

Session II:
GHG inventory & mitigation measures
- Introduction-

Junko Akagi
GIO/CGER/NIES

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GHG inventory

The UNFCCC's ultimate objective is "stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

Knowing current status of GHG emissions/removals is important

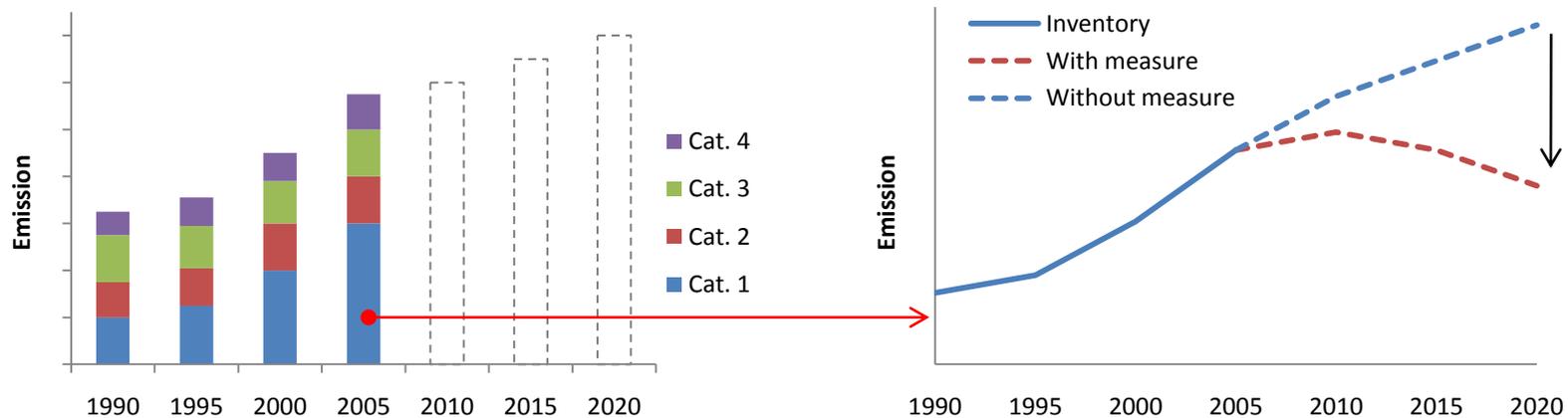
GHG inventory

- ✓ A GHG inventory shows GHG emissions/removals from each source/sink category within a certain time frame
- ✓ National GHG inventory is prepared in line with guidelines adopted by COP

Inventory as a basis for mitigation actions development

- Inventory shows a current status of emissions/removals of a country
- Inventory is a basis for mitigation actions

→ *Importance of inventory improvement* has been stressed for better judgment.*

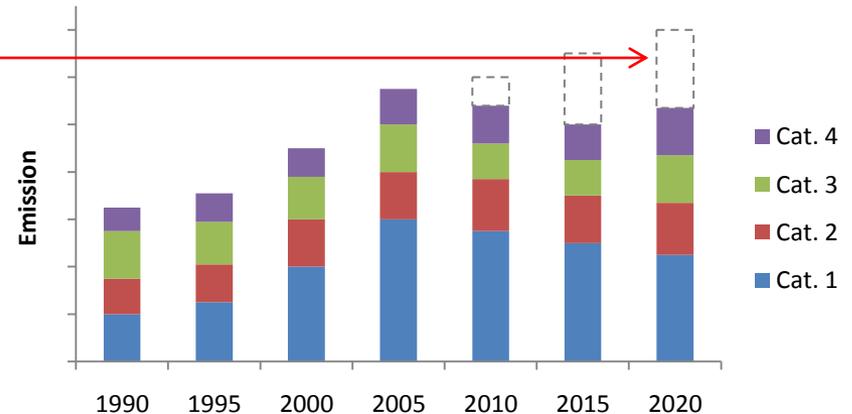
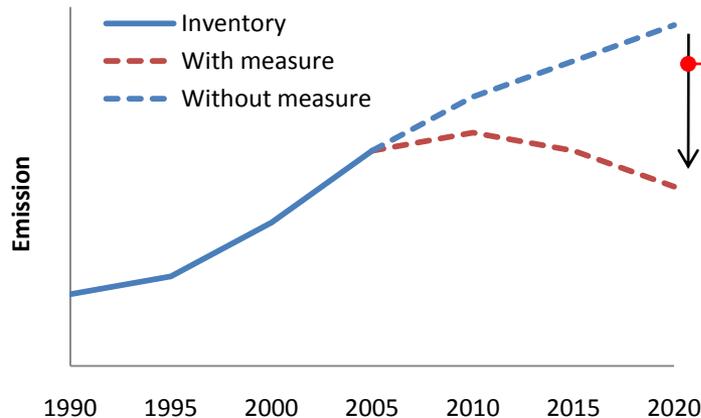


