

# MRV SYSTEM IN CLIMATE CHANGE

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From Kyoto to Paris

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# Outline

How will the systems and trend of MRV for GHG and actions in the NDC implementation be different from the present?

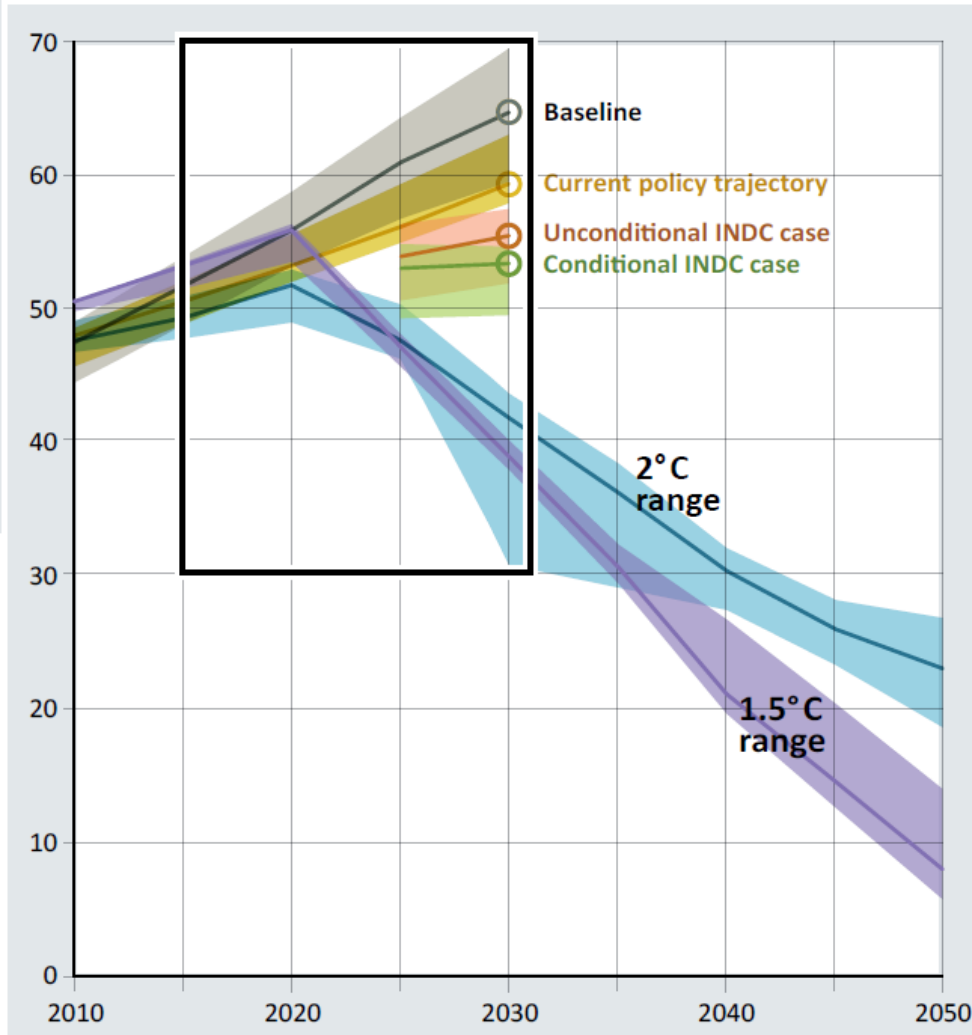
1. National-level MRV systems
  - NC, BUR, National GHG Inventory
  - New accounting and MRV approaches
2. Sub-national level MRV systems
  - City GHG Inventory
3. Entity-level and project-level MRV systems
  - Mandatory and voluntary GHG reporting programs
  - CDM
  - JCM
  - Article 6 negotiations

# **NATIONAL-LEVEL MRV**

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# **TOWARDS PARIS AGREEMENT**

