: UNFCCC
QA Workshop (2019)



3

QA / QC Updates

4



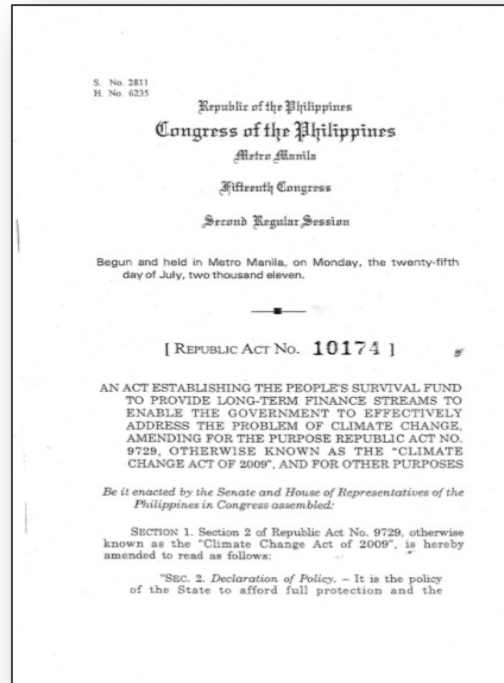
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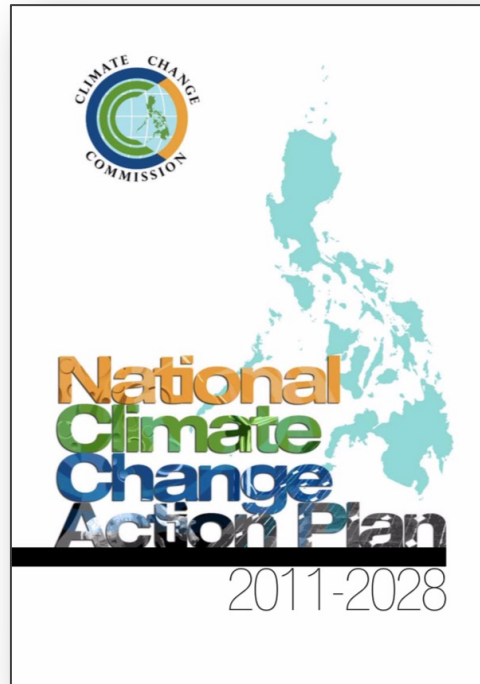
Legal basis



Section 9(h) Formulate strategies for mitigating GHG emissions, anthropogenic sources and enhance removal by sinks;



National Climate Change Action Plan



Knowledge & Capacity Development Strategic Priority

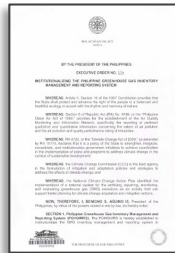
Activity 1.2.3: Implement a national system for monitoring greenhouse gas emissions



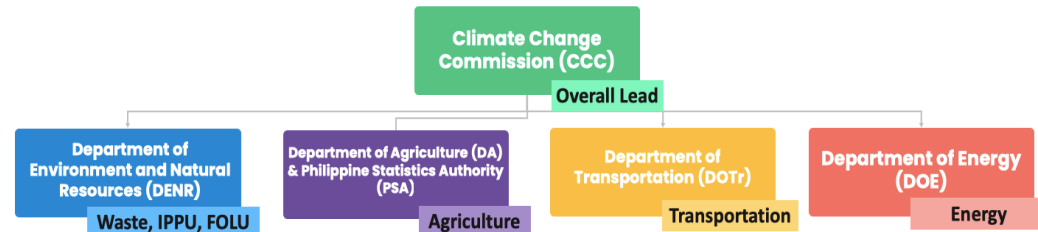
Snapshot of Philippine GHG Initiatives



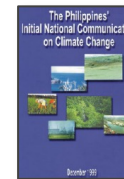
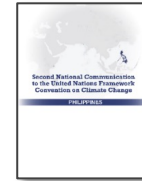
Institutional Arrangements



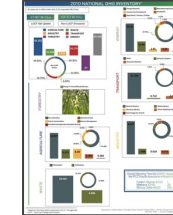
Executive Order No. 174 s. 2014
 Institutionalize the Philippine GHG Inventory Management & Reporting System (PGHGIMRS)



Reports & Tools produced



2 – National Communications



3 – National Inventory Reports (1994, 2000, 2010)