Finding out of a key category (level & trend) (prioritizing target category) → Development of mitigation measures with inventory

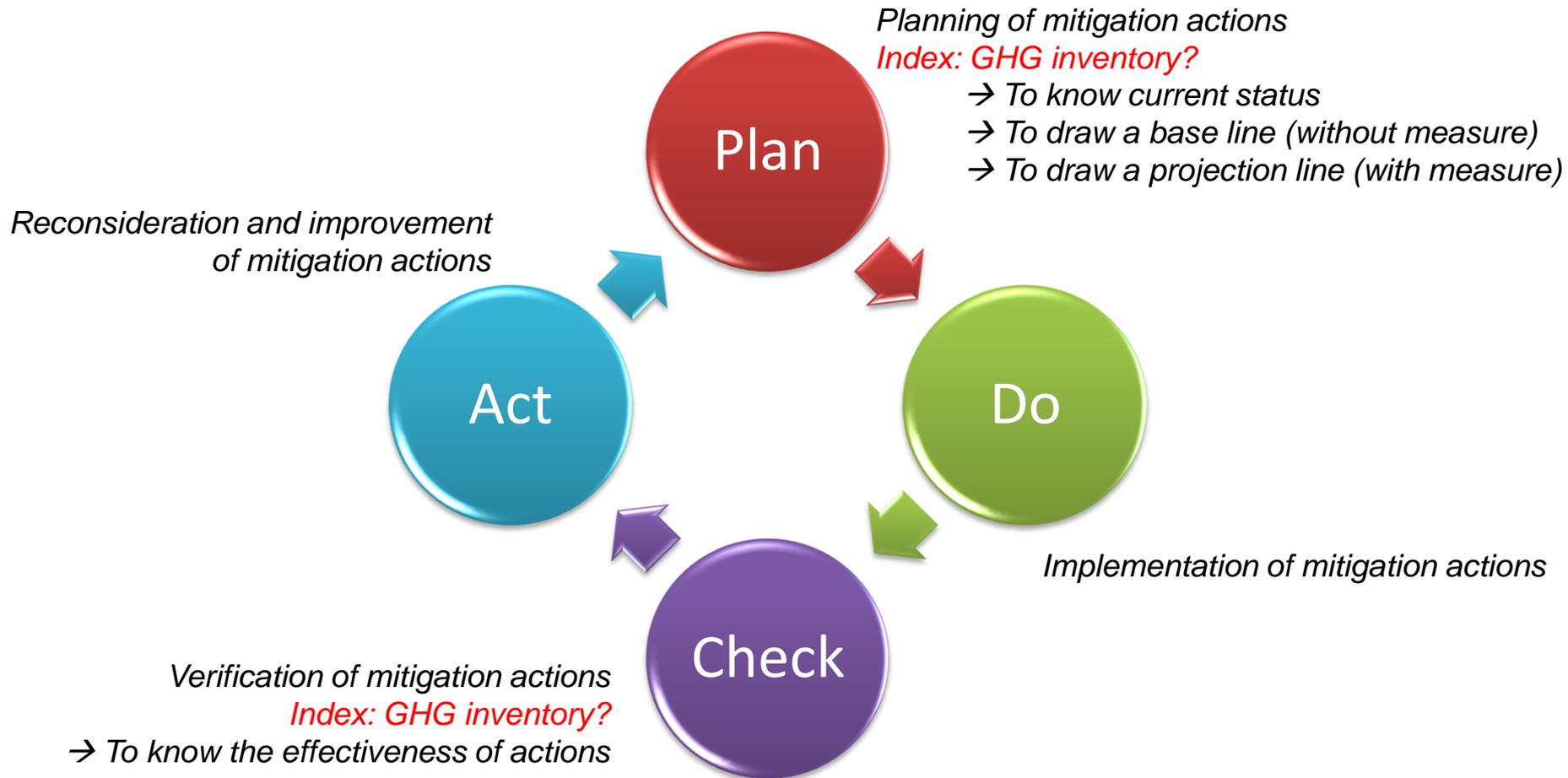
* Inventory improvement in a sense of transparency, accuracy, consistency, completeness, comparability

