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# Japan's Institutional Arrangement for Preparation of National GHG Inventory

7 September 2007, Kuala Lumpur, Malaysia  
5<sup>th</sup> Workshop on GHG Inventories in Asia

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# Outline

- History of Japan's Institutional Arrangement
- Current Institutional Arrangement
- Inventory Improvement Process
- Inventory Compilation Process
- Strength
- Weakness – for future improvements



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# History of Japan's Institutional Arrangement

- Japan's institutional arrangement has developed through four phases.
  - Phase 1 (1992-1994):
    - *Started with a small team to develop the GHG inventory for 1<sup>st</sup> NC*
  - Phase 2 (1996-1998):
    - *Convened an ad hoc expert committee to revise the GHG inventory to comply with IPCC Guidelines*
  - Phase 3 (1999-2002):
    - *Set up an enhanced expert committee to study improvements to the GHG inventory taking KP requirements into consideration*
  - Phase 4 (2002-):
    - *Set up GIO and put National System in place*

# Phase 1 (1992-1994)

- Background
  - UNCED (Rio Summit) was held and UNFCCC was adopted in 1992.
  - Annex I Parties were obliged to submit their initial NCs by 21 September 1994 (6 months after UNFCCC entered into force).
- A small team with assistance from relevant ministries/agencies
  - Small team: Environmental Agency + consultants
  - No expert committee dedicated to inventory work
  - Cooperation from the other ministries/agencies by request of Environmental Agency:
    - On an ad hoc basis (When necessity arose)
    - At the level of official in charge

# Phase 2 (1996-1998)

- Background
  - IPCC GLs were published in 1995, revised in 1996.
  - Recommendations from in-depth review of 1<sup>st</sup> NC were fed back to Japan.
  - Annex I Parties needed to submit 2<sup>nd</sup> NC in 1997, and to submit GHG inventories annually since 1998.
- Enhanced IA as compared to Phase 1
  - Core team: Environmental Agency + consultants
  - An ad hoc expert committee (9 members) was convened to revise the GHG inventory to comply with IPCC GLs.
  - Cooperation from ministries/agencies was enhanced.
    - Relevant ministries/agencies participated in the meetings of the ad hoc committee.
    - Request to other ministries/agencies was made by Director of Climate Change Policy Division.

# Phase 3 (1999-2002)

- Background
  - Kyoto Protocol was adopted at COP3 in 1997.
  - The Global Warming Prevention Headquarters was established inside the Cabinet in 1997.
  - The *Law Concerning the Promotion of Measures to Cope with Global Warming* was made and enforced in 1998.
  - IPCC GPG was published in 2000.
- Further enhanced IA as compared to Phase 2
  - Core team: Ministry of the Environment + consultants
  - An enhanced expert committee (about 60 members) was set up to study improvements to the GHG inventory taking KP requirements into consideration.
  - Linkage between ministries/agencies was further enforced.
    - Relevant ministries/agencies participated in the meetings of the expert committee.
    - The legislation gave an impetus to cooperation among ministries.

# Phase 4 (2002- )

- Background
  - The Kyoto Protocol required each Annex I Party to have its national system for GHG inventory in place by the end of 2006.
  - The Guidelines for National System was developed as part of Marrakesh Accord at COP7 in 2001.
- IA embodied as National System under KP Art 5.1
  - GIO was established in 2002.
  - Core team: MoE + GIO + consultants
  - The expert committee (about 60 members) continues playing a key role.
  - Linkage between ministries/agencies has been made more explicit and formalized.
    - Documented in the initial report submitted under KP (August 2006)