5 – National GHG Inventory Tools



EO 174 Guidance Document



Sectoral GHG Templates



GHG Data checklist



QA/QC Critical Fixes Tool



QA/QC Stocktake Tool

NIR Improvement



1 – National QA/QC Workshop



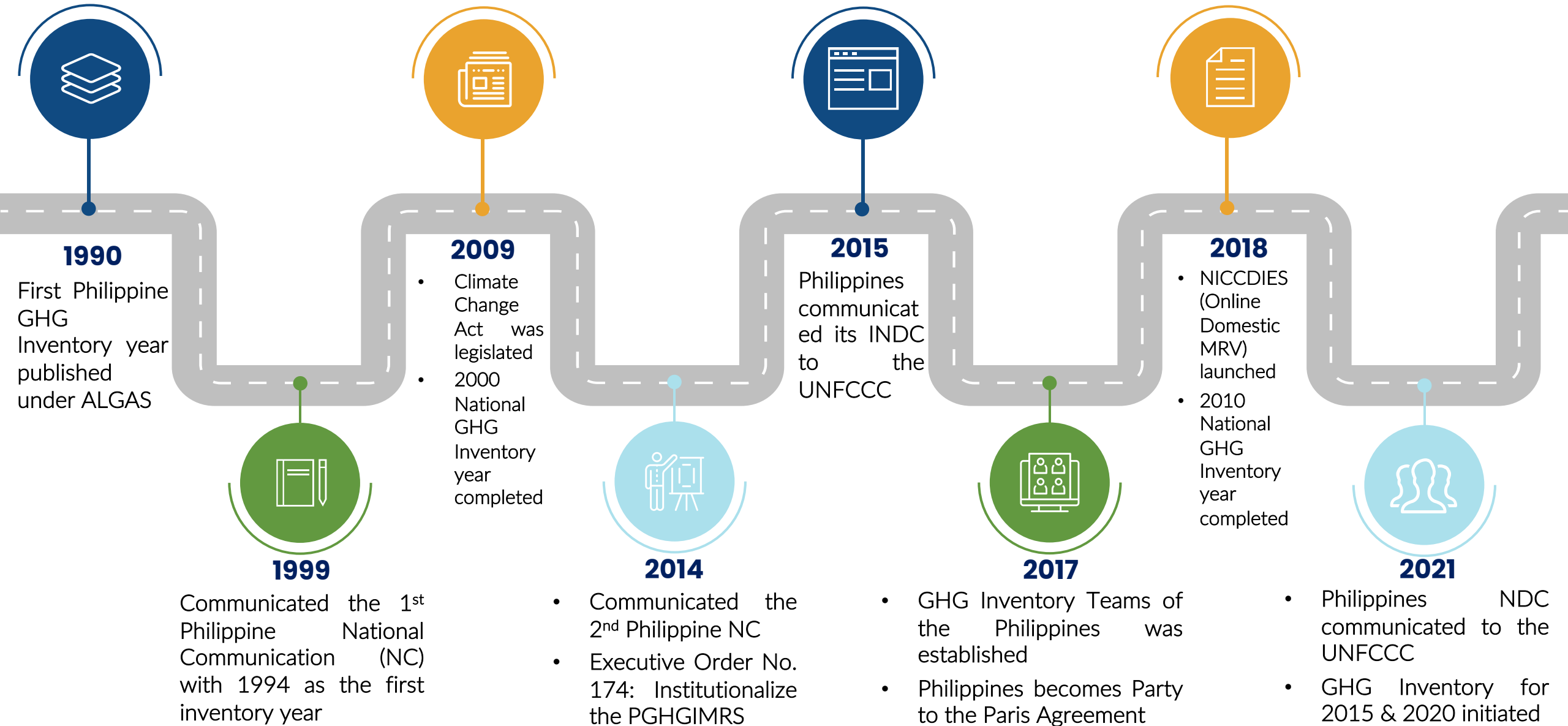
10 – Interagency Meetings for the NIR improvement