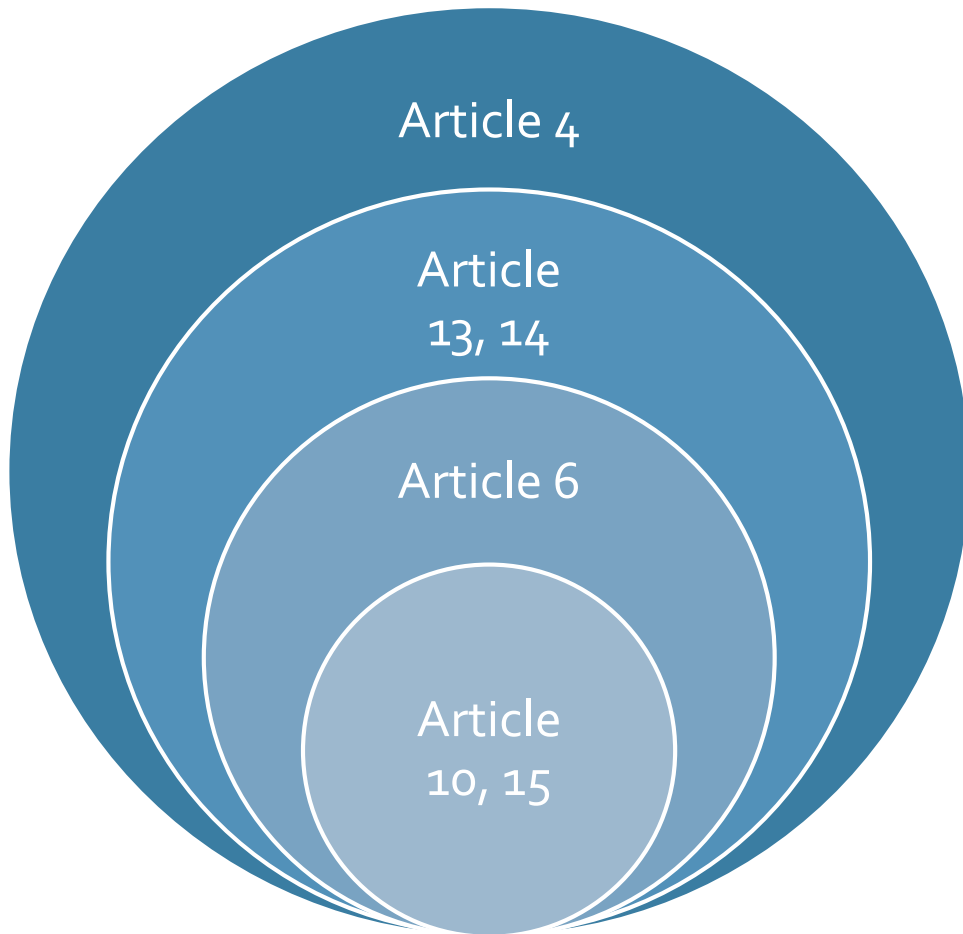
# Where are we?



Paris Agreement:  
Hold the increase in  
global average  
temperature  
to well below  $2^{\circ}\text{C}$   
and pursue  
efforts to  
limit to  $1.5^{\circ}\text{C}$   
above pre-industrial levels.

Robust MRV is needed  
to track how far/close  
we are from our target.