Inventory as an index of mitigation actions impact

- Inventory should reflect the impact of mitigation actions done in the past
 - *Is it really so? Can we evaluate it with a national inventory? Any examples?*
 - *In order to reflect the impact in a timely manner, what kind of points one should keep in mind when developing inventory? Can we include CDM?*
 - *If we can not evaluate the impact with a national inventory, what are the barriers? Any other alternative indices?*



Mitigation actions in a sustainable manner



Inventory is a basis for mitigation actions and could help enhance these actions in a sustainable manner.

→ Justification of further inventory improvement

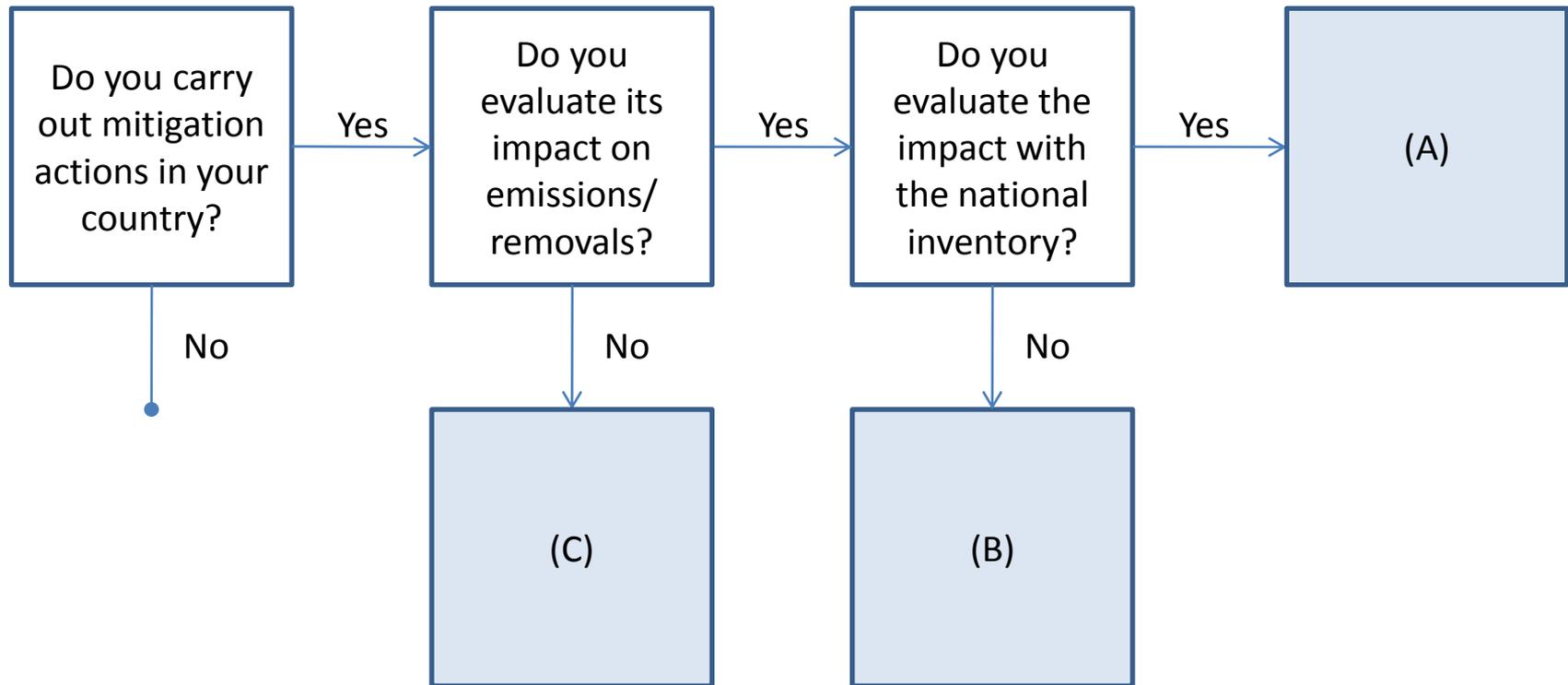
Reporting by AI and NAI Parties

	Annex I Parties to the Convention	Non-Annex I Parties to the Convention
National com.	<ul style="list-style-type: none"> I. Executive summary II. National circumstances relevant to GHG emissions and removals III. GHG inventory information IV. Policies and measures V. Projections and the total effect of policies and measures VI. Vulnerability assessment, climate change impacts and adaptation measures VII. Financial resources and transfer of technology VIII. Recourses and systematic observation IX. Education, training and public awareness (FCCC/CP/1999/7) 	<ul style="list-style-type: none"> I. National circumstances II. National GHG inventory III. General description of steps taken or envisaged