50+ Capacity Building Training delivered



Timeline of Philippine Mitigation & Transparency Measures

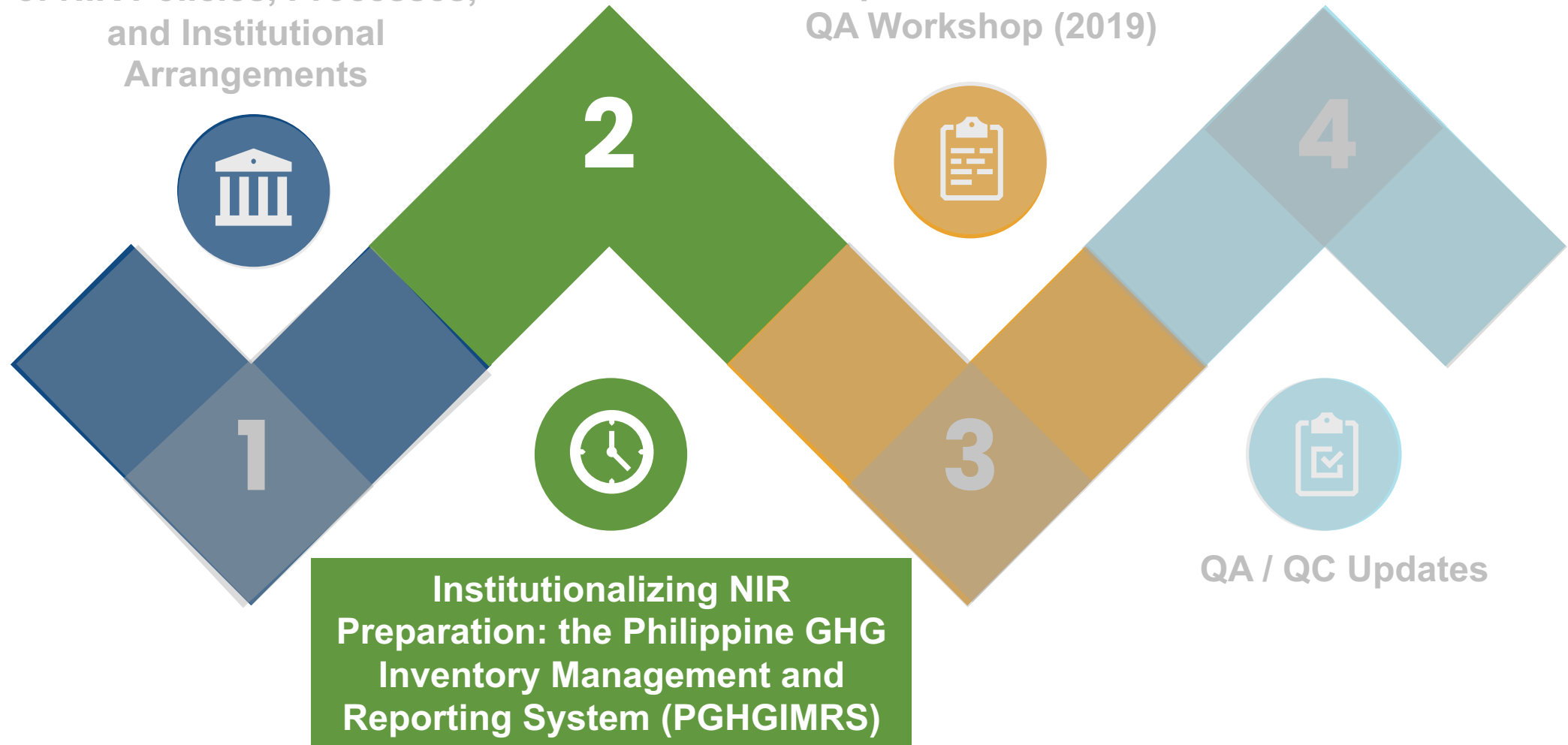


OUTLINE OF THE PRESENTATION

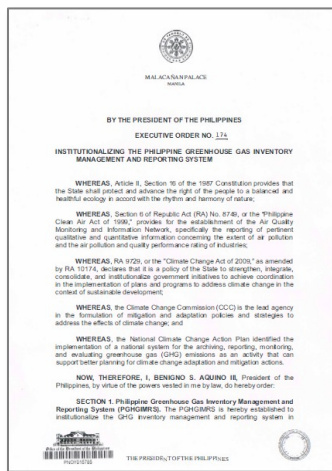


General Overview: Timeline of NIR Policies, Processes, and Institutional Arrangements

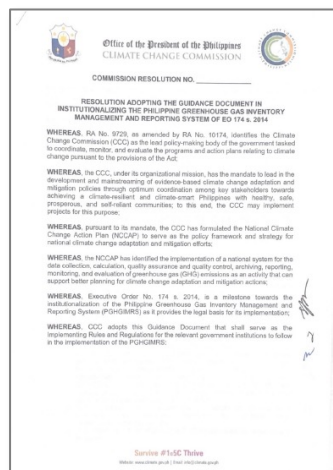
Laying the groundwork for NIR improvement: UNFCCC QA Workshop (2019)



Philippine GHG Inventory Management and Reporting System (PGHGIMRS)



Executive Order No. 174 s. 2014

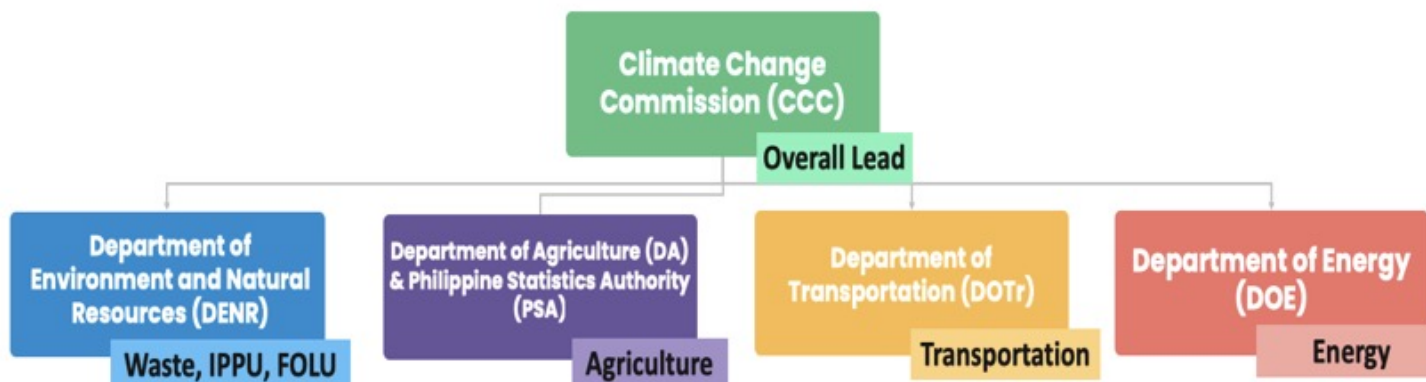


CCC Resolution No. 2018-003

- **Executive Order No. 174 s. 2014**
Institutionalizes the PGHGIMRS
- **CCC Resolution No. 2018-003**
Provides the Implementing Rules and Regulations for the PGHGIMRS



National Institutional Arrangements



OVERALL LEAD IN NATIONAL GHGI

1. Provide direction and guidance
2. Develop archiving, reporting, monitoring and evaluating GHGI
3. Provide continuous capacity building
4. Conduct the National GHGI QA/QC

CCC – NATIONAL PANEL OF TECHNICAL EXPERTS (NPTE) NATIONAL INVENTORY REPORTS (NIRs)

Consists of academicians and practitioners in disciplines that are related to climate change and disaster risk reduction (e.g. *GHG Inventory*)

- 1994 – NIR (included in the First National Communication)
- 2000 – NIR (included in the Second National Communication)
- 2010 – NIR

LEAD AGENCIES

1. Conduct and monitor sector specific GHG inventory
2. Report GHGI to CCC based on agreed reporting scheme

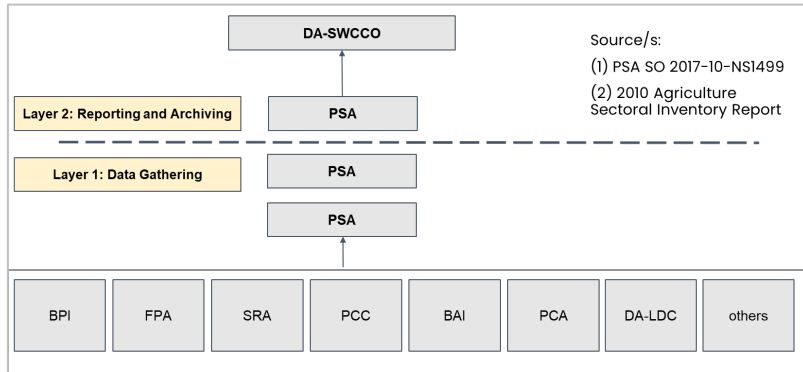
The Philippine GHGI process is a whole-of-society approach...



