Information Matters, Philippines:
Capacity Building for Enhanced Reporting and Facilitation of International Mutual Learning through Peer-to-Peer Exchange

Asian Regional Workshop on GHG and Non-GHG Indicators

Dusit Hotel, Makati City, 04-05 November 2014

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EXECUTIVE SUMMARY

The IPCC Fifth Assessment Report findings for Asia revealed that this region is one of the most vulnerable areas in the world with regards to the impact of global climate change. An exchange of national experiences regarding GHG mitigation policies to avoid a further global warming was held during the Asian Regional Workshop of the International Partnership on Mitigation and MRV in Seoul in July 8-11, where the participants agreed on the technical follow up workshop to expand the cooperation of this topic for the region. In addition, the participants from the workshops conducted under the Information Matters project on Domestic MRV Systems identified the need examples for sustainable development indicators (SDI) in national MRV systems.

In order to strategically address these expressed needs, the Philippine Climate Change Commission (CCC) partnered with GIZ (Information Matters and Support CCC Projects) to support this experience by co-organizing a two-day regional peer-to-peer exchange on specific indicators, which was held in Manila, Philippines. The workshop focused on the following topics: GHG Indicators, GHG mitigation indicators, sustainable development and transformational change indicators, and the sharing of existing country-specific developments regarding these topics. In particular, the development of the Philippines' SDI in Clean Development Mechanism (CDM) projects is one example that demonstrates a national experience in developing nationally appropriate indicators and could therefore be shared as a good practice. Other good practices on GHG and non-GHG indicators exist all over Asia and – once shared among the participants – could contribute to improving the understanding, concept and implementation of region-specific indicators.

The workshop aimed to provide a venue for peer-to-peer exchange on the use of indicators to monitor GHG emission reductions and sustainable development in the context of GHG mitigation programs, Furthermore, the workshop provided space on the use and integration of indicators across sectors and with the national level. The learning process was follow-up exchange from July 2014 and the built on keynote introductory presentations to four different segment, followed by a plenary discussions and break out exercises.

The workshop was attended by representatives from 10 Asian countries and joined by international experts from WRI, iisd, UNEP DTU, RICARDO-AEA, and GIZ and representatives from the Climate Change Commission.

The international experts from development organizations provided inputs and hands-on exercises to support the understanding of the different indicators at the sectoral and national levels, the mainstreaming of indicators in the national MRV systems and MRV systems to measure mitigation of emission, as well as developed SDIs in connection with low-emission development and emerging development in this area. Below are highlights of the two-day workshop.

Segment 1: State of the Art: Which Indicators are developed for which aim

- Indicators can adapt to certain methodologies but monitoring should be based on country's specific circumstances. For instance in defining the baselines, data should be available to tailor fit with the indicators.
- Framework development is a key in determining which methodology to use, where the former would need standards in terms of compatibility to other models. Thus, the framework would provide guidance on how to use different methodologies.

Segment 2: National Policies for Emission Reduction and GHG Measurement

- There are chances that a country might not need massive calculations since determining the baselines depends on what a country wants to achieve taken into consideration

the "no regret options" despite of data limitation. Unless a country wants to have recognition from the international level, setting the baselines is required.

- If there are supplementary indicators where creation of jobs is a by-product of the activity, it can be attributed to certain policies, like mitigation and development. Nonetheless, setting up of mechanism either simple or complex would still depend on the decision of the country based on their context.

Segment 3: Sustainable Development Indicators for Mitigation Actions

- Prior to setting SDIs, the country should have a clear direction in terms of its objectives and needs of different sectors. While different perspectives may be used as guide of the government, CSOs and private sector may have varying needs based on their respective point of views. Hence, the key is to find the link between existing MRV system, focusing on what needs to be done and improved based on country's situation.
- In assessing interventions being done on adaptation and mitigation, one may look into the co-benefits or utilize the development assessment tool which allows for collection and discussion of inforation.
- The presentation of the Philippines is very informative, zooming-in the existing MRV system. The Philippines is currently building a system that is focused on GHGI, mitigation actions, and MRV of support. Aside from having Results-based Monitoring and Evaluation System (RBMES) for the National Climate Change Action Plan (NCCAP) that looks at mitigation and adaptation as well as integrating both concepts.