to implement the convention <ul style="list-style-type: none"> III-1. <i>Measures to facilitate adequate adaptation to climate change</i> III-2. <i>Measures to mitigate climate change</i> IV. Other information considered relevant to the achievement of the objective of the convention V. Constraints and gaps, and related financial, technical and capacity needs (FCCC/CP/2002/7/Add.2)
Annual inventory	<ul style="list-style-type: none"> ✓ National Inventory Report (NIR) ✓ Common Reporting Format (CRF) ✓ Supplementary information under KP7.1 	<ul style="list-style-type: none"> ✓ None
Biennial report	<ul style="list-style-type: none"> ✓ <i>Progress in achieving emission reductions, including information on mitigation actions to achieve their quantified economy-wide emission targets and emission reductions achieved, projected emissions ... (Cancun Agreement, 40 (a))</i> ✓ <i>Subject of review</i> 	<ul style="list-style-type: none"> ✓ <i>Updates of national GHG inventories, including a national inventory report and information on mitigation actions, ... (Cancun Agreement, 60 (c))</i> ✓ <i>Subject of ICA under the SBI aiming to increase transparency of mitigation actions and their effects (Cancun Agreement, 63)</i>

BR: Modalities & guidelines are still to be developed

How are the status of member countries?

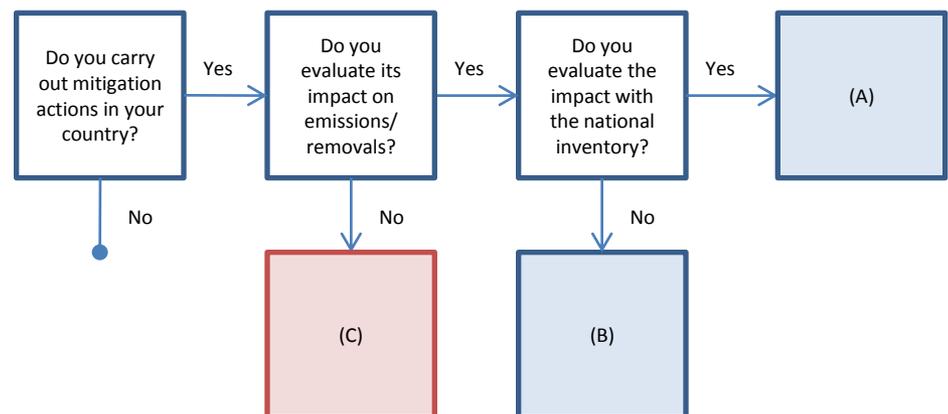
To find out the status of each country, this figure was circulated to member countries.