# Link between Paris Agreement articles on GHG MRV and transparency



Article 4: NDC

Article 14: global stocktake

Article 13: transparency framework

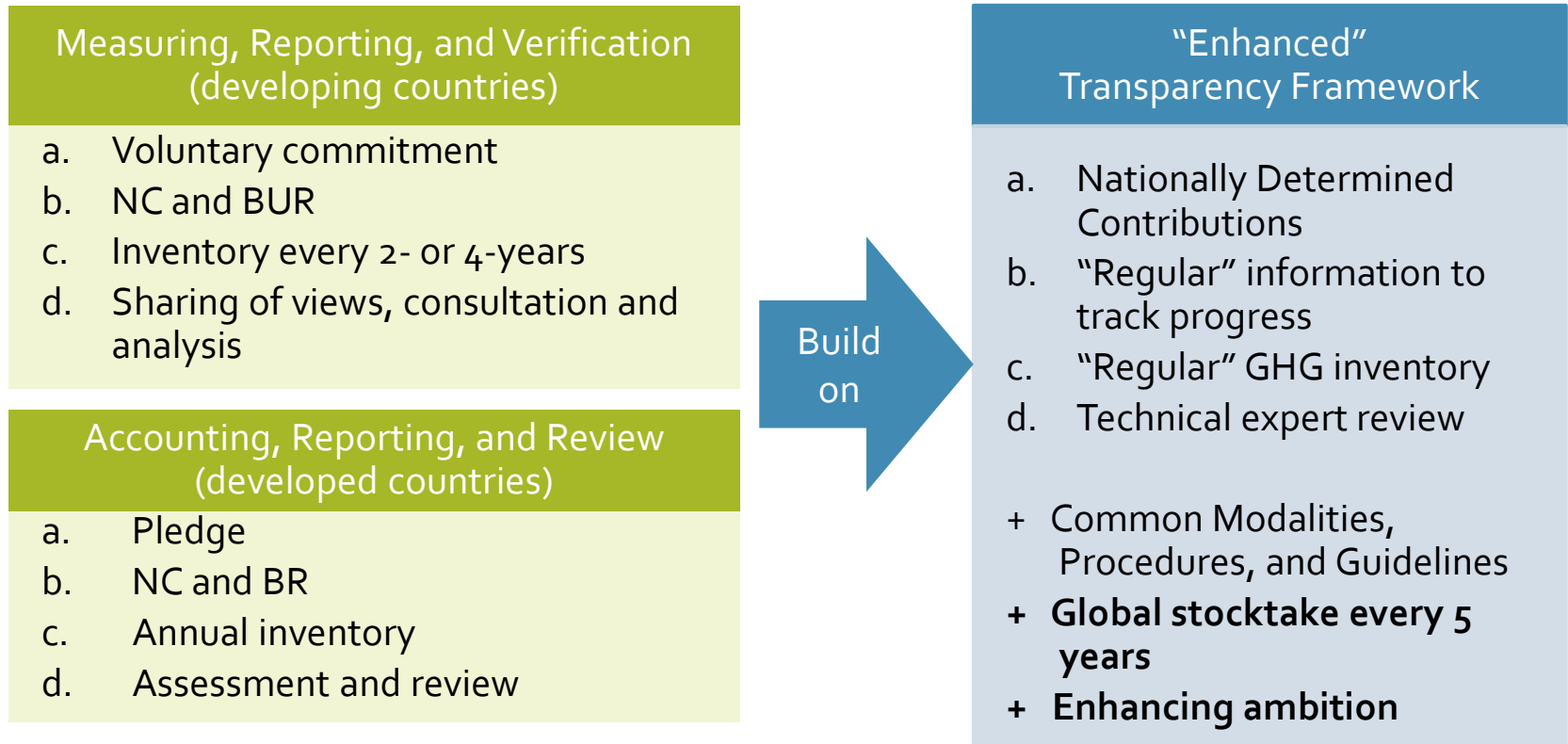
Article 6: market and non-market mechanisms

Article 10: technology development and transfer

Article 15: compliance

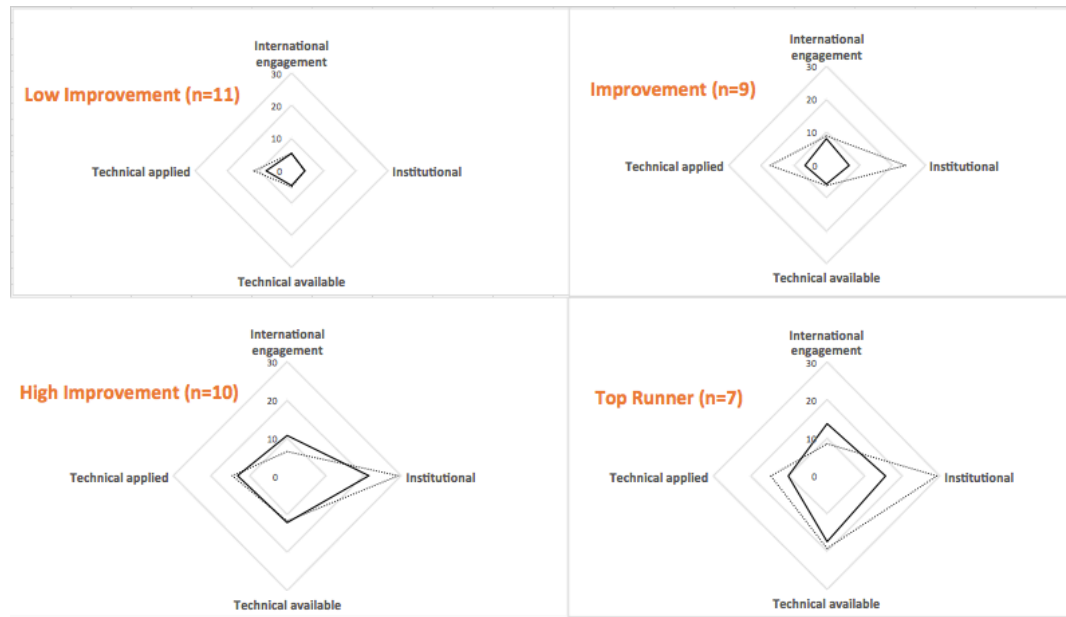
# Demand for robust MRV will be stronger in the Paris era

- Kyoto Protocol era implements a differentiated responsibility to report or conduct GHG MRV for “developed” and “developing” countries. Paris Agreement will implement more equal framework to all Parties.