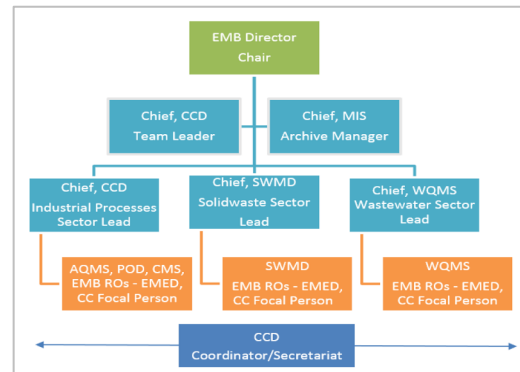
Sectoral Institutional Arrangements



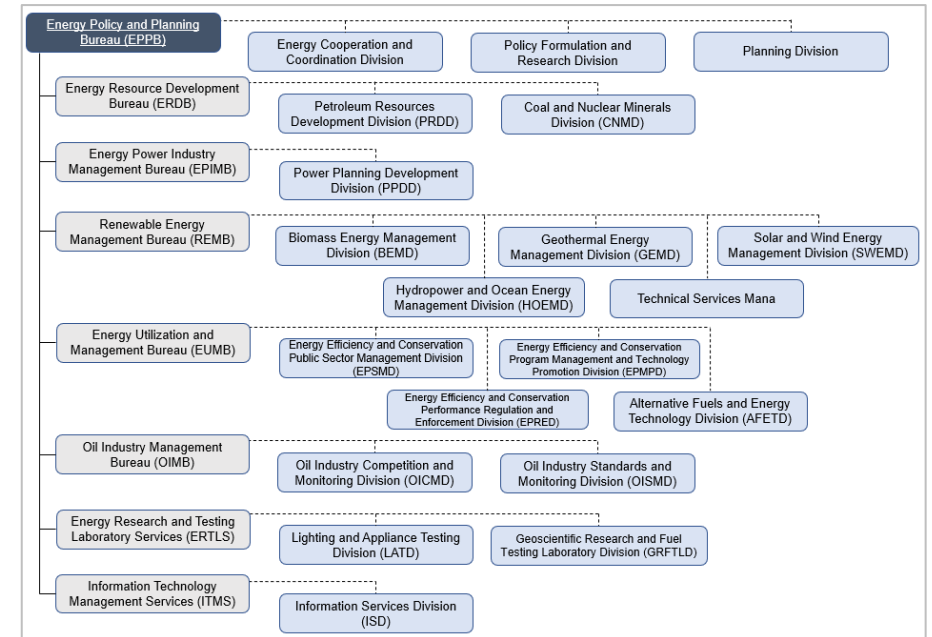
AGRICULTURE



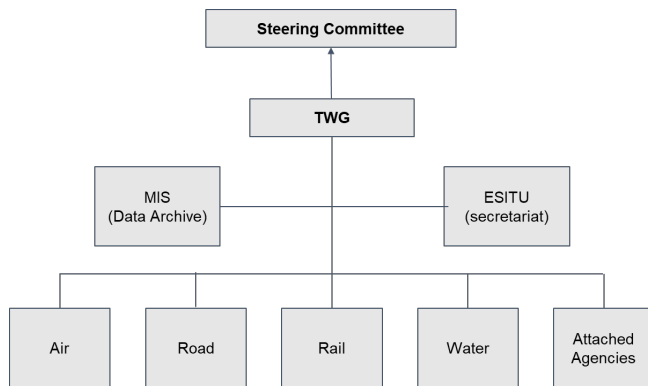
WASTE & IPPU



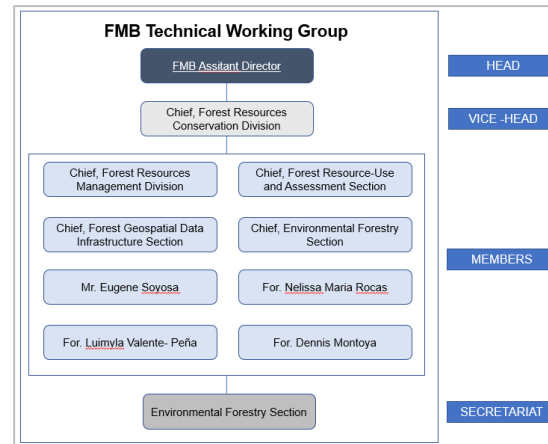
ENERGY



TRANSPORT



FOLU



✓ Instrumental in NDC development
 ✓ Currently being updated given the updated data requirements and QA/QC findings



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General Overview: Timeline of NIR Policies, Processes, and Institutional Arrangements



QA / QC EXPERIENCE IN THE 2010 NATIONAL GHG INVENTORY



LEVEL 1

	Quality Control	Quality Assurance
Sectoral GHG Inventory	Sectoral Lead Agency GHGI Teams    	Climate Change Commission GHGI Team 

LEVEL 2

	Quality Control	Quality Assurance
National Inventory Report	Climate Change Commission GHGI Team 	CCC National Panel of Technical Experts and UNFCCC CGE  United Nations Framework Convention on Climate Change



UNFCCC QA Workshop (2019)




QA Findings were classified into three:

- Priority 1 – Critical fixes required prior to submission of NIR
- Priority 2 – Recommendation to be addressed during the next inventory cycle
- Priority 3 – Recommendation to be addressed in the medium/long term

Coordination meetings with agencies on addressing critical fixes and other QA/QC concerns

Two (2) agencies already initiated work on sectoral QA/QC

Sector	Number of QA Results item Priority Level			Grand Total
	1	2	3	
Agriculture Sector	35	4	6	45
Cross-cutting Issues	17	3	1	21
Energy Sector	7	14		21
Forestry and Other Land Use	38	4	12	54
General Findings	33	22	1	56
Waste and Industries Sector	9	18	2	29
Grand Total	139	65	22	226



National Greenhouse Gas Inventory
Quality Assurance Consolidated Results
Critical Fixes (Required prior to submission of National Inventory Report)

General Findings

Item No.	Subject	Findings
1	Institutional Arrangements	Add additional clarification on the structure of the institutional arrangements per category (e.g., in graph indicating responsible organizations for data provision, emissions estimate, QA/QC) and the necessary links established between sectors.
2	Institutional Arrangements	Guidance document for operation framework from CCC: ensure sufficient details for sector specific methods and the data gaps and needs.
3	Institutional Arrangements	Gap filling of missing information on how the different sectoral reports are compiled together and how the databases are combined into one and share with all sectors.
4	Institutional Arrangements	No complete information on the process in the inventory report at this stage, need to be documented properly for application by all sectoral inventory teams.
5	Quality Assurance and Quality Control	Describe what is done as QA/QC in the current draft report.
6	Quality Assurance and Quality Control	Teams to perform a QA to correct possible misreporting that has crept in the report.
7	Quality Assurance and Quality Control	Provide a general description of official data collection management and procedures for data providers and a description how the overall report is validated.
8	Quality Assurance and Quality Control	Analyze underlying causes of the differences in emissions between time points.

