Ministry of the Environment
Government of Japan

みんなで止めよう温暖化
チーム・マイナス6%

Japan's policies and efforts on GHG inventory, measurement and reporting

Sei Kato

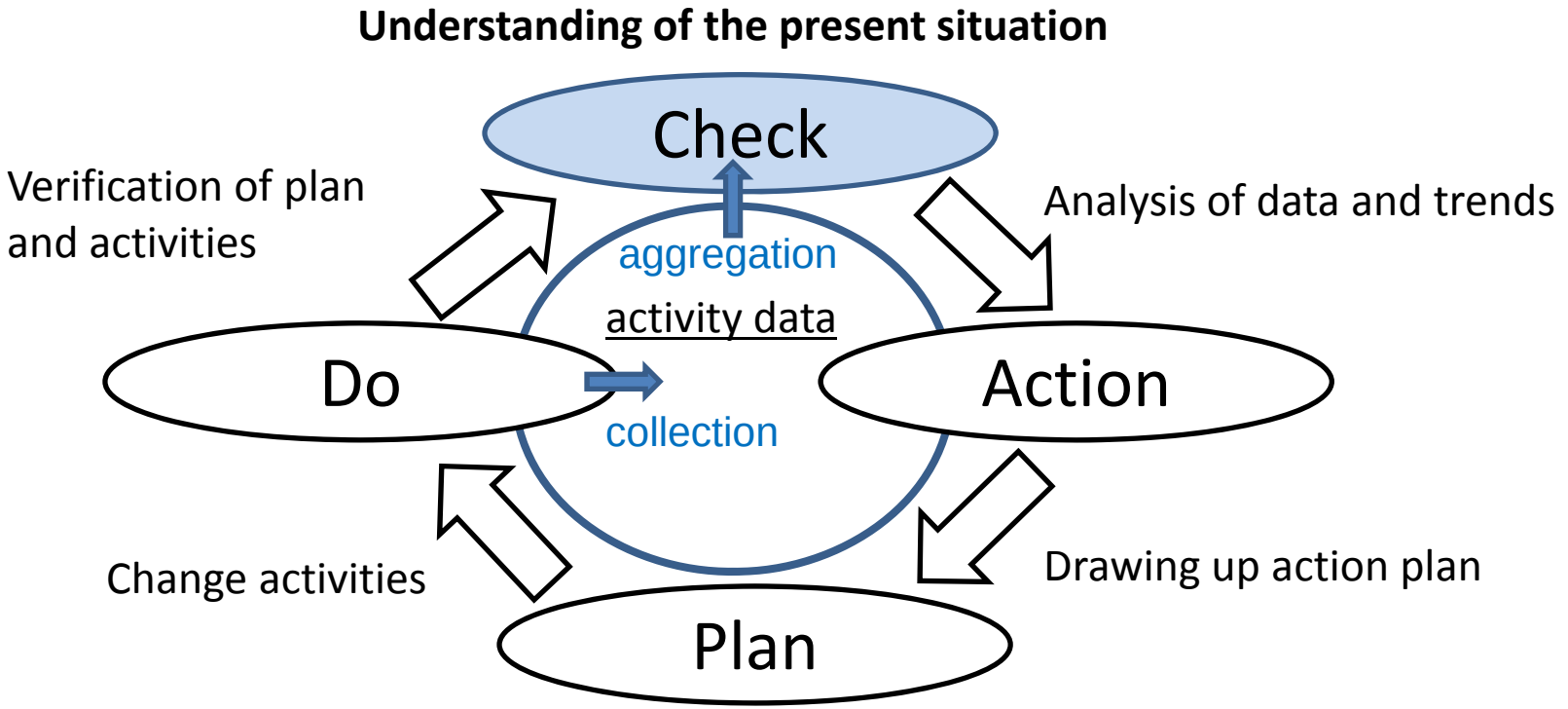
Ministry of the Environment, Japan

Stop Global Warming!
Team minus 6%

GHG Inventories and Data Collection

Both "macro" and "micro" levels of data collection are key

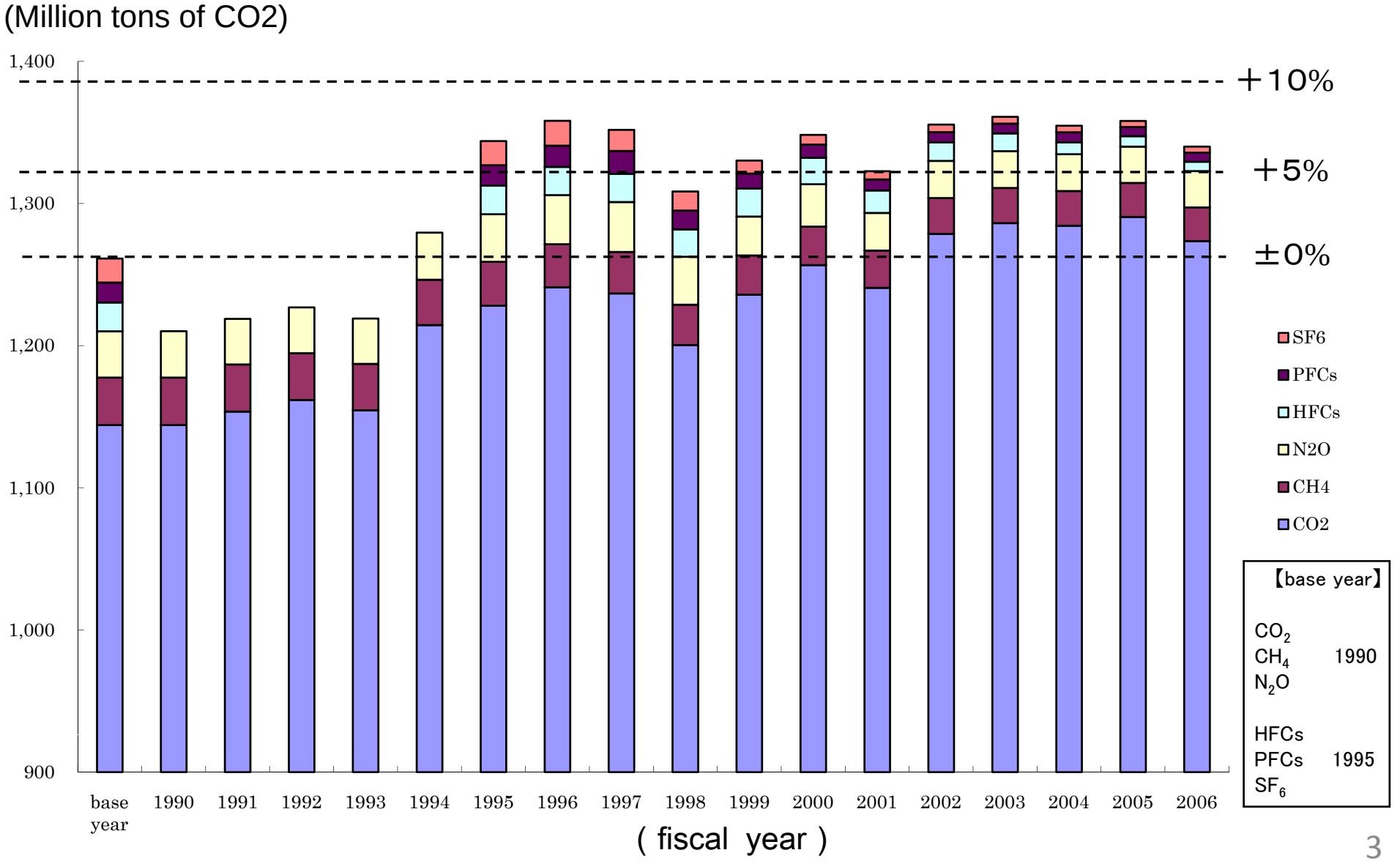
Why?