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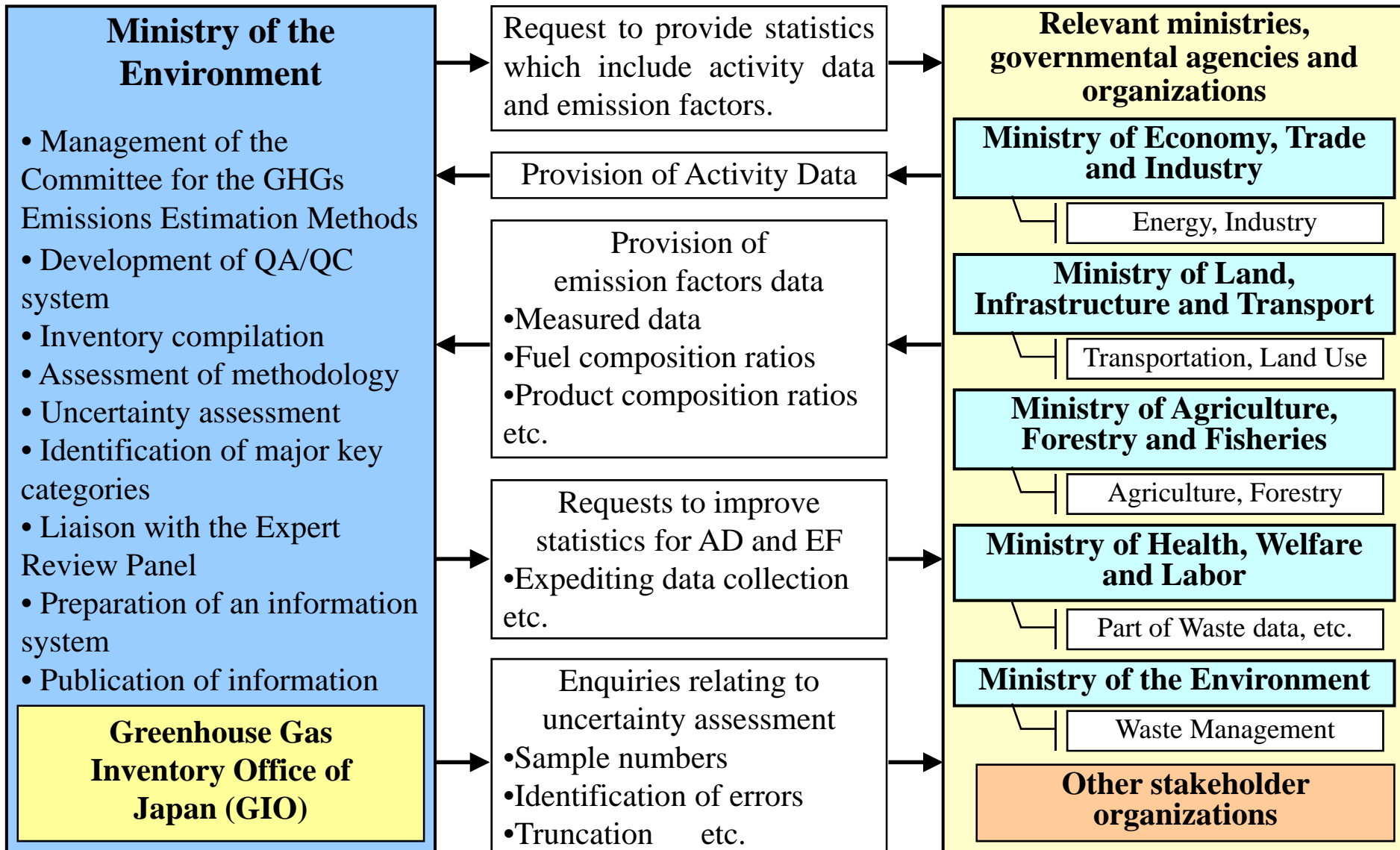
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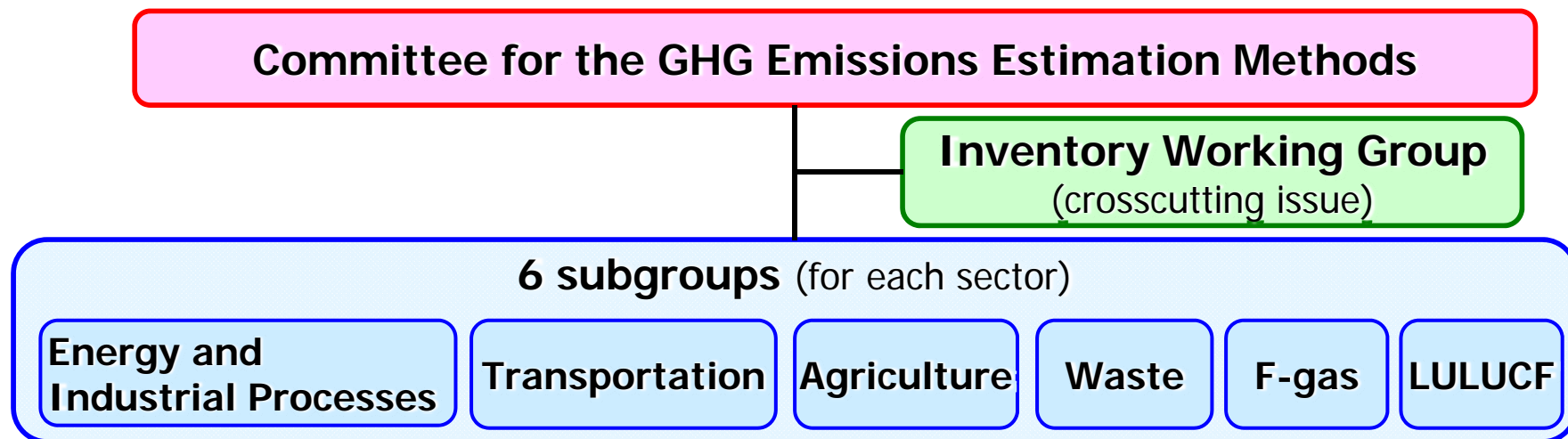
# Current Institutional Arrangement (1)