8.4.2(2)(2) Forest land		Specific issues in forest land		
Potential key issues	Question	Elaboration/clarification	Findings/comments	Recommendations
General references	Does unmanaged forest exist in a party?	Estimation should be done only on managed forest.	No, only managed forests.	
Land use category	Is the forest definition same as one that reported to FAD? If different, explanation of the difference explained?	FAO FRL also includes forest area data as well as GHG related data. Thus, FAO data is often compared with GHG inventories.	No, same as FAO and provided in the report.	Provide the source to the official decision in the report.
Methodology	Are carbon stock changes in pools estimated by using appropriate tier?	In forest land, all carbon pools have contribution. The Parties may use different methods and tiers for estimating each carbon stock change. The 1996 Revised IPCC guidelines only cover above-ground biomass pool.	Above and below ground biomass has been estimated at tier 1.	Include also organic soils in forest land at tier 1. Collect information on drainage of histosols including peatlands in forest lands. Use default emission factors for emissions from drained organic soils provided by the chapter IPCC 2013 Wetlands Supplement.
	Is there emissions due to natural disturbance	Carbon stock change due to natural disturbance occurred on managed forest	CO ₂ emissions due to natural disturbance	Provide information in the report on the sources used of the area burned in forest

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QA/QC updates

2015 AND 2020 GHG INVENTORY CYCLE: IMPLEMENTATION STAGE



05 JULY 2021

SECRETARY ALFONSO G. CUSI

Department of Energy
Energy Center 34 th St., Rizal Drive, Bonifacio Global City, Taguig City

Attn: **DIRECTOR JESUS T. TAMANG**
Energy Policy and Planning Bureau

Dear **Sec. Cusi**:

SUBJECT : COMMENCEMENT OF THE NATIONAL GREENHOUSE GAS INVENTORY CYCLE FOR YEARS 2015 AND 2020

Over the past years, the Department of Energy has been diligent in the implementation of the Executive Order (EO 174) for the energy sector. This has resulted in the completion of the 2010 National Greenhouse Gas Inventory. We at the Climate Change Commission (CCC), as the over-all coordinator for the Philippine Greenhouse Gas Inventory Management and Reporting System (PGHGIMRS), would like to express our sincerest gratitude to the Department of Energy and for your continuous efforts and contributions to develop our national greenhouse gas inventory as we work together to streamline the inventory process to meet domestic and international reporting requirements.

In the first semester of 2021 (March and April) an inception meeting was conducted to discuss the next greenhouse gas inventory cycles, followed by a series of house-to-house consultations with sectoral lead agencies including Department of Energy to discuss updates on institutional arrangements, data collection process, QA/QC plan, and solicited comments/inputs to various reporting templates. These meetings serve as venues to surface further improvements for the next inventory cycles and its respective activities and to ascertain the applicability of processes used in the previous inventory cycle.

With the support of lead agencies, the Commission is pleased to announce the commencement of the greenhouse gas inventory cycle under the PGHGIMRS, with the following general guidance as discussed:

1. Separate inventory reports shall be prepared in the upcoming inventory cycle, one with 2015 as the base year for all inventory data and another with 2020 as the base year;
2. 2006 IPCC Guidelines for the National GHG Inventories, and its worksheets, shall be used as the methodology of choice for this inventory cycle;

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**CLIMATE CHANGE OFFICE
IMPLEMENTATION OVERSIGHT DIVISION**
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Email address: info.ccc@ccm.gov.ph

**Philippine Greenhouse Gas Inventory Management and Reporting System (PGHGIMRS)
Quarterly Progress Reporting Guidelines and Template**

I. Background

In line with the implementation of the provisions under Executive Order No. 174, s.2014 in relation to the preparation and submission of annual reports on the implementation and disbursement of funds related to the Philippine Greenhouse Gas Inventory Management and Reporting System (PGHGIMRS), the Climate Change Commission, as the overall lead agency for the implementation of the PGHGIMRS, issues these Sectoral Accomplishment Reporting Templates and Guidelines to guide agencies in the preparation of accomplishment reports on their implementation of the PGHGIMRS.

Aside from providing information that will be included in the mandatory annual reporting of the PGHGIMRS progress and accomplishments to the Office of the President, the quarterly progress reports also support agencies in planning and programming outputs, activities, and means of implementation in the preparation of inventory reports, and in communicating further support needs. This information is also useful for the CCC in providing direction and guidance to sectoral agencies in the preparation of inventory reports, setting up relevant systems, and delivering technical assistance and capacity building services.

The Quarterly Progress Report (QPR) aims to capture data and information on various enabling activities of the sectoral lead agencies and their corresponding progress or results per quarter or in a quarter. The template is also tailored to fit the data and information requirements under the modalities, procedures, and guidelines of the enhanced transparency framework of the Paris Agreement.

the quarterly progress report by

on is mandated to submit an annual
tion and disbursement of funds of
tion on institutional arrangements,
in, archiving, QA/QC activities, and
of on the dates listed in Table 1.