→Getting a clear grasp of the situation is the first step !!

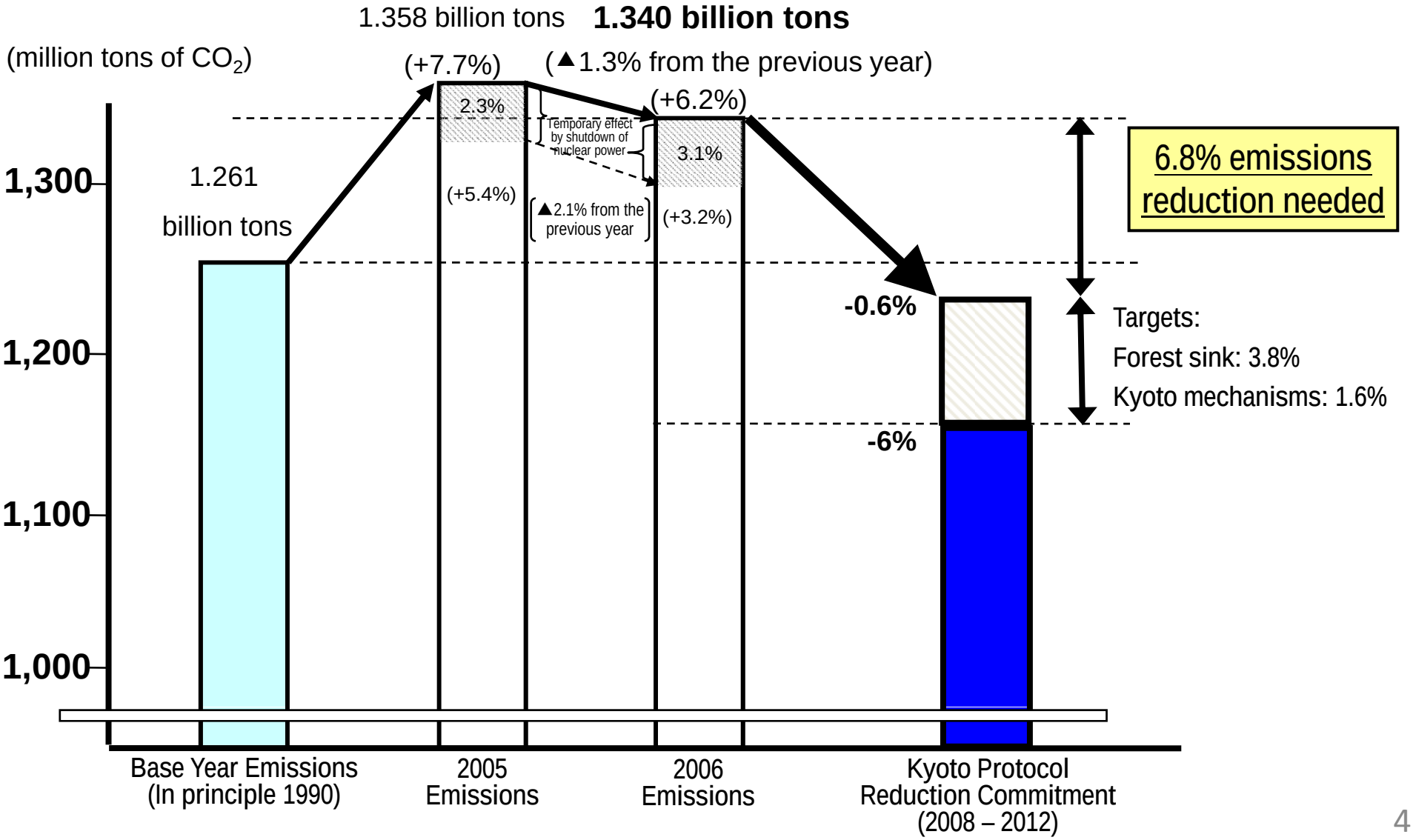
“Macro” levels of data collection in Japan (1)

GHG inventory trend data in Japan



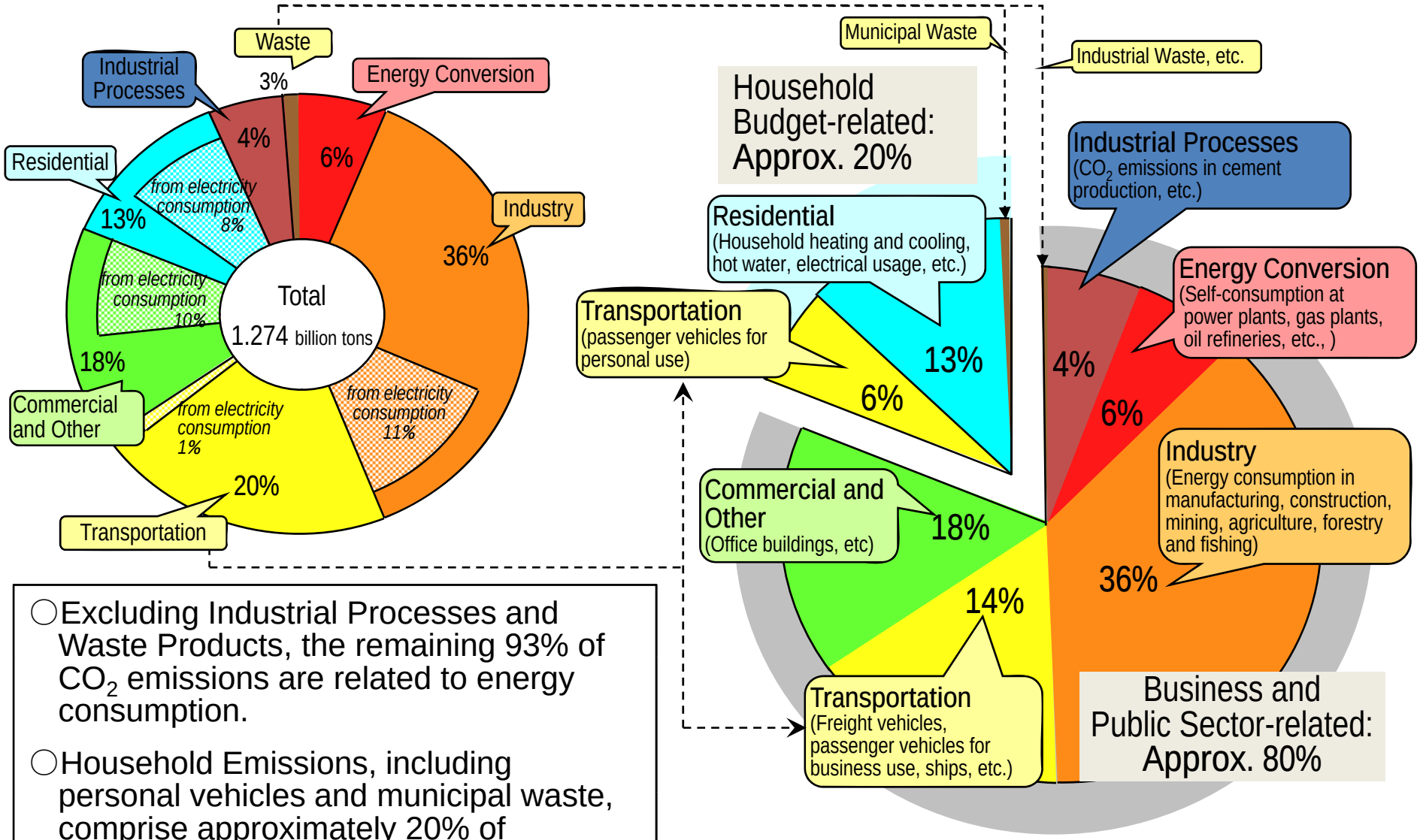
“Macro” levels of data collection in Japan (2)