Status (C)

Mitigation measures are being or are carried out but their impacts on GHG emissions/removals are yet to be evaluated.

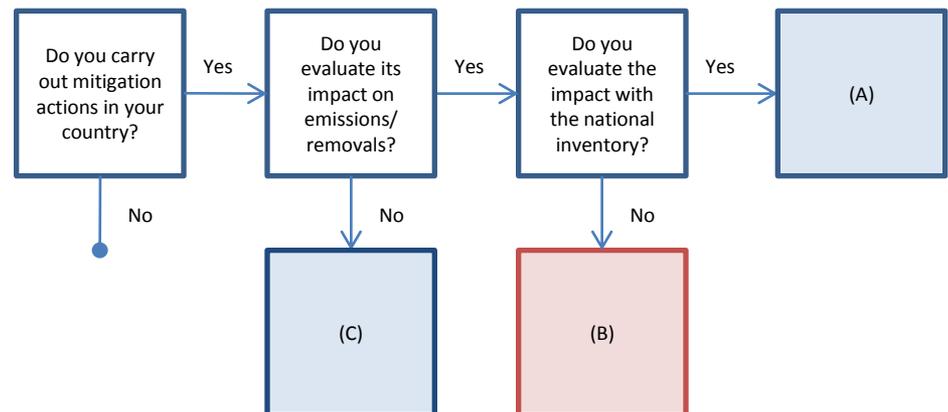
- *What kind of mitigation actions are being or are to be carried out?*
- *Were those measures developed based on the national inventory?*
- *Have you faced any problems that make it difficult to evaluate the mitigation impact?*



Status (B)

Mitigation measures are being or are carried out and their impacts on GHG emissions/removals are evaluated without national inventory.

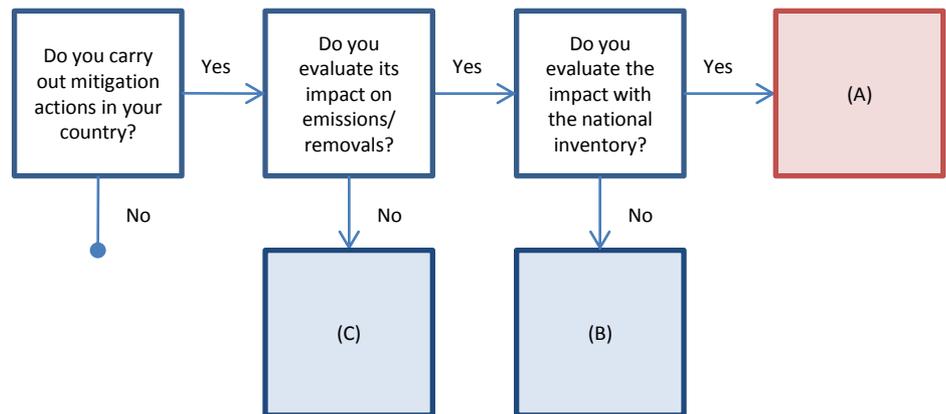
- *What kind of data and methods (incl. systems) your country uses for the evaluation?*
- *Why the impact cannot be reflected in your national GHG inventory? What kind of difficulties or barriers do you see?*



Status (A)

Mitigation measures are being or are carried out and their impacts on GHG emissions/removals are evaluated with national inventory.

➤ *How is your country's experience in evaluating the impact of mitigation measures with the national inventory?*



Points of discussions in Session II

Since this is the first session of WGIA to handle mitigation issues, we would like to focus and discuss the following issues:

- ✓ *How do we use our national inventory?*
- ✓ *Can we evaluate the impact of mitigation actions with a national inventory?*
 - ✓ *If yes, what kind of points one should keep in mind when developing inventory in order to reflect the impact of mitigation measures in a timely manner?*
 - ✓ *If not, what are the barriers? Any other indices besides national inventories?*
- ✓ *Can we incorporate the effects of CDM in a national inventory?*

...Then, how about Japan?