➤ Based on *the Law Concerning the Promotion of Measures to Cope with Global Warming*

# Current Institutional Arrangement (2)

- “the Committee for the GHGs Emissions Estimation Methods”, since 1999,
- Members: external experts, approximately 60
- The committee is in charge of methodological development of the inventory



➤ Inventory compilation and inventory improvement are implemented in close consultation with this committee.

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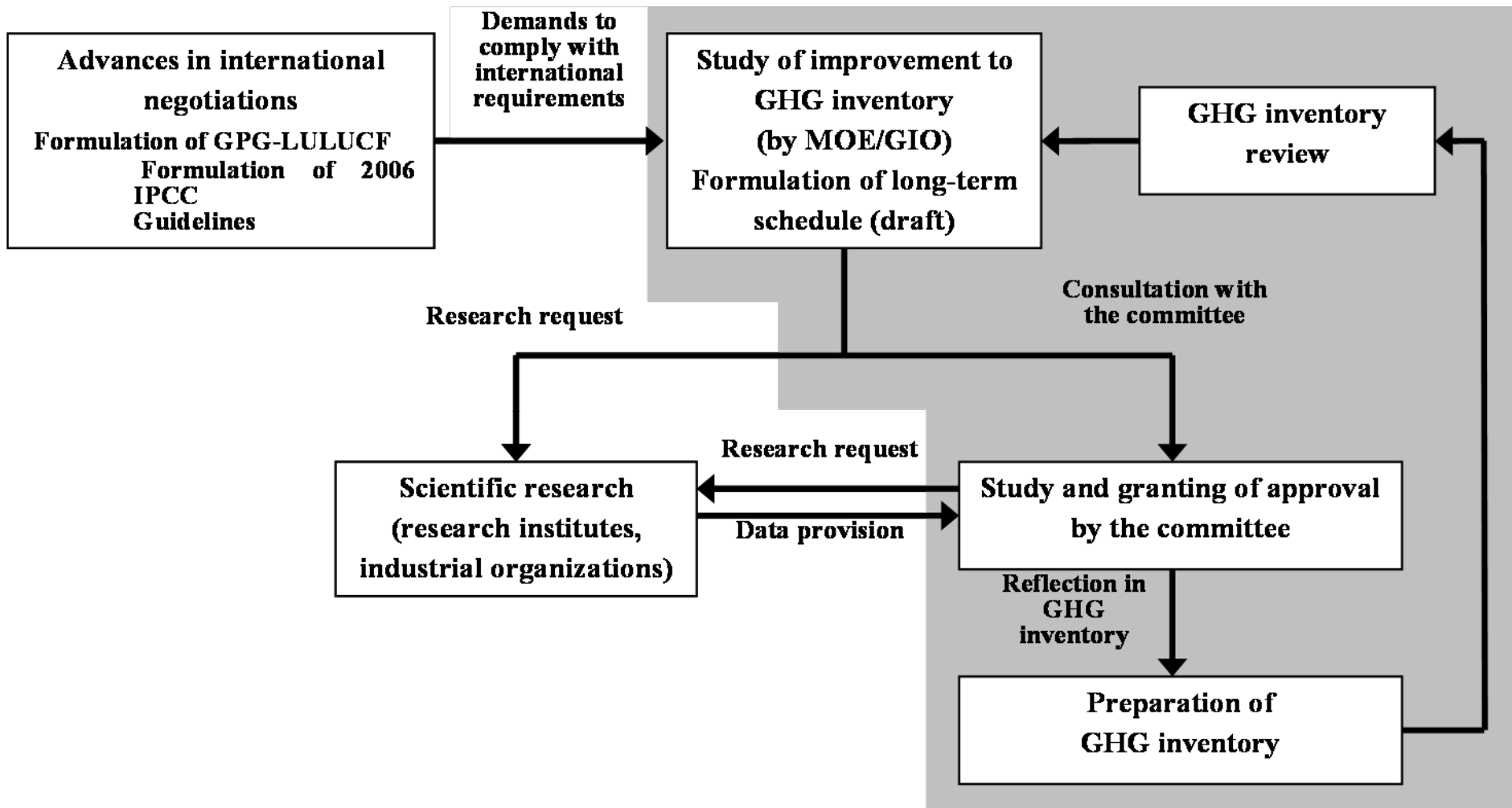
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# Inventory Improvement Process (1)