Japanese emissions for 2006 were 6.2% above those of the base year, meaning reductions of 6.8% are needed to meet the 6% reduction commitment under the Kyoto Protocol.



“Macro” levels of data collection in Japan (3)

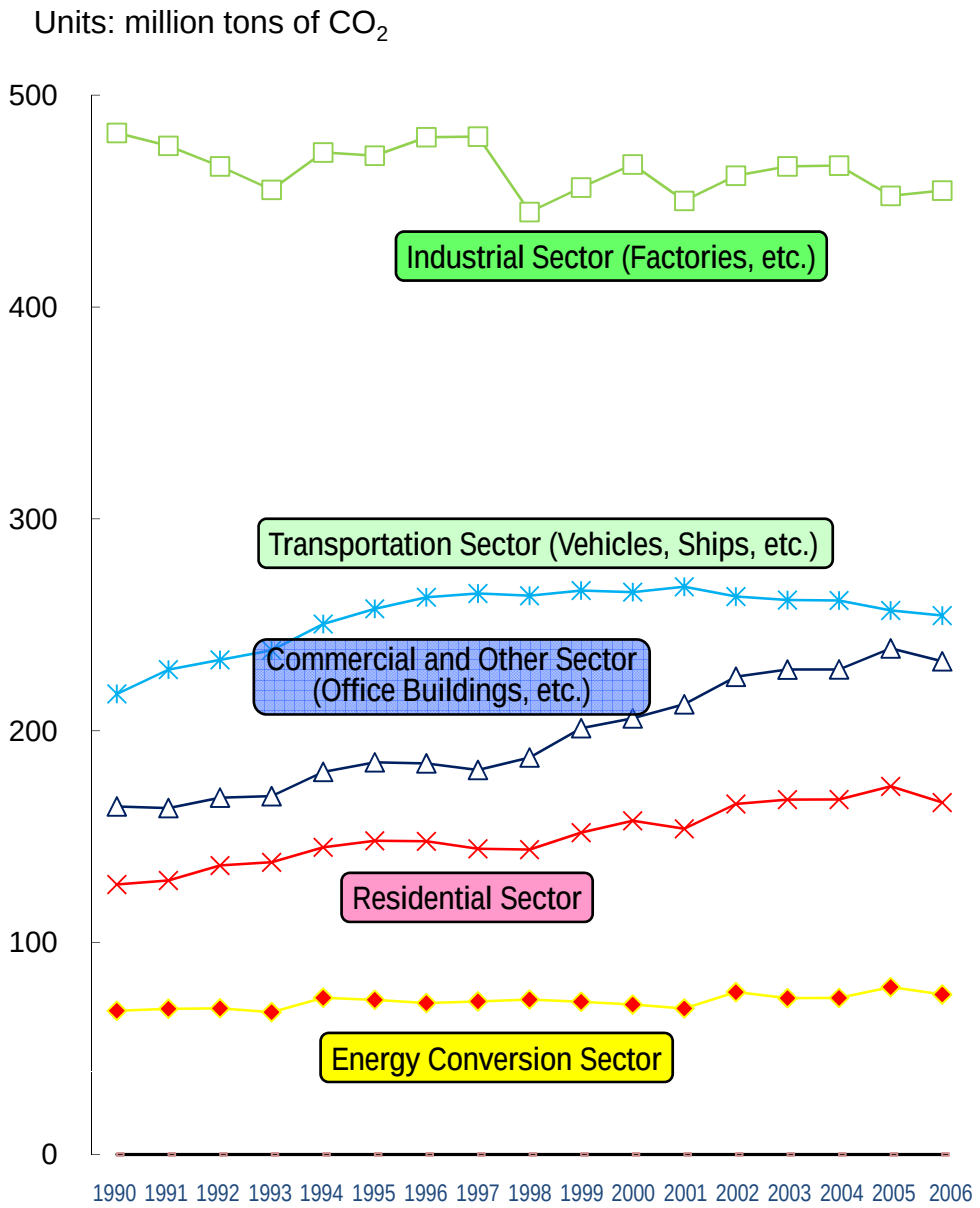
CO_2 Emissions by Sectors and Actors (2006)



- ○Excluding Industrial Processes and Waste Products, the remaining 93% of CO_2 emissions are related to energy consumption.
- ○Household Emissions, including personal vehicles and municipal waste, comprise approximately 20% of emissions. The remaining 80% is from Business and Public sector.

“Macro” levels of data collection in Japan (4)

Trends in CO_2 Emissions from Energy by Sectors and the Targets for 2010



1990	Change form 1990	2006	Reduction Rate to meet Target	Targets(*) for 2010
482	−4.6%	460	−6.7%～−7.6%	424～428
217	+16.7%	254	−4.8%～−6.4%	240～243
164	+39.5%	229	−11.6%～13.0%	208～210
127	+30.0%	166	−19.1%～21.5%	138～141
68	+13.9%	77	−16.2%	66

(*) As a target guide for emissions, a maximum predicted effect and a minimum predicted effect for reduction measures have been established. Naturally, the goal is to try and achieve the maximum effect; however, even if only the minimum effect is achieved, it has been formulated so that it will at least meet Japan’s targets under the Kyoto Protocol.