Japan's case

National GHG inventory: Macro level (government)



Mitigation actions: Micro level (e.g., local government, company, household)

How are these related each other?

There are various mitigation measures implemented in accordance with the *Kyoto Protocol Target Achievement Plan (all revised in 2008)*. Below are some examples:

1. Voluntary Action Plan on the Environment
2. Installation of N₂O decomposer in the production process of adipic acid
3. Implementation of measures for greenhouse gas sinks by promoting forest and forestry measures

1. Voluntary Action Plan on the Environment

Background	Established in June 1997 (prior to adoption of KP) Based on the philosophy “Positive involvement in environmental issues is essential to the survival of companies as well as their activities” One of Japan’s policy & measures (<i>KP Target Achievement Plan, 2005, All revised in 2008</i>)
Overall target	Japan Business Federation endeavors to reduce average CO ₂ emissions from the industrial and energy-conversion sectors between fiscal 2008 and 2012 to below the level of fiscal 1990
Approach	Participating industries and companies have set their own targets and strives to achieve those targets as their social commitment ✓ 61 industries and companies are involved (as of 2009) ✓ Reports are reviewed annually and, if necessary, additional measures are implemented

Target sector and estimated volume of emissions reductions in 2010 compared to 1990: ex.

- Industrial sector, -65 million tonnes CO₂ eq. (coverage: 49 businesses)

1. Voluntary Action Plan on the Environment

- Industrial sector, -65 million tonnes

This covers only a part of Industry sector of Japan

Note: The category name “Industry sector” is based on Japan’s Energy Balance Table.

Data of national inventory: Industry sector’s emissions [million tonnes CO₂]:
390 (KP-BY) → 322 (2009) -68 Mt-CO₂

- Progress of voluntary actions for 2009 are available on the internet; however, information on only some of the subject businesses are available.
 - Evaluation is implemented at micro level (at corporate level); however, evaluation at more aggregated level may not.
- Data for national inventory and for the voluntary action plan are not from the same source, energy balance table or data collected on site.
 - It is hard to see the impact of these actions in the national inventory.

→ The impact of efforts made by individual business may be not directly but indirectly reflected in a national inventory.

2, 3. Measures for Adipic acid & Forest

- Installation of N₂O decomposer in the production process of adipic acid, -10 million tonnes
Emissions [million tonnes CO₂ eq.]: 7.5 (KP-BY) → 1.1 (2009) (-6.4 Mt-CO₂)
→ Data are collected at very disaggregated level (i.e., company)
 - Implementation of measures for greenhouse gas sinks by promoting forest and forestry measures, 48 million tonnes
Removals [million tonnes CO₂]: 49 (2009) *Forest management only
→ Data are collected at very disaggregated level. (i.e., local government)
- In both cases, the impact of efforts made through these activities is directly reflected in a national inventory, since data collection is done at a disaggregated level.**

Summary for Japan's case

- ✓ The impact of one of the major mitigation measures in the KP Target Achievement Plan “Voluntary Action Plan on the Environment” is evaluated with a bottom-up approach; while emissions from Energy sector of national inventory is estimated with energy balance (top-down approach). Therefore, the efforts made by individual business can not be clearly reflected in the national inventory.
- ✓ In a meanwhile, the impact can be clearly seen when data used for developing mitigation measures are also used for national inventory (such as the cases of “installation of N₂O decomposer in the production process of adipic acid” and “Implementation of measures for greenhouse gas sinks by promoting forest and forestry measures”)
- ✓ In order to ensure close linkage between inventory and mitigation actions, selection of appropriate data seems to be important.

Thank you

Any questions?

GIO website: <http://www-gio.nies.go.jp/index.html>

WGIA website: <http://www-gio.nies.go.jp/wwd/wgia/wgiaindex-e.html>