Submission Date	
15th of April	
2 nd Quarter Progress Report	15th of July
3 rd Quarter Progress Report	15th of October
4 th Quarter Progress Report	15th of January or in conjunction with the Annual Accomplishment Report

B. Preparing the Quarterly Progress Report

The QPR template aims to assist the sectoral lead agencies in documenting the implementation of the national greenhouse gas inventory in their respective sectors per quarter. The template covers four (4) main output areas: **Activities, Physical Accomplishments, Financial Accomplishments, and Source of Funds**. The sectoral lead agencies are not required to implement or conduct activities on all four main output areas per quarter. The sectoral lead agencies have the flexibility to just report the activities that have been accomplished in any of the four main output areas per quarter or they can also report activities on all four main output areas. Highlighting as well that since Fiscal Year (FY) 2021 is the first FY that agencies will be preparing accomplishment reports, the Work Plan and Targets will be submitted separately. For the succeeding FYs, this will be submitted together with the Annual Accomplishment Report of the previous FY.

(1) Sample PGHGIMRS Quarterly Progress Report

1

Agency Logo

[AGENCY NAME]-Climate Change Commission] PGHGIMRS QUARTERLY PROGRESS REPORT
Office/Division: Implementation Oversight Division
Fiscal Year: 2021 Quarter: 1st
Inventory Years: 2015 and 2020

Quarterly Accomplishment Report

2

[1] Main Output Area	[2] Activity (per output area) Example Only	Indicator	Remarks	Accomplishments		[5] Source of Funds (GAA/OP/Other)
				[3] Physical Example Only	[4] Financial ('000 Php) Example Only	
Institutional Arrangements	Activity 1: Special Order 2016-143 Institutional arrangements operationalized and strengthened	No. of agency members updating/revising the Sectoral GHG Inventory Technical Working Group		1	10	GAA

Commencement Letter

Reference Manual

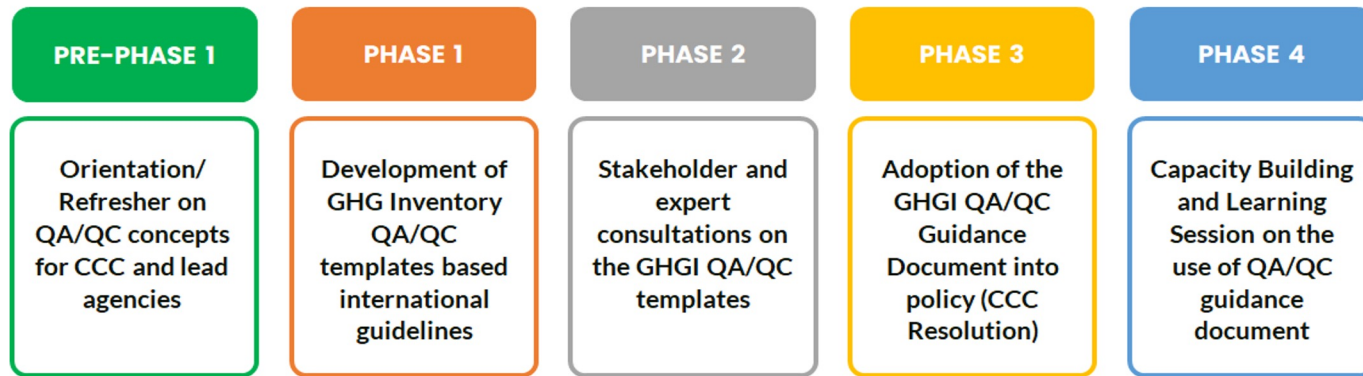
Template Guides

QA/QC Action Plan & Stocktake Tool



NATIONAL GHG INVENTORY QA/QC PROCEDURAL GUIDANCE DOCUMENT

A detailed procedural manual on the conduct of GHG inventory QA/QC at a frequency that is responsive to national objectives and international reporting obligations



- ✓ to be initiated for 2015 and 2020 NIR, in preparation for the application of the ETF MPGs
- ✓ to be implemented for the first BTR and succeeding NIRs

D. QC Procedures

1. General QC Procedures

Per the 2008 IPCC Guidelines for National GHG Inventories, general quality control procedures, which "include generic quality checks related to calculations, data processing, completeness, and documentation that are applicable to all inventory source and sink categories", are:

- applied irrespective of the type of data used to develop the inventory estimates
- equally applicable to categories where default values or national data are used as the basis for the estimates
- designed to be implemented for all categories and on a routine basis

This matrix seeks to collect information on general QC procedures that are available, planned, or needed by your agency, including the units/sub-units responsible for the execution of the general QC procedures, and other agencies that should be involved as necessary. It is adapted from the QA/QC template from the 2020 U.S. EPA Templates for Creating a National GHG Inventory System Manual.

INSTRUCTIONS:

- (1) In Column 3, indicate the unit/sub-unit of your agency that is responsible for the execution of the QC procedure in the first two columns. Please indicate NA if the QC procedure is not applicable to your agency, and NO if the procedure has not yet been assigned. Reflect the proposed unit/sub-unit of your agency in Column 6 - Remarks if the procedure has not yet been assigned, as applicable.
- (2) In Column 4, indicate the proposed agency/ies that should be assigned to/involved in the QC procedure.
- (3) In Column 5, reflect the status of the QC procedure. Indicate: Done, if the QC procedure has been implemented before, Planned, if the QC procedure has not been done before but is planned to be implemented, and None, if the QC procedure has not been accounted for/considered yet.
- (4) In Column 6, add any comments/insights on the QC procedure and other relevant information.