“Micro” levels of data collection in Japan (1)

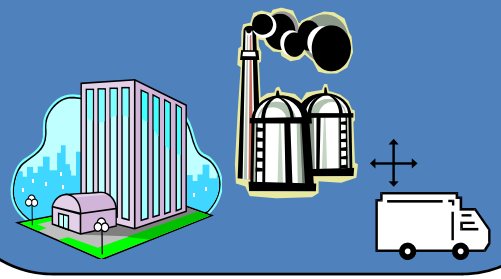
Mandatory Greenhouse Gas Accounting and Reporting System (1)

➢Introduced through the amendment of the Law on Global Warming Countermeasure(April, 2006), this system mandates entities which emit certain amount of GHGs to account and report their emissions every year to the government, which publishes the data to the public.

➢Encourage businesses to voluntarily reduce GHGs by promoting awareness of their carbon footprint.

Accounting

・Factories, buildings, etc. with more than 3,000 t-CO_2 emissions.
・Industries, commercial sector (including public sector), transportation sector
・Facility base (company base for transportation sector)
・Account by six gases



Reporting → **Government** → **Publicize** → **citizens, companies**

Business confidentiality is protected as needed by masking individual GHG gas emission data

Data of Energy-related CO_2 emission is reported through Law on Rational Use of Energy

Sorted by companies/industry sector/prefecture

Facility (Factories, buildings, etc.) base information will be disclosed upon request

“Micro” levels of data collection in Japan (2)

Mandatory Greenhouse Gas Accounting and Reporting System (2)

- The first government report was released on March 28, 2008 for the emission data of FY2006.
- 14,000 factories and office buildings, etc (7,500 companies) and 1,400 companies of transportation sector reported emission data to the government this year.(There are about 6,000,000 business establishment in Japan. 14,000÷6,000,000≒0.2%)
- Total amount of reported GHG emissions was 640 million t-CO2, equivalent to half of the country’s emissions.
- Top three emitters of power companies:
  (1)Tokyo Electric Power Co.; 69 Mt-CO_2,
  (2)Chubu Electric Power Co.; 47 Mt-CO_2,
  (3)J-Power; 44 Mt-CO_2.
- Top three emitters of factories:
  (1)JFE Steel Co.; 60 Mt-CO_2,
  (2)Japan Steel Co.; 59 Mt-CO_2,
  (3)Sumitomo Metal Industries; 22 Mt-CO_2.

“Micro” levels of data collection in Japan (3)

Aims of Japan Voluntary Emissions Trading Scheme (JVETS)

- JVETS started in 2005
- Over 200 participants (incl. steal, paper&pulp, ceramics, glass, car, chemical industries).
- The aims of JVETS are:
  - To accumulate knowledge and experience in domestic emissions trading scheme.
  - To learn how to manage the scheme efficiently ensuring the quality/accuracy of emission data.

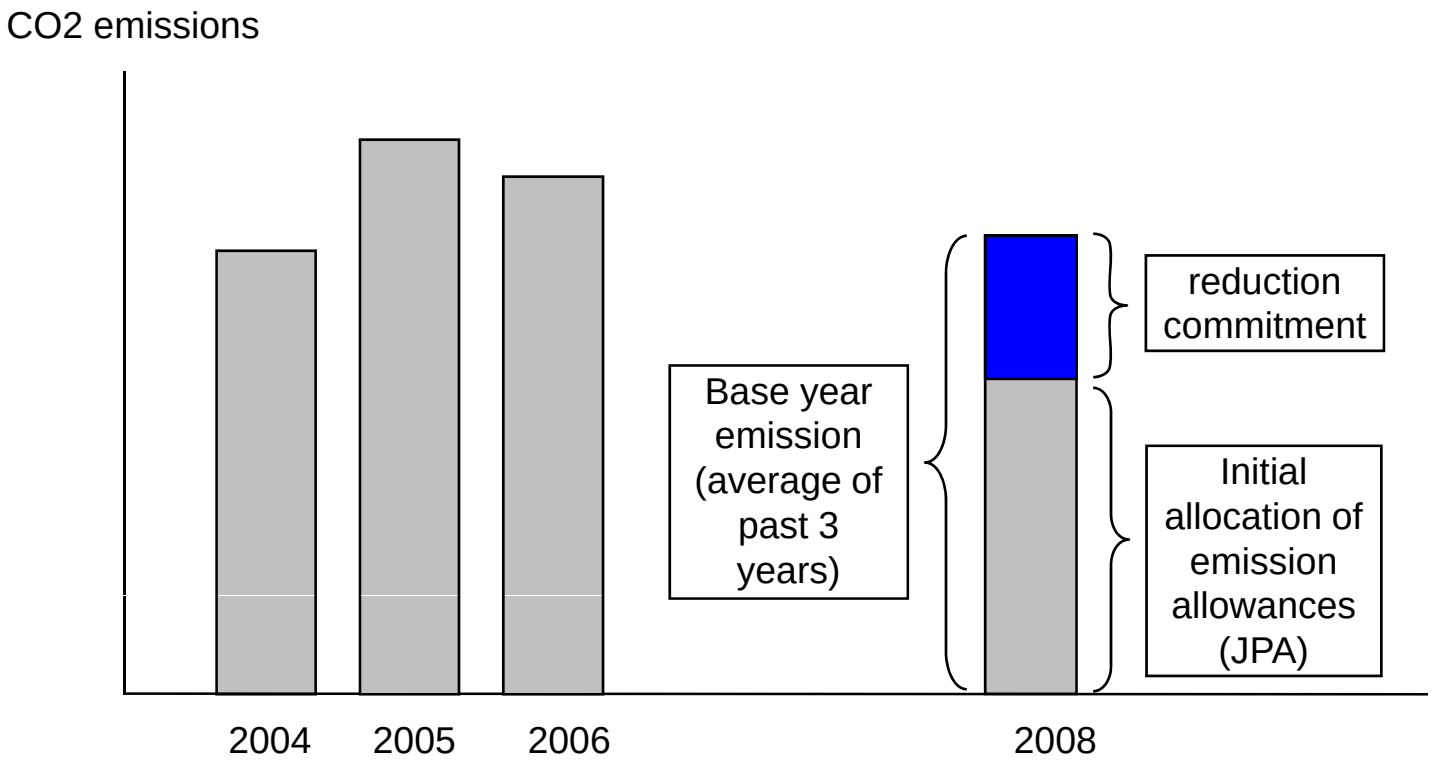
“Micro” levels of data collection in Japan (4)

JVETS Rules and Guidelines

- “Operational rules”
- “Monitoring method/plan form”
- “Emission reporting format”
- “JVETS Monitoring and Reporting Guideline” (JVETS MRG)
  - Published on Feb. 2007, recently revised to Version 2.0
  - Defines specific accounting and reporting methodologies (monitoring patterns, monitoring points, Tier approach, etc.)
- “JVETS Verification Guideline”
  - Published on Mar. 31, 2007, to be revised on May, 2008 (version 2.0)
  - Defines specific verification methodologies (verification opinions, materiality, uncertainty, sampling methods, etc.)
- Rules/guidelines are revised as necessary (learning by doing)