# National GHG Inventory

- Among 37 Asian developing countries, Mongolia is in the “high-capacity” group for developing a national GHG inventory (IGES, 2016).
  - Based on the assessment of National Communication 1 and 2, Mongolia’s capacity improved over the years.



Ref: IGES (2016) Greenhouse gas emissions inventory capacity: An assessment of Asian developing countries

- For BUR and enhanced transparency framework, further capacity building needed on basic technical capacity (e.g. statistics, scientific expertise), enhancing ambition, and accounting of international unit transfers.

## Domestic priorities

- ❖ Strengthen and institutionalize basic technical & sectoral capacities and building data management system.
- ❖ National MRV System Framework needed? → consider enhanced transparency framework
- ❖ Domestic coordination for: national GHG inventories, emission report, report on progress related to NDC implementation, avoiding double counting with other countries, domestic verification/review.
- ❖ Prepare capacity for: global stocktake and enhancing ambition.
- ❖ Utilize international cooperation and partnerships.

## International priorities

- ❑ Adapt available reporting formats as standard formats for enhanced transparency framework reporting.
- ❑ Enhance technical capacity building (e.g. apply IPCC new guidelines), building national emissions factors database, new indicators for enhanced transparency framework.
- ❑ Collaborative discussions on the ways to enhance ambition.
- ❑ Robust accounting on international emissions transfer and/or trade.



# MRV SYSTEMS TO SUPPORT NDC IMPLEMENTATION

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## NON-PARTY MRV ON GHG AND ACTIONS

# Climate action by non-Party stakeholders is becoming mainstream

- Climate action by non-Party stakeholders can help close the emissions gap.
- Climate disclosure is becoming a requirement from financial institutions.
- The UNFCCC Global Climate Action's Non-State Actor Zone for Climate Action (NAZCA), offers visibility of climate actions and aims to enhance tracking of actions towards goals.
- NAZCA: **2,508** cities, **2,138** companies, and **209** regions committed to actions:
  - Set science-based GHG emission reduction target
  - Increase capacity of renewable energy (%)
  - Set an internal carbon price (USD)
  - Report publicly and annually on progress
  - Etc.



Global Climate Action

INVESTORS ON  
CLIMATE CHANGE



THE CLIMATE GROUP  
States & Regions

# Mongolian entities in NAZCA



Global Climate Action

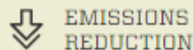
## COOPERATIVE ACTIONS

Mongolian Railways (MTZ), ULAANBAATAR RAILWAY (UBTZ)

### COOPERATIVE ACTIONS (1)

#### Low-Carbon Sustainable Rail Transport Challenge

Collectively reduce average global emissions from train operations by 50% by 2030 and 75% by 2050 based on 1990 levels



EMISSIONS  
REDUCTION



TRANSPORT

## CITIES

Ulaanbaatar

### COOPERATIVE ACTIONS (1)

#### Global Energy Efficiency Accelerator Platform

Double the global rate of improvement in energy efficiency by 2030



ENERGY  
ACCESS &  
EFFICIENCY

# MRV SYSTEMS TO SUPPORT NDC IMPLEMENTATION

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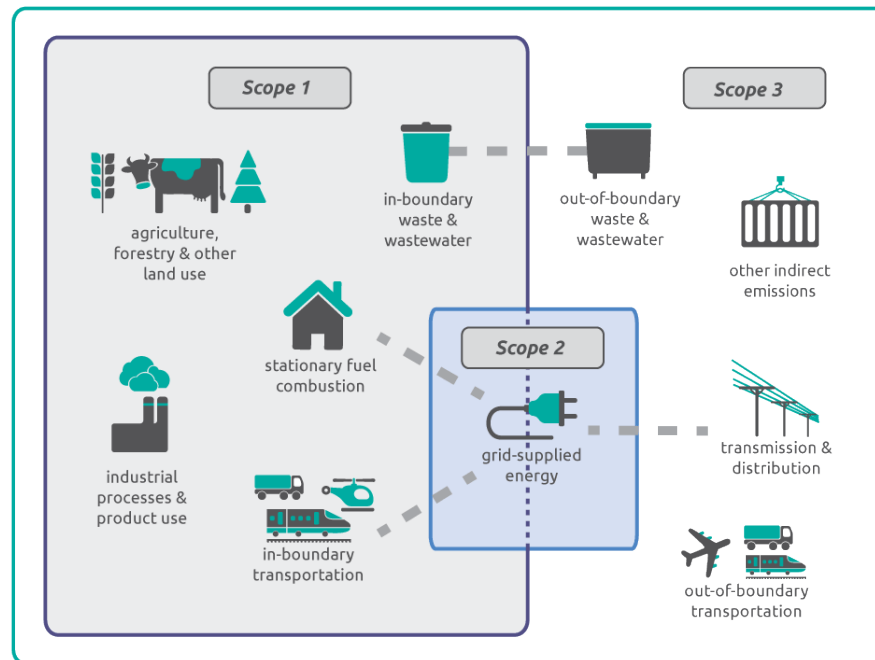
## CITIES