Source: IPCC (2006) Guidelines for National Greenhouse Gas Inventories, Volume 1: General Guidance and Reporting Chapter 6

QC Activity [1]	Procedures [2]	Unit / Sub-Unit Responsible [3]	Agency Unit/Sub-Unit Responsible [4]	Status [5]	Remarks [6]
		NA: not applicable NO: not assigned	Indicate only if another agency should be involved	Done Planned None	
factors, and other estimation parameters are documented.	<ul style="list-style-type: none"> Record if there are multiple sources of the same activity data, and if possible document the reasons for any differences. [Other procedure, add rows as needed] 				
Check for transcription errors in data input and references	<ul style="list-style-type: none"> Confirm that bibliographical data references are properly cited in the internal documentation (see completed Template 3, Methods and Data Documentation, if applicable). Cross check a sample of input data from each category (either measurements or parameters used in calculations) for transcription errors. Record the findings of these cross checks. Pay particular attention to systematic differences. Identify steps to reduce the error rate in the future. Add these improvement steps to the QA/QC development plan. Utilize electronic data where possible to minimize transcription errors. Check that spreadsheet features are used to minimize user/entry error: <ul style="list-style-type: none"> Do not "hardwire" factors into formulas. Create automatic look-up tables for common values used throughout calculations. Use cell protection so fixed data cannot accidentally be changed. Build in automated checks, such as computational checks for calculations, or range checks for input data, mass balance checks, internal consistency checks within and between spreadsheets. 				

GHG INVENTORY QA/QC ACTIVITIES



ACTIVITY 1

QA/QC
Capacity
Building
Plan

ACTIVITY 2

QA/QC
Plan

ACTIVITY 3

QA/QC
Implementation
Note: Include how
critical fixes/issues
were addressed in
QA

ACTIVITY 4

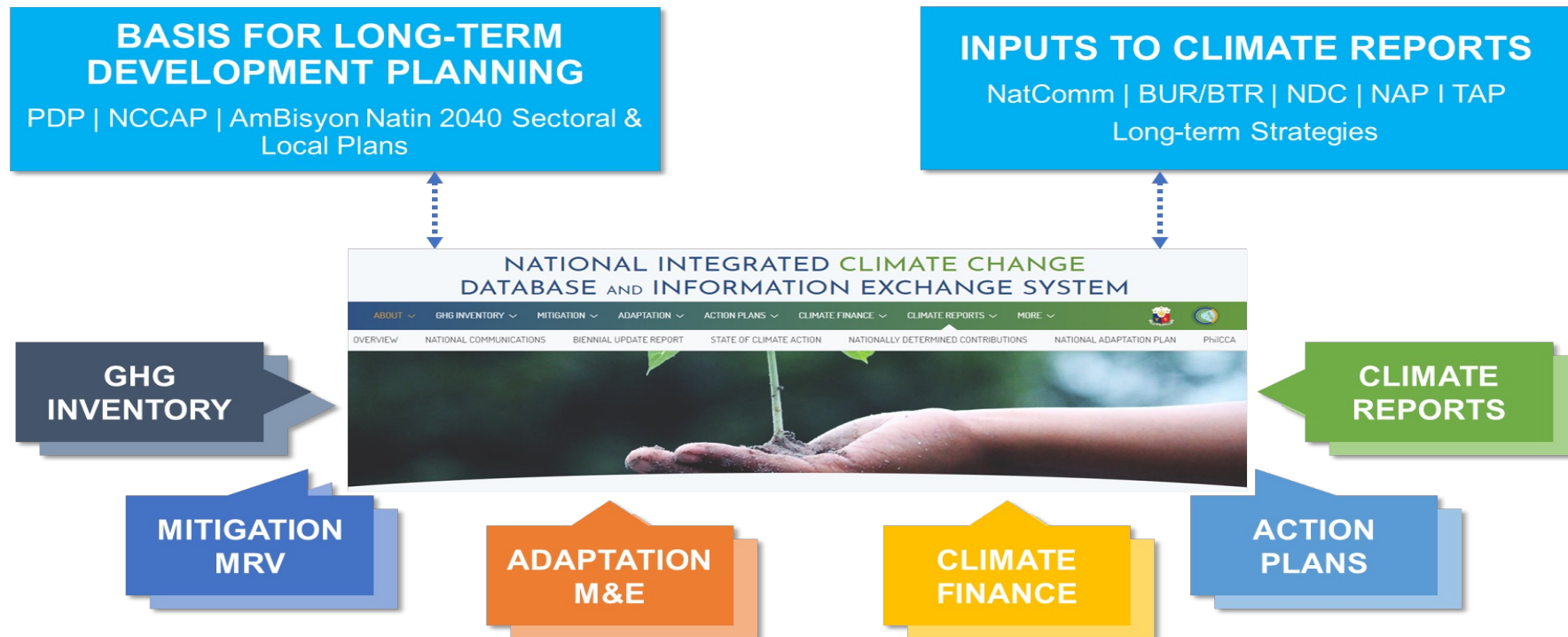
Documentation
, Archiving and
Reporting



Transparency System for Climate Action & Support



NATIONAL INTEGRATED CLIMATE CHANGE DATABASE AND INFORMATION EXCHANGE SYSTEM (NICCDIES) – www.niccdies.climate.gov.ph