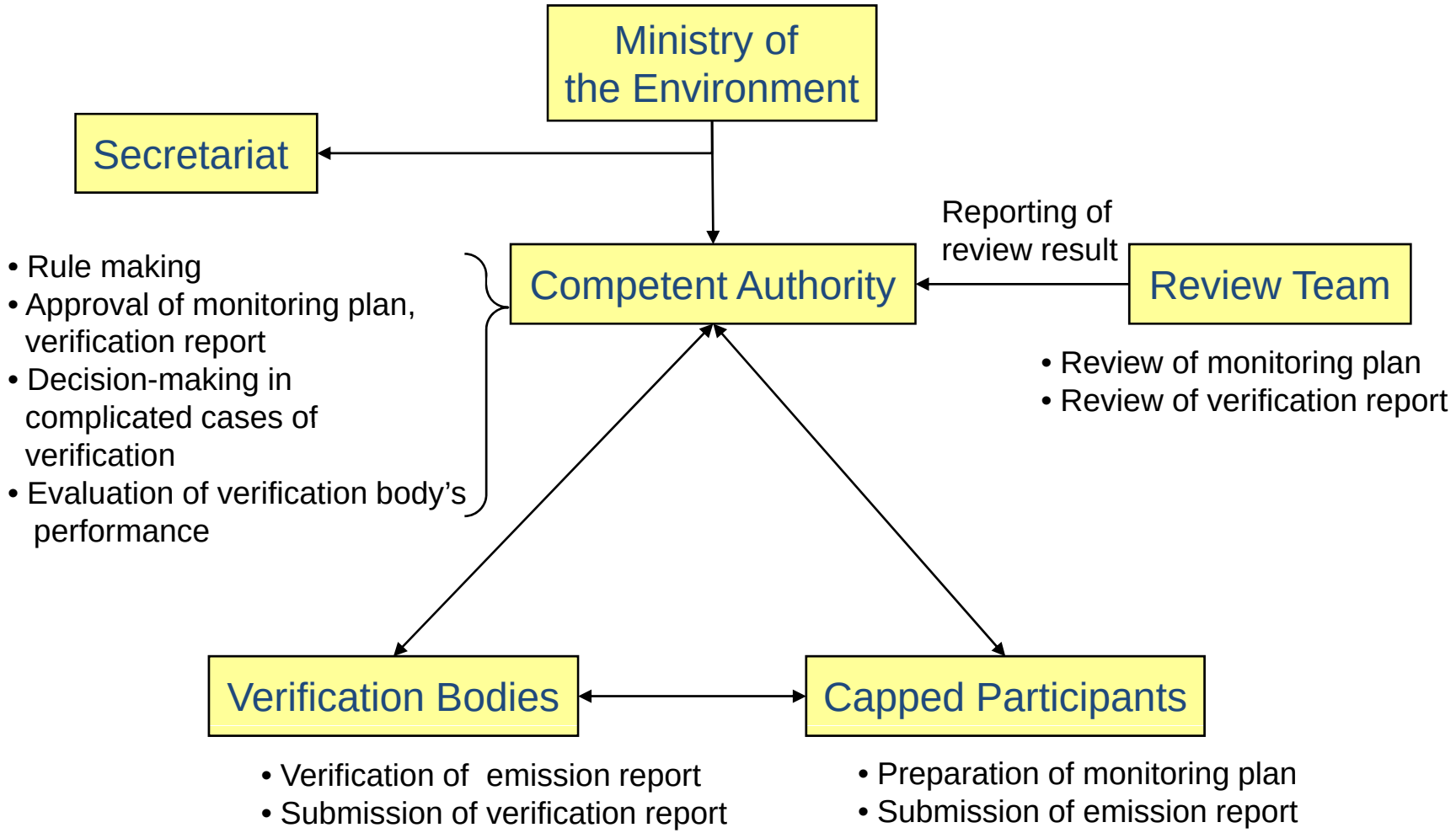
“Micro” levels of data collection in Japan (5)

Emissions Target setting



“Micro” levels of data collection in Japan (6)

JVETS Operational Structure



- 31 factories and office buildings participated in primary period (FY2006) and made the pledge 21% reduction from the base year (Average CO2 emission from FY2002 to FY2004).
- Actual performance of CO2 reduction was 29%(exceed estimates of the participants).

Japan's policies and efforts

"macro" levels

- GHG inventory（Understanding of the present situation)
- Kyoto Protocol Target Achievement Plan (tomorrow's topic at session 3)

"micro" levels

- Mandatory Greenhouse Gas Accounting and Reporting System
- Japan Voluntary Emissions Trading Scheme (JVETS)

→Japan would like to share national experiences and best practices in this area with all countries.

→Japan consider supporting capacity building in developing countries for the collection and provision of data through WGIA and so on.

Further information about JVETS

Emission Reporting Flow (1/3)

Step 1: Identification of geographic boundary

■Identify the geographic boundary of the site, where emissions occur, by producing official documents such as Factory Location Law report to local municipality, Fire Defense Law report to fire station,, etc.

Step 2: Identification of emission sources

■Identify emission sources using documents such as Fire Defense Law report, High Pressure Gas Safety Law, equipment list, purchase bill, etc.

■Identify emission sources owned/operated by other companies and omit them from the boundary.

■Among the emission sources inside the boundary, those which are below the emission threshold (smaller instllations) may be omitted.

Emission Reporting Flow (2/3)

Step 3 Determination of monitoring plan

■Determine the monitoring plan/monitoring point for each emission sources.

■Ensure the monitoring plan meets the required tier, which is defined by the predicted activity level at each monitoring point.

Step 4 Establishment of monitoring/calculation structure

■Assign responsible persons for monitoring and calculation.

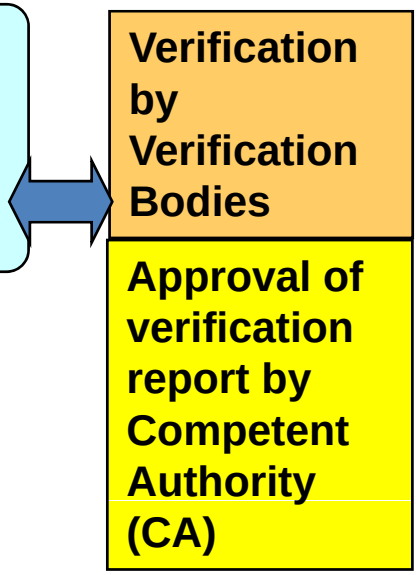
■Set out “how” and “who” monitors the data, and “how” and “who” manages the quality of the calculation results.