# Sub-national/city: GHG inventory

As more cities are committing to GHG emission reductions, capacity to build and maintain city GHG inventories will be more important to track performance.

## City Inventories

- Measure both in-boundary and trans-boundary GHG emissions.
- Trans-boundary: grid-supplied electricity and heating/cooling, out-of-boundary waste treatment/disposal, trans-boundary transportation, and transmission and distribution losses from grid-supplied energy.



Durban   Rio de Janeiro   Melbourne   Saitama  
 Sydney   Kyoto   Buenos Aires   Tokyo



# Sub-national/city: MRV for city actions

MRV systems will support cities achieve climate actions targets.

## City target A

Double the global rate of improvement in energy efficiency by 2030

Survey, GHG inventory useful to track impact

## City target B

Increase share of renewables in primary energy mix

GHG inventory useful to track impact

## City target C

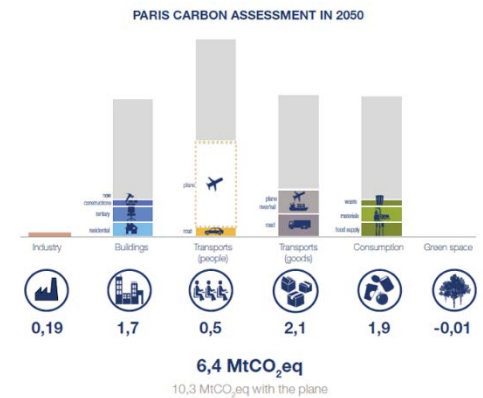
Reduce CO<sub>2</sub>e emissions from the community by 30% by 2030 compared to 2005 BAU levels

GHG inventory required

## Support programs:

- ✓ C40 Cities
- ✓ Compact of Mayors
- ✓ GHG Protocol
- ✓ ICLEI
- ✓ IGES
- ✓ World Bank
- ✓ World Resources Institute
- ✓ UN-HABITAT
- ✓ City-to-city cooperation

Paris carbon neutral by 2050



Low-carbon lifestyle will play an important role

# MRV SYSTEMS TO SUPPORT NDC IMPLEMENTATION

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ENTITY-LEVEL MRV  
PROJECT-LEVEL MRV

# Entity-level: GHG reporting continues to increase

- Australia's Emissions and Energy Reporting System
- California's GHG Reporting Program
- Canada's GHG Emissions Reporting Program
- Japan's GHG Emissions Accounting, Reporting and Disclosure System
- The United Kingdom Climate Change Act 2008
- France Grenelle II Law
- Brazil GHG Protocol Program
- Malaysia MYCarbon GHG Accounting and Reporting Awards

Implementing GHG MRV will help entities ensure accountability and track progress towards their own targets and meet increasing requirement from financial institutions.



# New cooperative mechanisms under Paris Agreement Article 6

Linking efforts between projects, entities, and countries, as well as between countries .

“Cooperative approaches”  
(6.2)

- Decentralized from the UNFCCC, cooperation between Parties
- Use of **internationally transferred mitigation outcomes (ITMOs)** towards NDCs

“A mechanism authorized and guided by UNFCCC” (6.4)

- Centralized authority & guidance by UNFCCC
- Share of proceeds for mechanism operation and & for adaptation of developing countries