\* The area shaded in grey shows the emissions and removals inventory preparation process.

# Inventory Improvement Process (2)

- Specific issues that need to be addressed are detected through:
  - advances in international negotiations
  - technical review of GHG inventories under UNFCCC
  - experiences gained in preparation of GHG inventories
  - information provided by stakeholders
- To address those issues, studies are conducted by:
  - scientific research community; and
  - Committee for the Greenhouse Gas Emissions Estimation Methods
- The results of those studies are reflected in the next GHG inventory.

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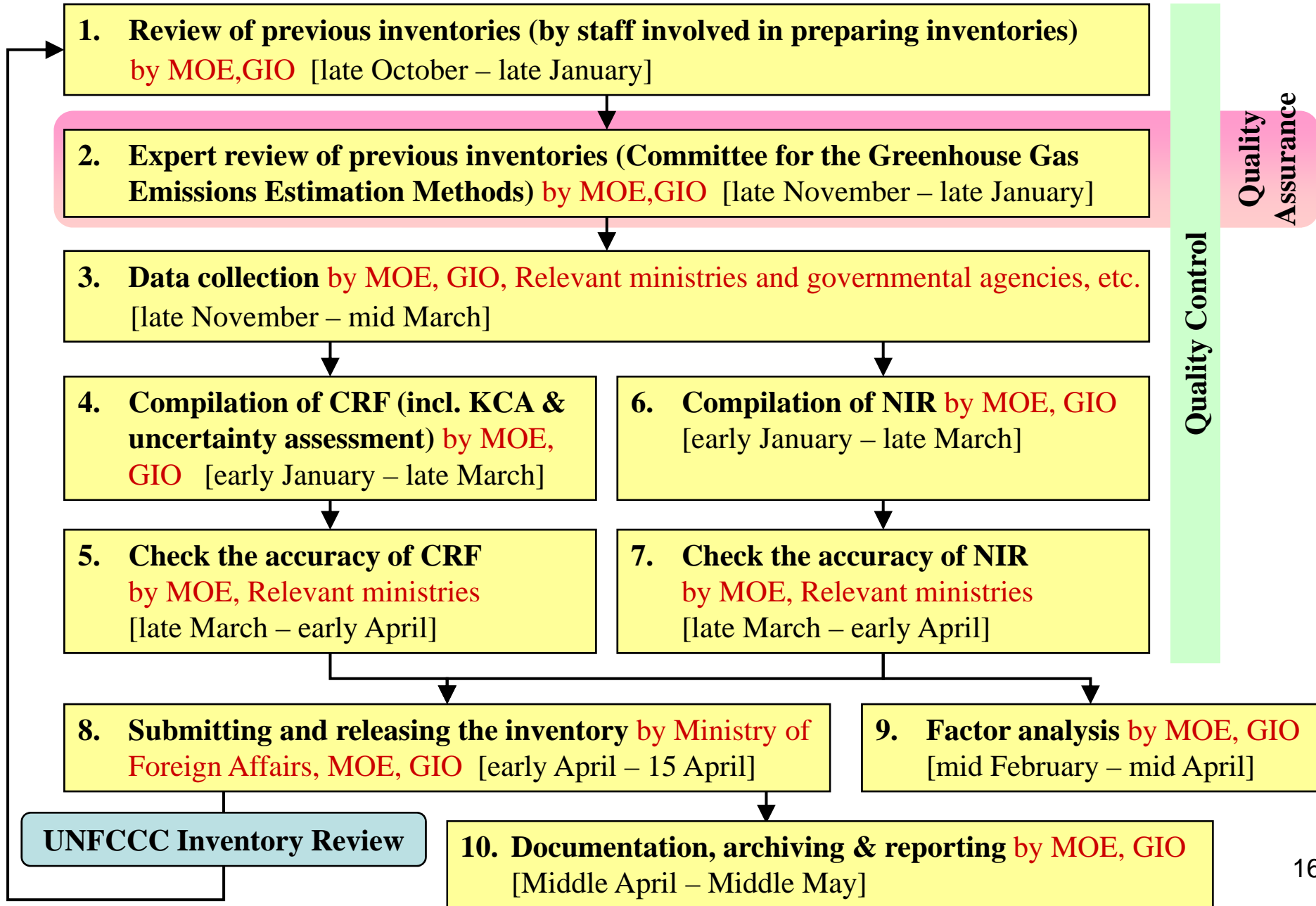
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# Inventory Compilation Process (1)