Approval of monitoring plan by Competent Authority (CA) (prior to the commitment year)

Emission Reporting Flow (3/3)

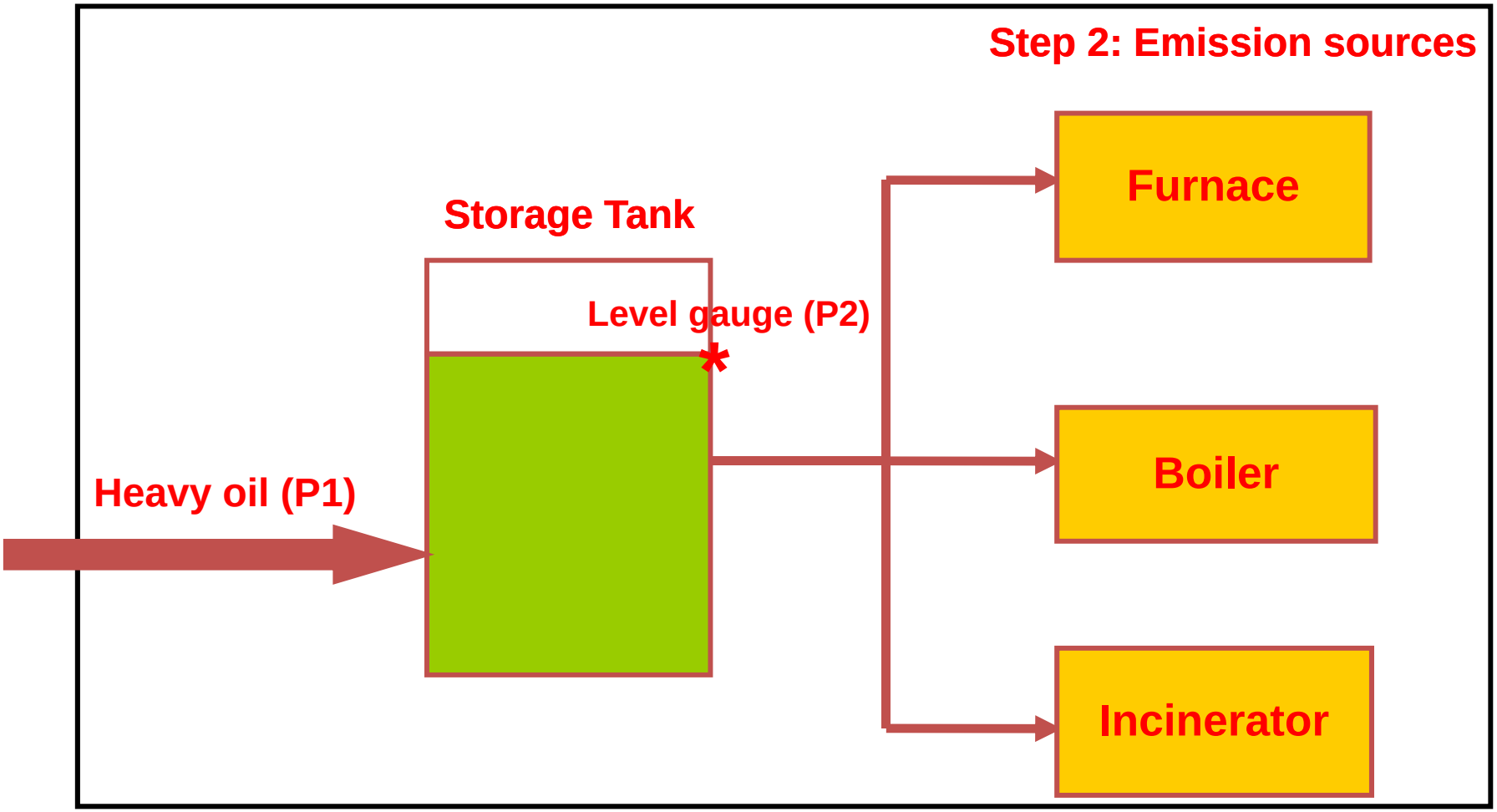
Step 5 Actual Monitoring and reporting

■Monitor the data according the monitoring plan, calculate and report the amount of CO2 emission based on the monitored data.



Emission Sources and Monitoring Data

Step 1: geographic boundary



Step 3: Monitoring Plan

P1: Purchased Oil (Purchasing data)

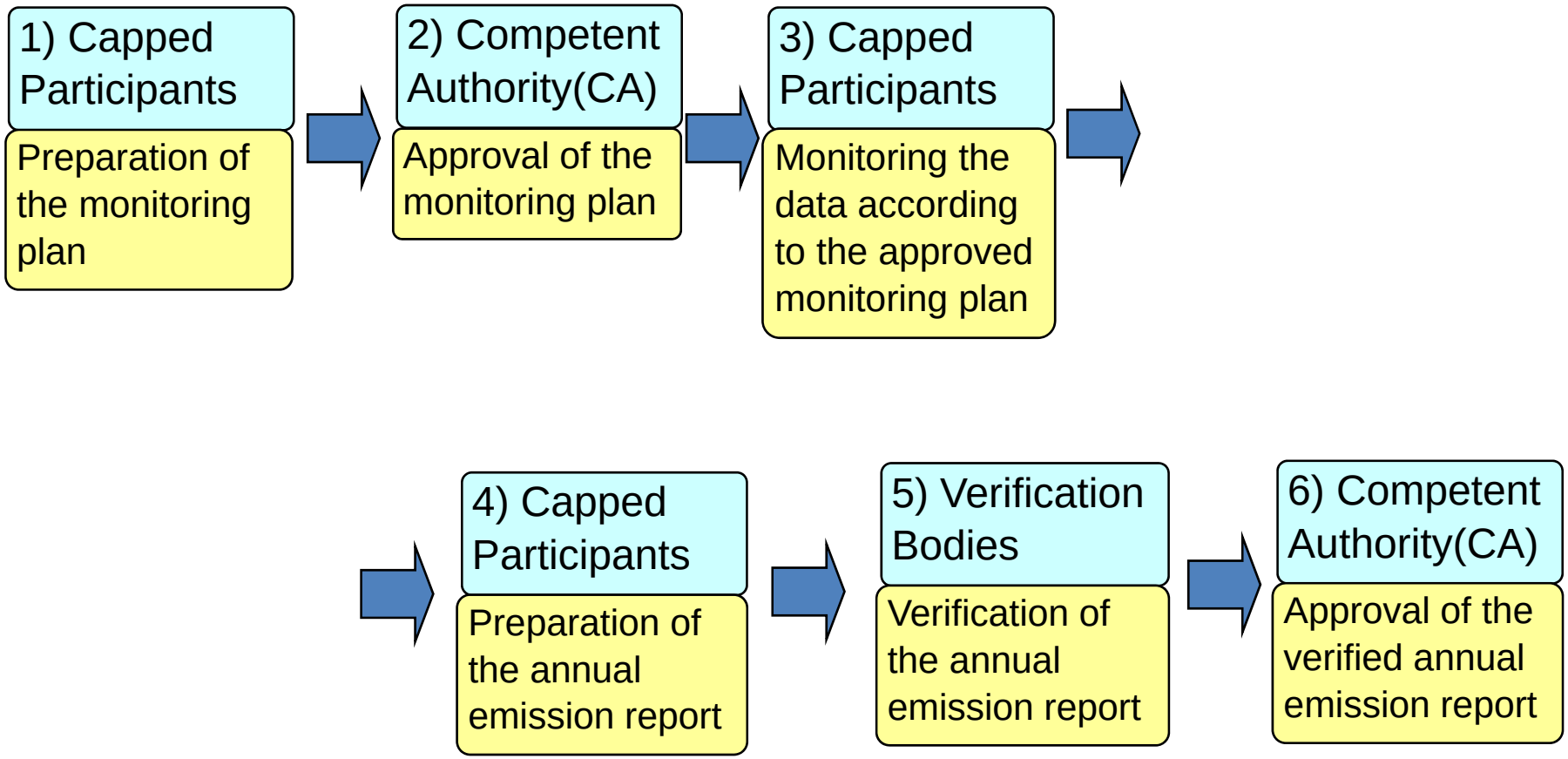
P2: Changes in storage(from the start of the year to the end of the year)

JVETS is site-based: Why?