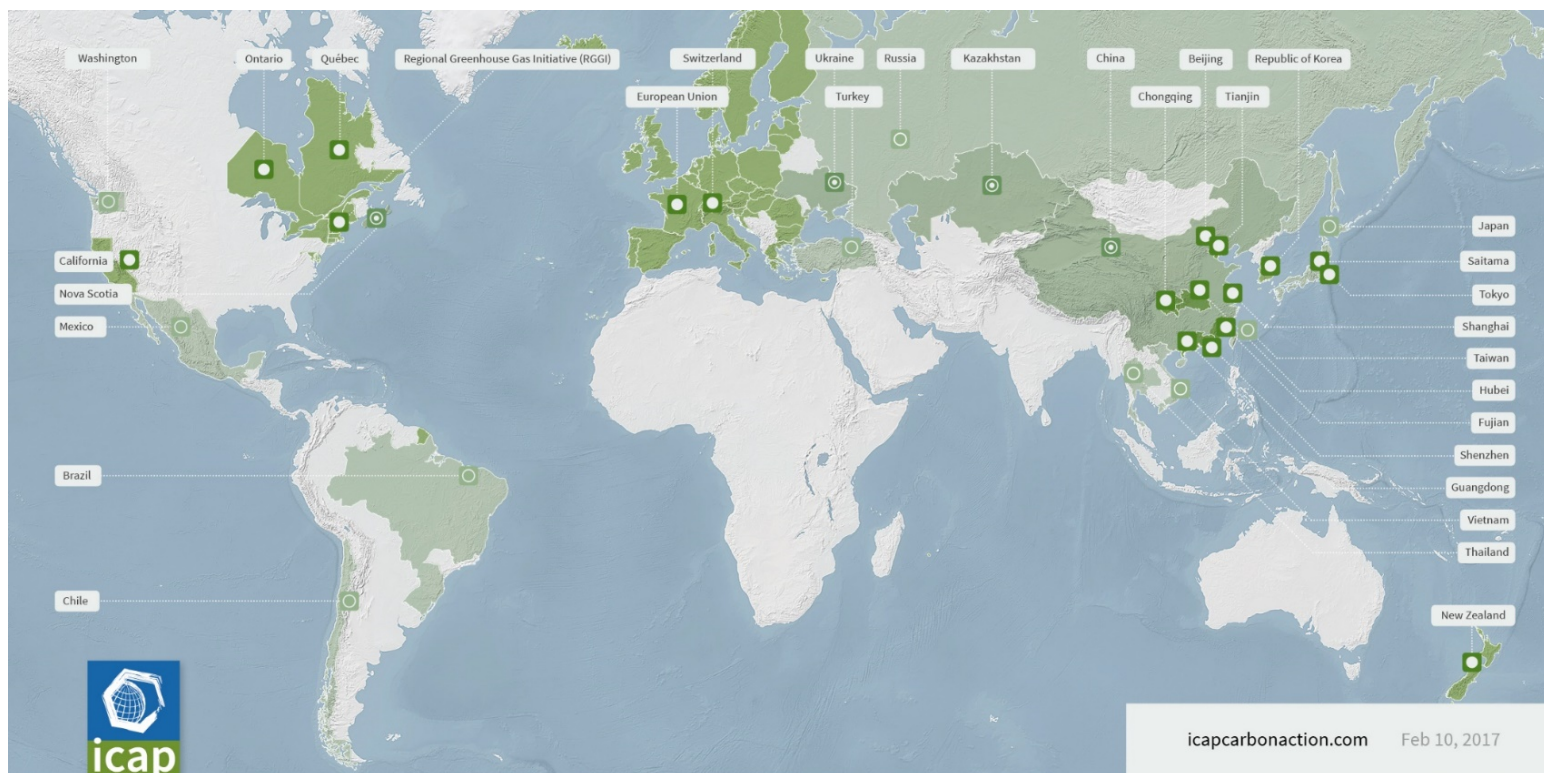
“Non-market approaches”  
(6.8)

- Covers mitigation, adaptation, finance, technology transfer, and capacity building
- General framework is already defined under the Paris Agreement

Possible schemes covered

- JCM
- Linked ETS (not project-based)
- Etc.
  
- “Improved” CDM and JI
- New mechanism
  
- Adaptation Benefit Mechanism
- Etc.

# Entity-level and linked ETS (Emission Trading Systems)



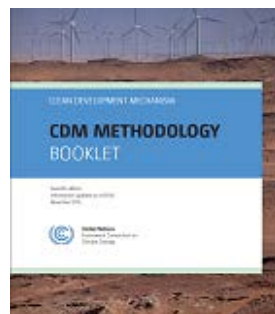
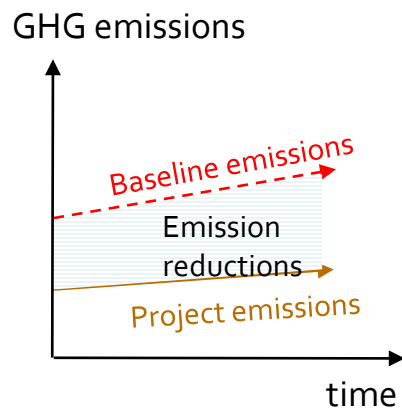
New ETS links: EU - Switzerland/Norway, California – Quebec

