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***Ministry of Natural Resources and Environment  
Malaysia***

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**Institutional Arrangements for  
Making Continuous GHG Inventory  
of BUR**

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***13<sup>th</sup> Workshop on Greenhouse Gas Inventories in Asia (WGIA13)***

***Bali, Indonesia***

***5<sup>th</sup> August 2015***

# Contents of Presentation

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- Background on National GHG Inventory Systems
- UNFCCC Handbook on MRV for Developing Country Parties : Recommendations on how institutional arrangements reporting
- Malaysia's Institutional Arrangements for BUR and TNC
  - MRV Institutional Arrangements for GHG Inventory
- Sectoral Specific Information
- International Organisations Assistance
- Plans for Improvement

### A ***national GHG inventory system***

incorporates all the elements necessary to estimate GHG emissions and sinks.

- A central coordination agency
- Arrangements between agency and institutions
- Identification of technical experts
- Procedures for inventory development
- Inventory archive
- Inventory reporting

## Example of how information on institutional arrangements can be reported - UNFCCC Handbook on MRV for Developing Country Parties

Role	Organisation	Contact information	Comments
Overall institution arrangements for UNFCCC focal point, national communications, BURs and GHG Inventory			
National focal point for national GHG Inventories			
National inventory management team			
National GHG Inventory Coordinator			
Sectoral leads for each sector			
Archive manager/ coordinator			

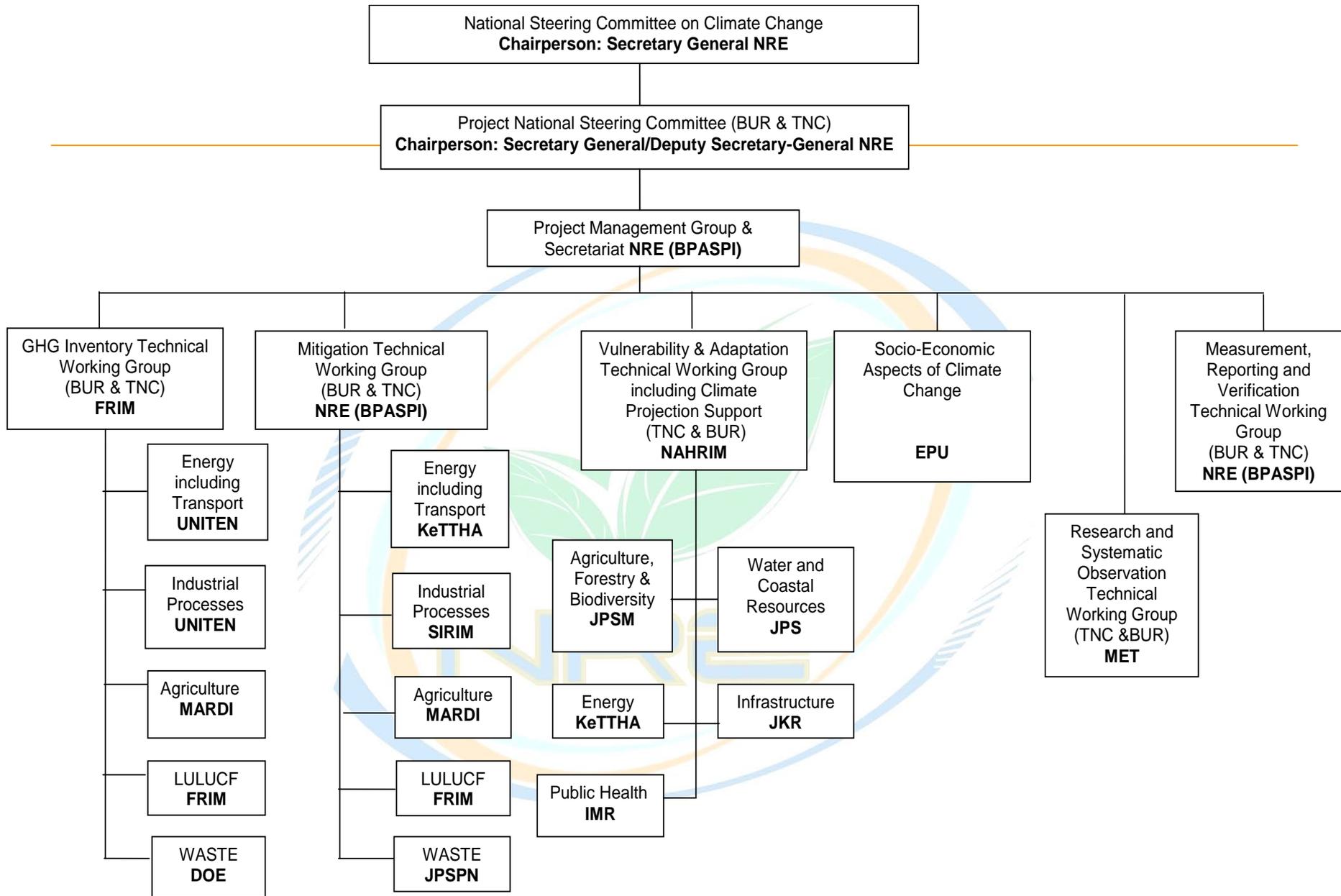
## Example of how information on institutional arrangements can be reported - UNFCCC Handbook on MRV for Developing Country Parties