Existing law scheme can be fully utilized to minimize the burden of data collection:

- Law for Geographical Conditions of a Factory Location
  - The geographic boundary of any factory must be submitted to local municipality based on the law.
- Fire Defense Law
  - The location of the combustible installations (which are normally CO2 emission sources) must be submitted to fire station based on the law.
- Measurement Law
  - Amount of commercial energy inflow/outflow the site (which is boundary under JVETS) must be measured precisely by meters authorized by the law.

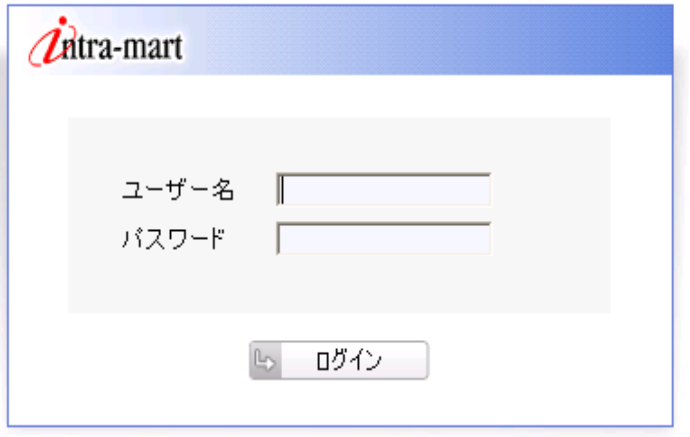
Emission Reporting Flow via the JVETS Electronic Data System



JVETS emission management system (JVETS electronic data system)