New ETS: Chinese ETS: National ETS to launch in 2017, to cover >7,000 industrial companies, total emissions  $\pm 50\%$  country's total

Korean ETS: volume of transactions doubled in 2016

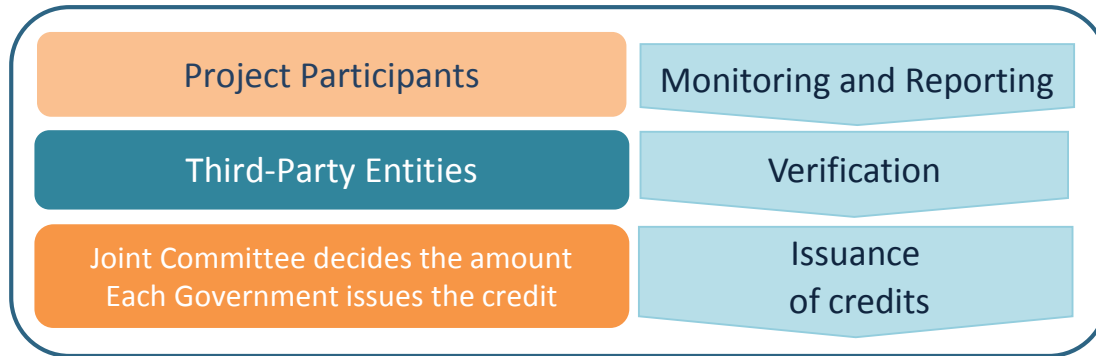
# Project-level: CDM

- CDM is a Kyoto Protocol mechanism. Its continuation after 2020 is part of the negotiations for Paris Agreement Article 6.
- To simplify implementation of CDM, the UNFCCC releases “standardized baselines”.
- Robust MRV and accounting of international trades/transfers will be part of enhanced transparency framework.
- Mongolia has 4 CDM projects.



# Project-level: Joint Crediting Mechanism

Bilateral cooperation for mitigation actions, between Japan and 17 partner countries.



120 projects in the pipeline. Mongolia has issued credits from 2 projects.



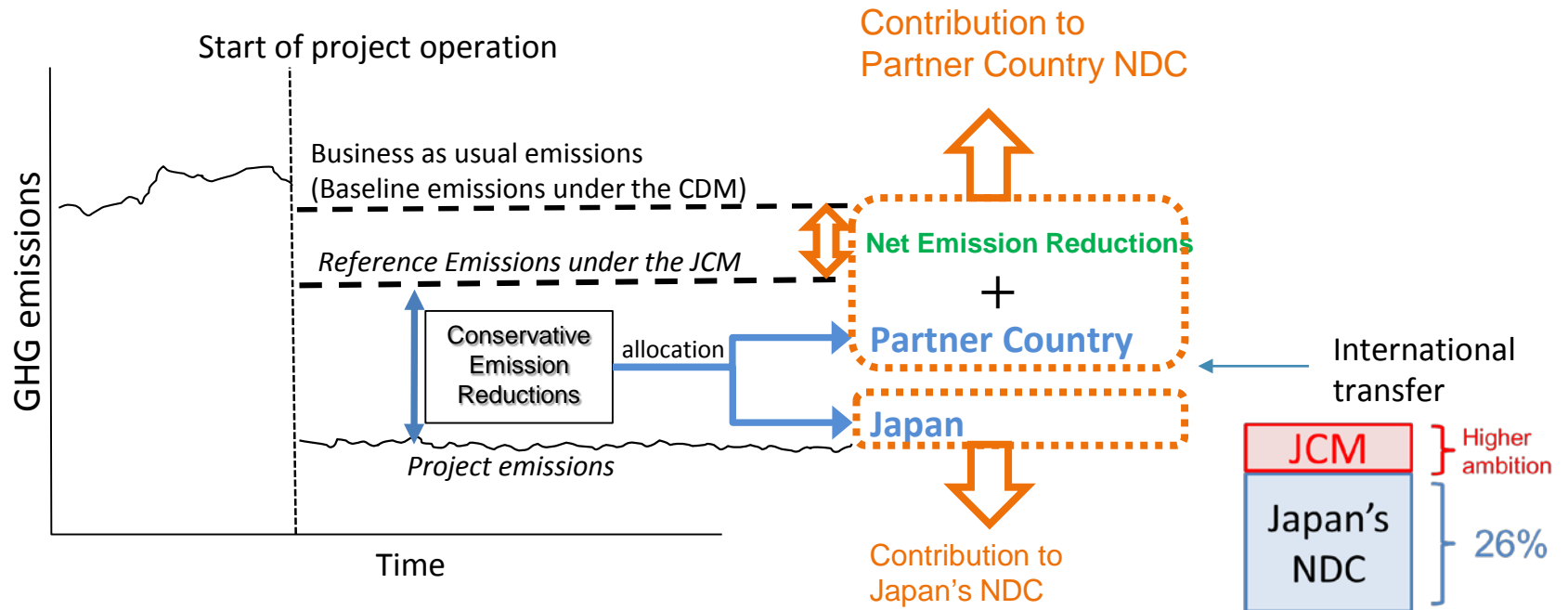
Solar Power Project Plant, Mongolia, Indonesia, Costa Rica, etc.