Role	Organisation	Contact information	Comments
National inventory management team			
QA/QC coordinator			
Uncertainty analysis coordinator			
Other			
Sectoral roles and arrangements			
Technical coordinator			
Expert compiling estimates			
Expert reviewer			
Data provider			
Other			

# Malaysia's national GHG Inventory System

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- Based on institutionalised GHG Inventory Working Groups since NC2
- For 1<sup>st</sup> BUR - Revised 1996 IPCC Guidelines, GPG and Uncertainty Guidelines and GPG for LULUCF Guidelines
- For TNC - 2006 IPCC Guidelines
- BUR will be submitted in 2015
- TNC will be submitted in 2017



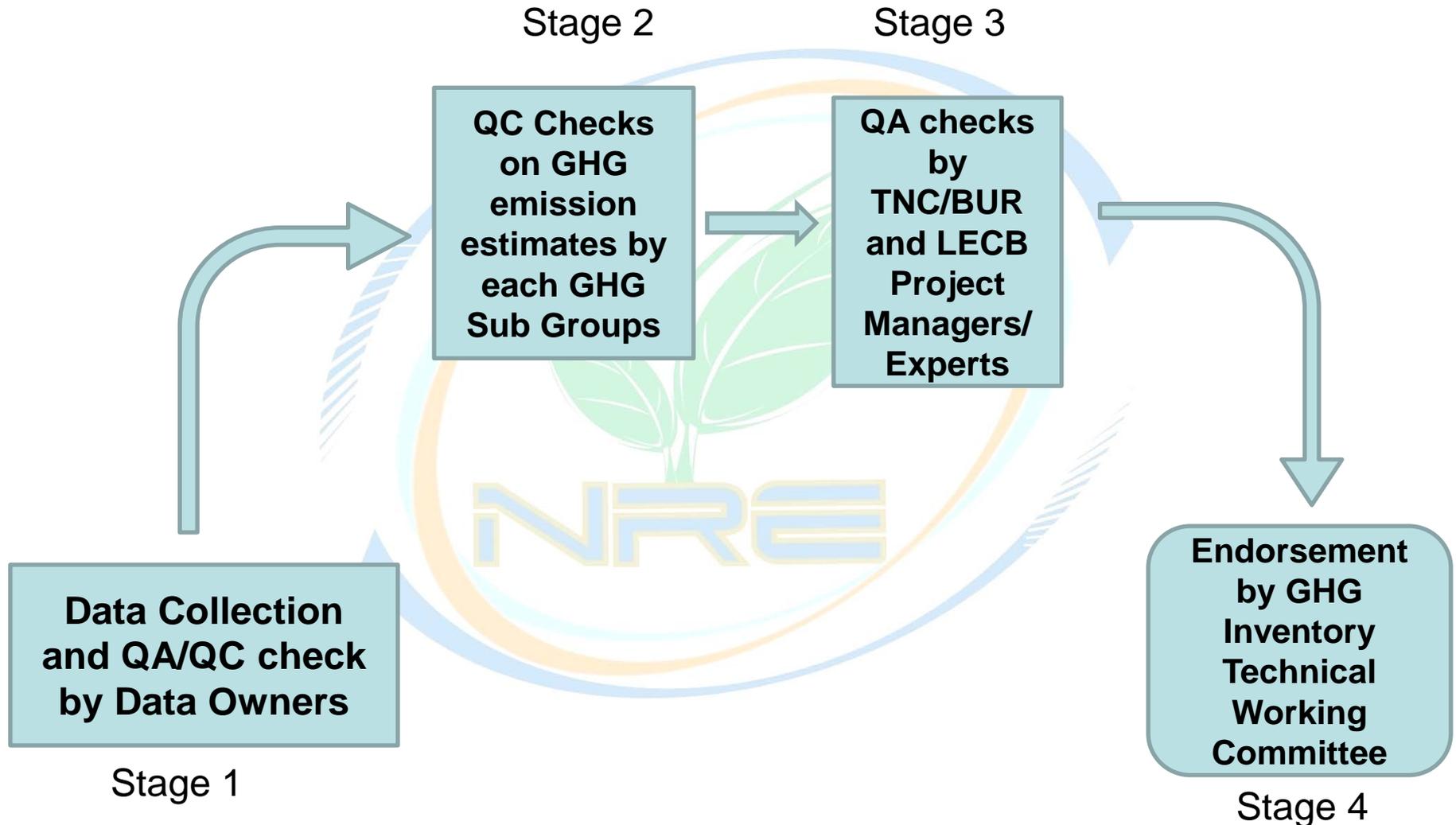
**Note:** International Consultation and Analysis (ICA) of BUR Team under NRE (BPASPI) in cooperation with the Chairs of the Technical Working Groups on GHG Inventory; Mitigation; and Measurement, Reporting & Verification and the Sub-Group Chairs.

# Malaysia's national GHG Inventory System

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- GHG Inventory Anchoring Agencies
  - ▶ Energy & IP – UNITEN & MGTC
  - ▶ Agriculture – MARDI
  - ▶ LULUCF – FRIM
  - ▶ Waste – DOE
- GHG inventory report for 2011 near completion
- Time series from 1990 – 2011 except for Industrial Processes Sector time series is from 2000-2011
- Uncertainty assessment for key sources
- QA/QC requirement
- Key category analysis
- Reporting – TACCC Principles

# MRV Institutional Arrangements for GHG Inventory



# Sectoral Specific Information

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## ➤ Energy Sector

- Data based on National Energy Balance and additional data gathered from specific organisations
- Calculations mainly Tier 1
- Difference between Sectoral and Reference approach CO<sub>2</sub> emissions more than 5% for a few years
- Uncertainty Assessment based on GPG 2000 and 2006 IPCC Guidelines

# Sectoral Specific Information

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- Industrial Processes Sector
  - Data based on national and international reports and additional data gathered from specific organisations
  - Needs Non Disclosure Agreement with Industries.
  - Long term would require regulation for industries to report
  - Calculations Tier 1 with Cement Production GHG emission estimation on Tier2
  - Uncertainty Assessment based on GPG 2000

# Sectoral Specific Information

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## ➤ Agriculture Sector

- Data based on statistics from national reports and FAO statistics
- Calculations mainly Tier 1
- Uncertainty Assessment based on GPG 2000
- Need close collaboration with LULUCF compilers to avoid overlap especially in organic soil emissions

# Sectoral Specific Information

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## ➤ LULUCF Sector

- Data based on statistics from national reports, data from specific organisations
- Calculations mainly Tier 2
- Uncertainty Assessment based on 2003 GPG for LULUCF.
- Inconsistencies between nationally published statistics and international published statistics on timber products
- Lack of national soil carbon content maps