環境省自主参加型国内排出量取引制度

排出量管理システム



JVETS Emission Management System

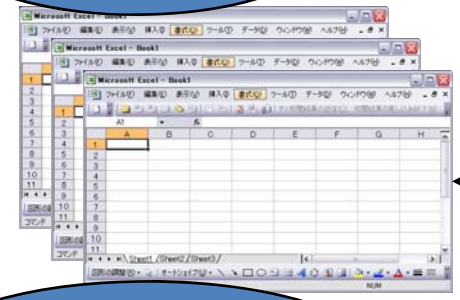
Capped Participants
PREPARATION

Server

Ministry of the Environment
Competent Authority
APPROVAL

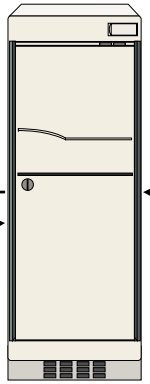
Verification Bodies
VERIFICATION

1.Download files

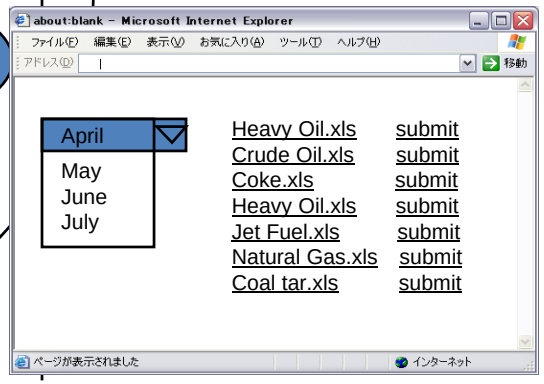


2.Input data in the files

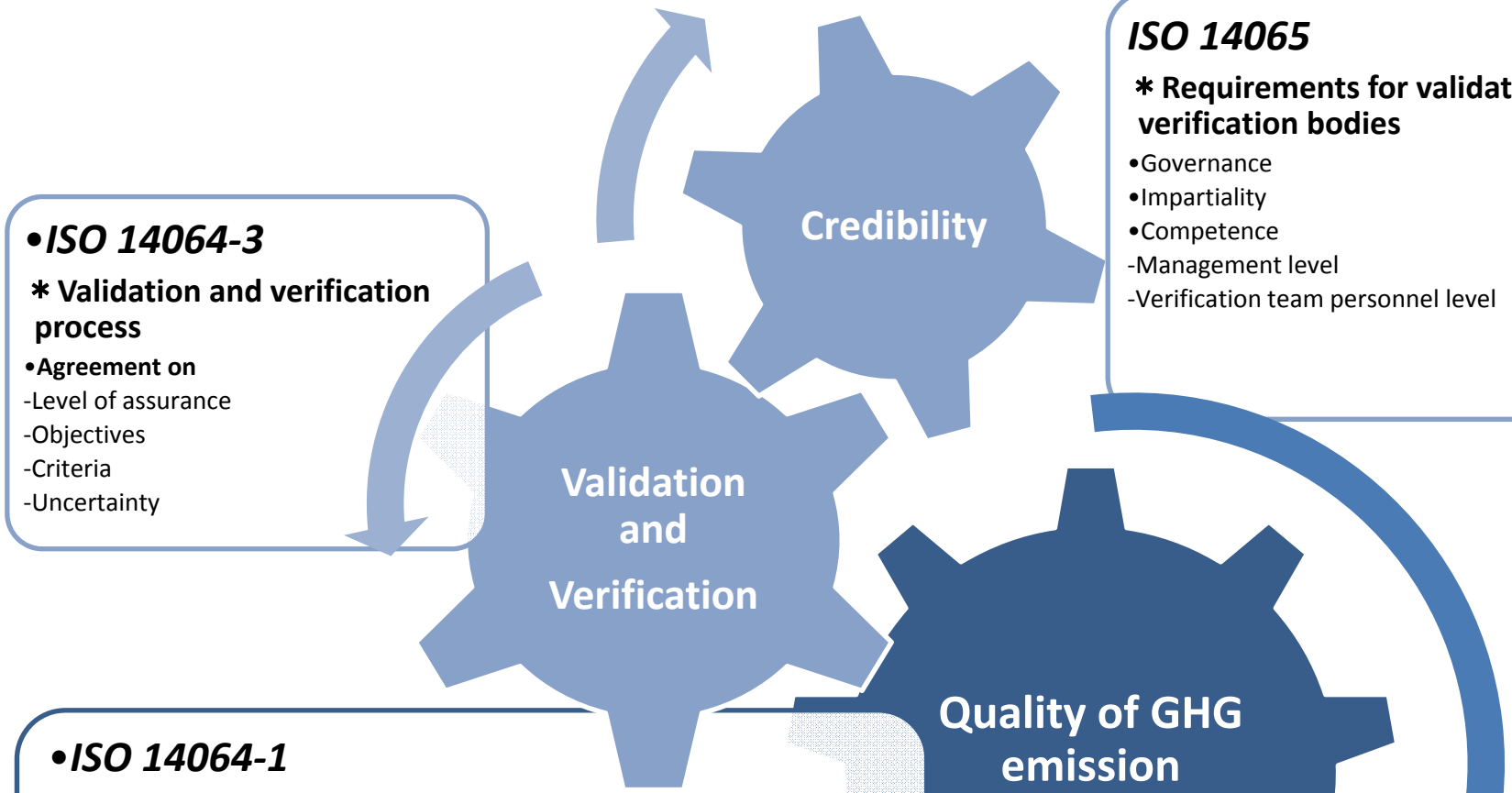
3.Submit the file each month



4.Verification of data in the files



Outline of ISO14064 & 14065



ISO 14065

∗ Requirements for validation or verification bodies

- Governance
- Impartiality
- Competence

-Management level
-Verification team personnel level

- ***ISO 14064-3***

∗ Validation and verification process

- **Agreement on**

-Level of assurance
-Objectives
-Criteria
-Uncertainty

- ***ISO 14064-1***

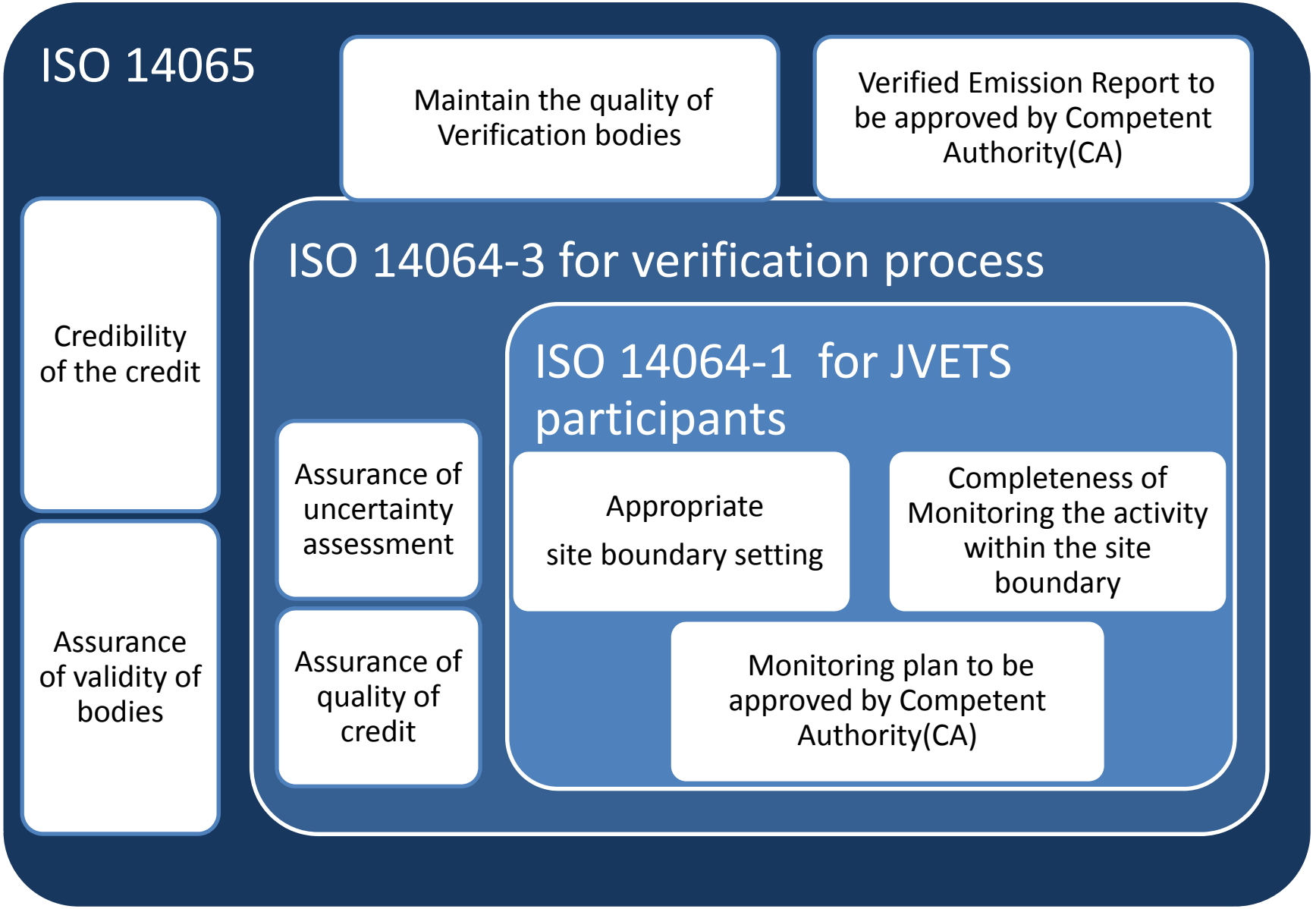
∗ Organizational GHG Inventories documentation, Monitoring and Reporting

- ***ISO 14064-2***

∗ GHG Project documentation, Baseline setting, Monitoring and Reporting

- Relevance
- Completeness
- Consistency
- Accuracy
- Transparency

Application of ISO into JVETS



Comparisons between ISO and JVETS

ISO standards	JVETS	
	Relevant guidelines	Comments
14064-1	Monitoring and Reporting Guideline	Determined specific accounting and reporting methodologies (monitoring patterns, monitoring points, Tier systems, etc.)
14064-2	-	To be prepared?
14064-3	Verification Guideline	Determined specific verification methodologies (verification opinions, materiality, uncertainty, sampling methods, etc.)
14065	Accreditation criteria (draft)	◆Provide detailed explanations for impartiality and quality control system ◆Define how far to be documented or recorded ◆Provide competence of verifiers
14066	Competence criteria for verifiers (idea)	To be prepared?

Why JVETS takes ISOs into account?

ISOs can be one of the strong candidates for the international ETS linkage platform.

Topic	Reasons
Quality of allowance/credit	◆Individual ETSs are seeking for linking. -> Standardized quality of allowance/credit is necessary for any ETSs.
ISO market	ISO14064 and 14065 have been implemented. -> Conformity with ISO is beneficial for JVETS when considering linkage issue.

Future Challenges

- To establish highly qualified JVETS in conformity with global standards and to enable its operational costs to the bare minimum.
  - improve the emission management system to a more simple and easy-to-use one.

1. Implement “Pilot Programme” to be accredited as ISO14065 Verification bodies for two organizations in FY 2008.

2. Develop a simple and efficient verification system maintaining its quality level. (achieve good quality and low cost)

For much further information:

- “JVETS Monitoring and Reporting Guideline” (English version) can be downloaded at

http://www.env.go.jp/earth/ondanka/det/emission_gl/monitoringrep-en.pdf

Contact: YASUSHI_NINOMIYA@env.go.jp
Deputy Director
Office of Market Mechanisms
Ministry of the Environment, Japan