Eco-driving with Digital Tachographs, NITTSU, Vietnam

# Opportunities from JCM for NDC

JCM MRV aims to ensure net decrease and/or avoidance of GHG emissions.



\* Net emission reductions are not measured under the JCM scheme. Partner country may address those reductions to indicate contribution towards NDC. Baseline assessment is needed.

JCM credits are not internationally tradable. But the domestic transaction of credits in each country are up to each country.

# Discussions related to MRV on Paris Agreement guidance for Article 6.2

Robust MRV is necessary for international transfers to avoid double counting.

## International negotiations

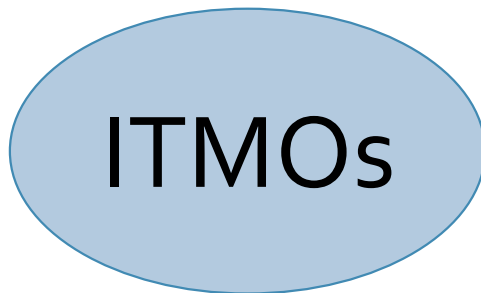
- New “Additionality”: Article 6 to raise countries ambition
- Elements of UNFCCC guidance  
Robust accounting,  
environmental integrity,  
sustainable development

## Domestic procedures

- Coordination between operators of different schemes in one country and between partnering countries.
- Ensure participants’ understanding on double counting.
- Treatment of credits (retirement, cancellation, transfer).
- Accounting policy for multi-year credits towards single year reduction targets.

Accounting towards  
different NDC target

Registries (international/  
multilateral/national)



Form (quantifiable unit, tCO<sub>2</sub>,  
not CO<sub>2</sub>)

Robust accounting,  
corresponding adjustment

# CONCLUSIONS

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# Demand for robust MRV will be stronger

## National level MRV will be more extensive in the Paris era

Stronger capacities will be crucial for NDC → new framework → enhanced MRV



International cooperation and partnerships is a good opportunity to build institutionalized technical capacity for inventory building, basic technical and sectoral capacities, and discussing future indicators.

## City MRV system and lifestyle-related actions are needed to achieve city low-carbon goal





# Companies climate disclosure and climate actions MRV are becoming mainstream

requirement from financial institutions and investors

customer demands

emissions cap regulations

emissions reporting regulations

business competitiveness

## Companies also have more incentive options from project-based mechanisms, such as JCM, new mechanisms under Article 6, GCF

Non-trade international transfers are possible through Article 6.

Robust accounting procedures at both international and domestic levels are necessary.

coordination between operators of different schemes

ensure participants' understanding on double counting

treatment of credits

accounting policy for multi-year credits towards single year targets

avoid double counting

# MRV 100 Questions & Answers about MRV

## Guide to Q&As

Q&As about MRV



Good Practices



About



Search MRV Q&As



## Guide to Q&As

This is the online version of a print guidebook titled "One Hundred Questions and Answers about MRV in Developing Countries." It is designed to help you better understand the existing Measuring, Reporting, and Verification (MRV) schemes for greenhouse gases in developing countries.

If you are interested in a particular scheme, we have questions about each of the following:

- National Communications
- Biennial Update Reports
- National GHG Inventories
- Nationally Appropriate Mitigation Actions
- City-scale GHG Inventories
- Clean Development Mechanism
- Joint Crediting Mechanism

We have also categorized the questions by type:

- Basic: why and what is it about?
- Technical: how to do it?

[www.iges.or.jp/en/climate/mrv100/index.html](http://www.iges.or.jp/en/climate/mrv100/index.html)

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