# Sectoral Specific Information

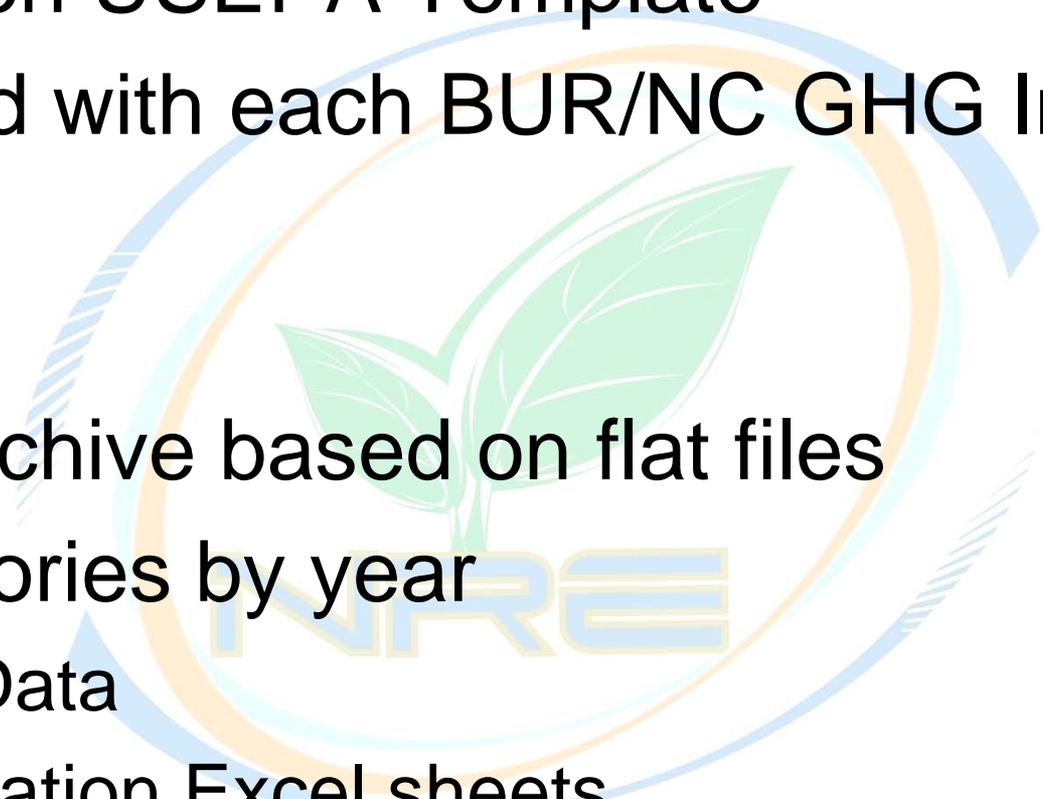
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## ➤ Waste Sector

- Data based on statistics from national reports, data from specific organisations and FAO statistics
- Calculations mainly Tier 1
- Uncertainty Assessment based on 2000 GPG
- Lack of historical waste disposal data

# Procedural Manual & Data Archive System

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- Based on USEPA Template
  - Updated with each BUR/NC GHG Inventory report
  - Data Archive based on flat files
  - 3 categories by year
    - Raw Data
    - Calculation Excel sheets
    - Report
  - TNC will use 2006 IPCC Guidelines software
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# International Organisations Assistance

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- Training of GHG Inventory Compilers
  - IPCC GHG Inventory Task Force experts
  - USAID LEAD's Programme on GHG Inventory System
  - WGIA
  - USEPA – UNFCCC's South East Project
- Expert reviewers
  - USAID review expert on Agriculture sector
    - Review of Agriculture GHG Inventory
    - Development of Emission Factor for Rice Cultivation

# Plans for Improvement

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- Use 2006 IPCC Guidelines for TNC
- NDA with key data provides that require them
- Rationalise inconsistencies between national data and international data
- Training of larger pool of GHG Inventory compilers
- Explore review process with WGIA