# Inventory Compilation Process (2)

- Activity data collection
  - Data are gathered from published materials, if available, to the extent possible
  - In case published materials are not available, MOE request relevant ministries or agencies to gather data
- Choice of emissions and removals calculation method
  - Methods are chosen carefully for all sources/sinks and gases
  - Efforts are made to tailor the methods to Japan's actual conditions
- Choice of emission factors (EFs)
  - Country-specific emission factors based on the results of measurements taken within Japan
  - Default values from the Revised 1996 IPCC GLs and GPGs
- Examination and approval of methods and EF values by the Committee for the Greenhouse Gas Emissions Estimation Methods.

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# Strength (1)

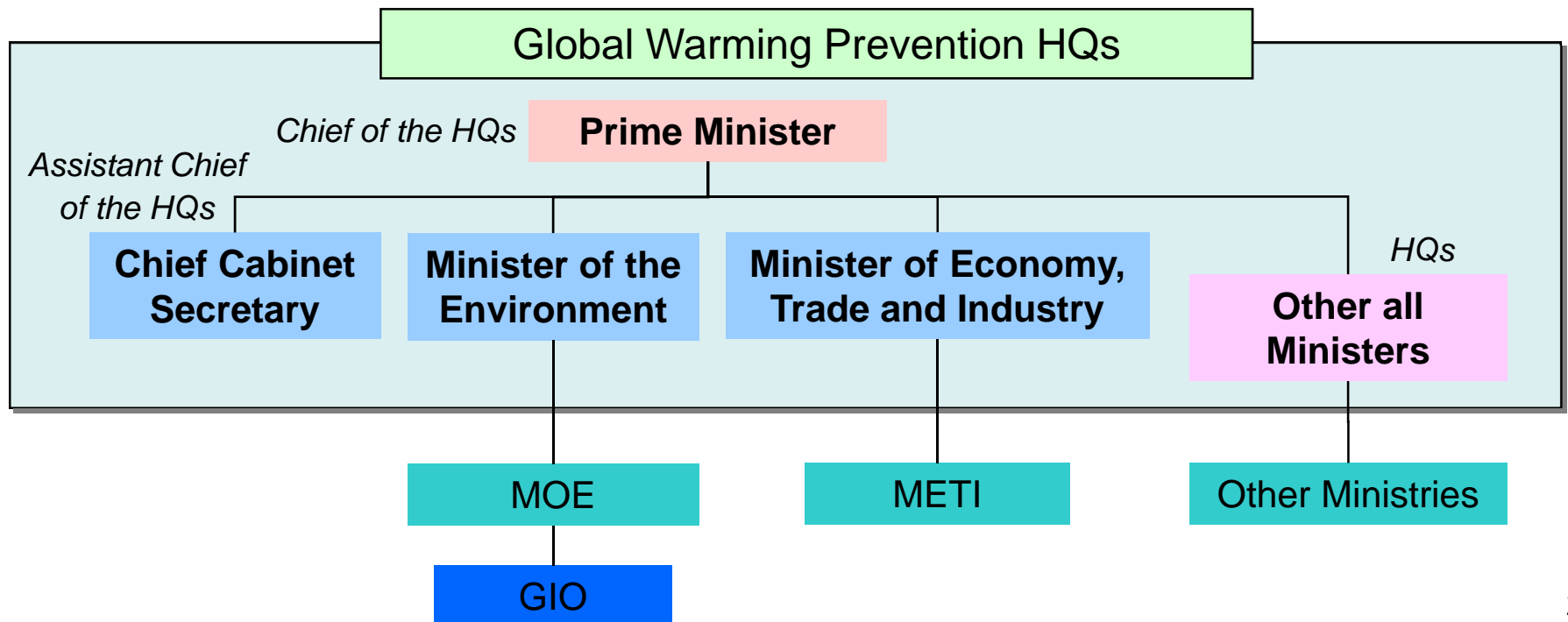
- Maintenance of institutional memory (if not entirely systematic)
  - Efforts have been made to ensure continuity of personnel engaged.
  - Important documents and materials have been continuously used and improved.
- Committee for the GHG Emissions Estimation Methods
  - Approximately 60 experts are engaged to cover all the sources/sinks and gases.