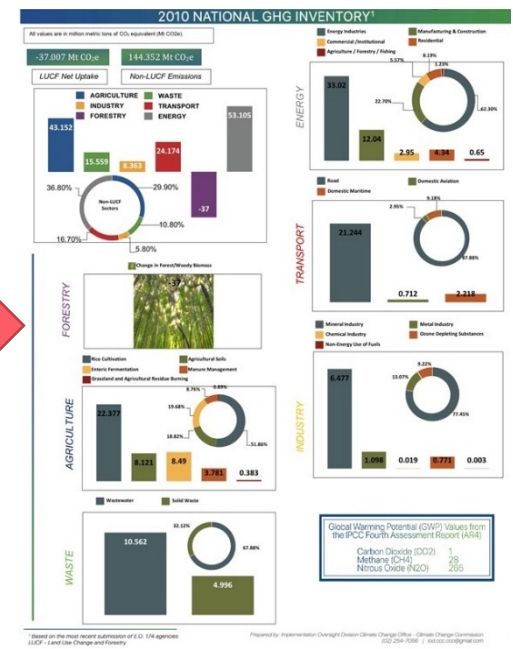
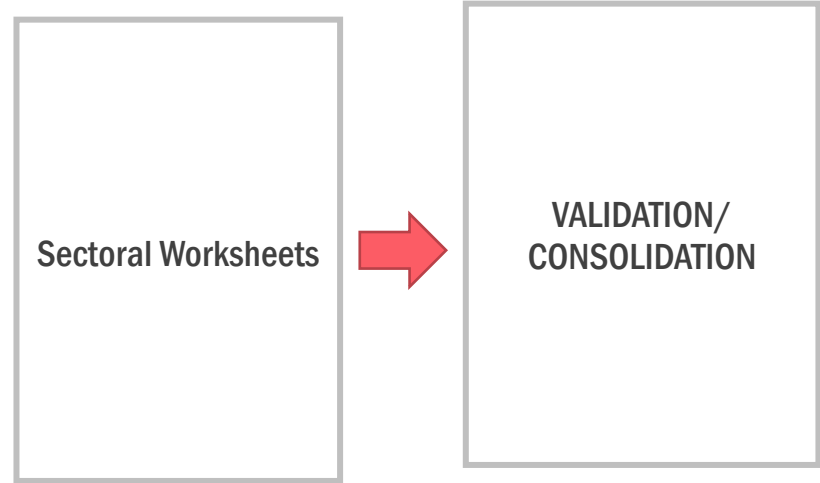
Transparency System for Climate Action & Support



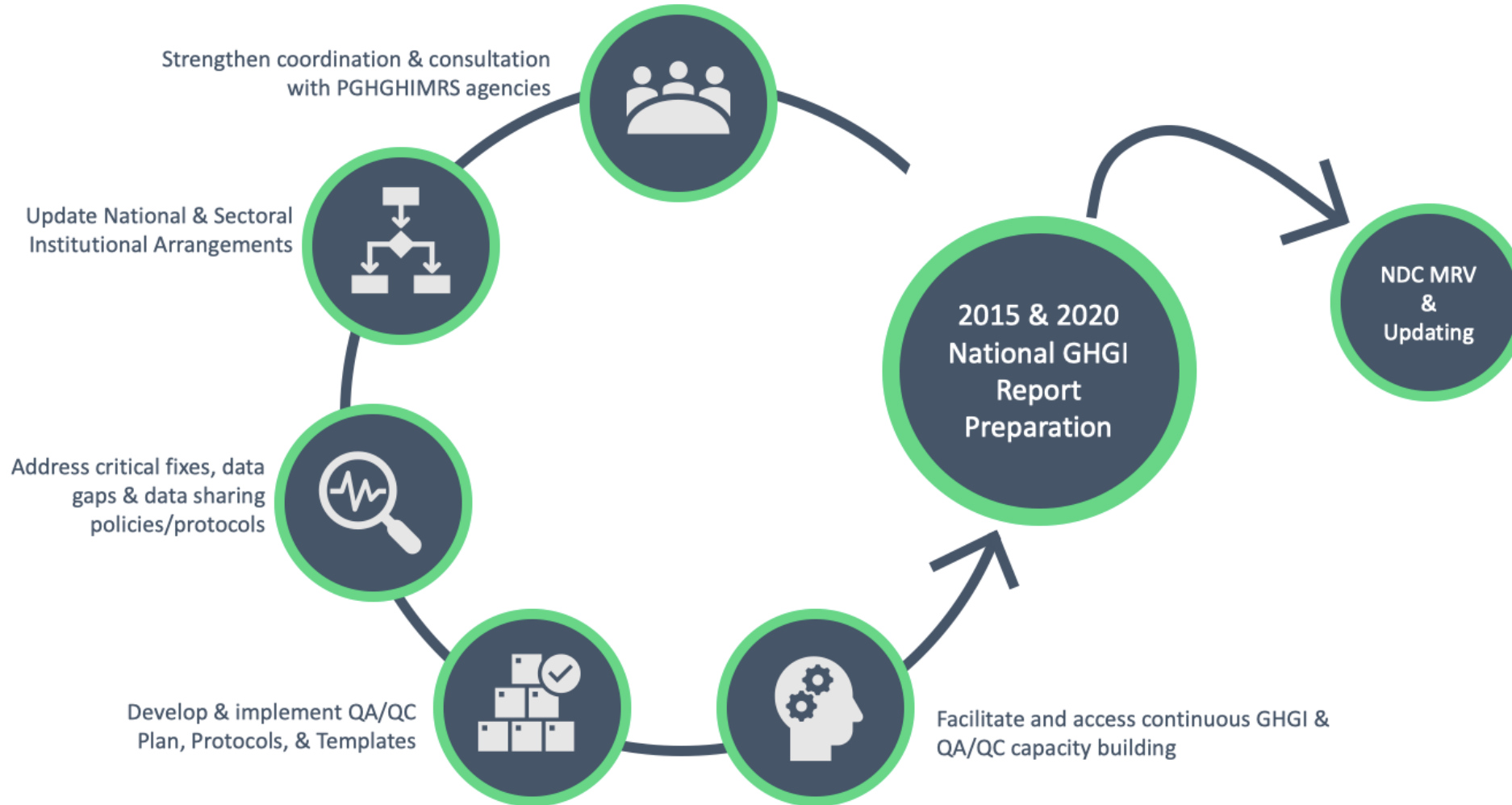
NATIONAL INTEGRATED CLIMATE CHANGE DATABASE AND INFORMATION EXCHANGE SYSTEM

GHG INVENTORY ▾ MITIGATION ▾ ADAPTATION ▾ ACTION PLANS ▾ CLIMATE FINANCE ▾ CLIMATE REPORTS ▾ LOGIN

OVERVIEW **NATIONAL** LOCAL PRIVATE SECTOR



Outlook



Thank you.
Maraming salamat.

For more information:



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IMPLEMENTATION OVERSIGHT DIVISION

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