# Strength (2)

- **Active engagement of ministries/agencies**
  - Awareness of importance of GHG inventory has been enhanced through various events.
  - Recognition has been raised about the relevance of data in GHG inventory to their policy fields.
    - Ministries/agencies are in general keen to make sure that any official announcement from government is consistent with their own policies.
    - National GHG inventory is officially reported to the world. Ministries/agencies are prompted to cooperate to ensure their own data are reflected in GHG inventories.

# Strength (3)

- **Active engagement of ministries/agencies**
  - Legislation and top-down initiatives have promoted cooperation among ministries/agencies.
    - Global Warming Prevention HQs in the Cabinet
    - Law Concerning the Promotion of Measures to Cope with Global Warming



# Strength (4)

- **Mutually beneficial relationship between ministries/agencies**
  - Activity data are supplied by ministries/agencies.
  - GHG inventory data are fed back to, and utilized by, ministries/agencies for their policy-making.  
For example:
    - Estimates of CO<sub>2</sub> emissions from fuel combustion (Category 1A of GHG inventory) are processed into CO<sub>2</sub> emissions by each economic sector which include:
      - Direct CO<sub>2</sub> emissions, as well as
      - “Indirect CO<sub>2</sub> emissions” that are attributable to electricity and heat consumption
- These data help formulate energy-related policies for demand side management (DSM).

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# Weakness – For future improvements (1)

- Efforts need to be made to ensure timely completion/submission of GHG inventory.
  - It takes time for some statistics to be finalized.
    - energy consumption
    - amount of waste
    - etc.
  - Coordination of various ministries/agencies takes long time.
- MOE/GIO will ask ministries/agencies to expedite the preparation of relevant statistics to meet the deadline of inventory submission.



## Weakness – For future improvements (2)

- QA/QC procedure needs to be improved.
  - The setup of QC such as inputted data check, review of methodologies and data archiving is not fully systematic.
  - QA by a third party has not been in operation.
- MOE is examining the new QA/QC procedure by comparing it with other Annex I countries' QA/QC systems.

## Weakness – For future improvements (3)

- Maintenance of institutional memory needs to be further promoted.
  - Know-how of inventory preparation tends to be developed and maintained by certain individuals and not efficiently or systematically shared in the institutions.
  - Personnel changes in ministries/agencies tend to hamper accumulation of know-how.
- GIO will prepare a detailed and comprehensive manual on inventory preparation describing all procedures from data collection to submission to the UNFCCC.



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## Last of all

- Where there's a will, there's a way.
  - Environmental Agency had the first-time meeting with the global environment issues in 1980.
- A journey of a thousand miles begins with a single step.
  - Environmental Agency set up the office of global environmental protection in 1989.
- Step after step goes far.
  - Environmental Agency upgraded to Ministry of the Environment in 2001 and GIO was established in 2002.



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