Segment 4: Transformational Change

- For efficiency of NAMAs, a lot of structure is limited only in terms of looking at the structure of the government, however there are other stakeholders that should be involved like CSO and the private sector, so the actions would become more relevant. The actors need to understand the need for changes and how change would come about.
- A high level of political commitment is a main driver since the government plays a big role in influencing behavior to increase the stress of tools in terms of involving CSOs and the private sector parallel to conduct of information drive on transformational change.
  For a centralized government, the creation of right incentives and allocation of resources from the government is easire due to its control, while decentralized government delves much more on concerns related to regulations and policies.
- Sustainable development is a set of matrix that focuses on outcomes of the development considering key variables like equitable, inclusive, reducing impact to environment and addressing basic issues, whereas transformational change is getting at a particular state of being and influencing the system whihc would deliver the final stage on achieving goals.

Foward Planning

Below is a summary of suggested activities until 2014.

Table 1. Summary of activities towards the end of 2014

Topics	Formats	When
SD Tools	Workshop to elaborate SD tools	
GHG and Non-GHG Indicators per sector	"deep dive" training-workshop	
Development of MRV System	Webinar focusing on a specific MRV topic (upto 2 hours) Workshop (1 day)	
Set up MRV for non-GHG Indicators	Workshop	
Methodology for estimating stationary or mobile GHG emission (road and off road sector)	Workshop/Training	
Training on registration process of NAMA and development of NAMA proposals	Workshop/Training	NAMA Training November 20th Maldives
Establishing of baseline indicators	Workshop/E-learning	

Success stories/best practices of NAMA implementation in other countries (case study)	Webinar, E-learning

BMUB International Climate Initiative (IKI)

Since 2008, the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) has been financing climate and biodiversity projects in developing and newly industrializing countries, as well as in countries in transition. Based on a decision taken by the German parliament (Bundestag), a sum of at least 120 million Euros is available for use by the initiative annually. For the first few years the IKI was financed through the auctioning of emission allowances, but it is now funded from BMUB budget. The Initiative places clear emphasis on climate change mitigation, adaptation to the impacts of climate change and the protection of biological diversity. These efforts provide various co-benefits, particularly the improvement of living conditions in partner countries.

The IKI focuses on four areas: mitigating greenhouse gas emissions, adapting to the impacts of climate change, conserving natural carbon sink with a focus on reducing emissions from deforestation and forest degradation (REDD+), as well as conserving biological diversity.

New projects are primarily selected through a two-stage procedure that takes place once a year. Priority is given to activities that support the creation of international climate protection architecture, transparency, and innovative and transferable solutions that have impacts beyond the individual project. The IKI cooperates closely with partner countries and supports consensus building for a comprehensive international climate agreement and the implementation of the Convention on Biological Diversity.

BMUB IKI Homepage
www.international-climate-initiative.com

Methodology and Approach

The workshop was moderated by Ms. Sandee Recabar and Ms. Lovella Segayo of the Climate Change Commission, Mr. Voltaire Acosta and Ms. Kirsten Orschulok of GIZ Information Matters project, Mr. Sven Egbers of GIZ Support to the International Partnership on Mitigation and MRV, and Ms. Agnes Balota and Ms. Bianca Gutierrez of the GIZ-SupportCCC Project.. They used a seminar type approach combined with plenary presentation and breakout session for more in depth discussion and lessons-learning among participants. The outputs from the break-out sessions were then presented back in the plenary so resource persons and other participants would be able to raise comments and/or clarifications.

The workshop lasted for two days and at the end, post-workshop evaluation was administered to test the workshops' efficiency, effectiveness, and relevance to participating countries as well as the level of the attainment of workshop objectives.

Participants and Resource Persons

Around 23 representatives from various government offices in 10 Asian countries participated in the regional workshop namely Cambodia, China, Lao PDR, Malaysia, Maldives, Mongolia, Pakistan, the Philippines, Singapore, and Vietnam. It was also attended by representatives from International Institute for Sustainable Development (iisd), World Resources Institute (WRI), Ricardo-AEA, UNEP DTU, GIZ, and the country representatives who gave valuable inputs on concepts and experiences in developing indicators for NAMA, GHGI, and MRV.

I. Preliminaries

The workshop started with the opening remarks from Secretary Mary Ann Lucille Sering of the Climate Change Commission (CCC) and Dr. Bernd Markus-Liss, Principal Advisor of GIZ Climate Change Projects.

Sec. Sering welcomed the participants to the Philippines. She discussed the developments of climate change initiatives in the Philippines since she started working with the CCC in 2012. The issuance of the Philippine Climate Change Act in 2009 was motivated by two major typhoons in the country which resulted in losses equivalent to 2.5% of GDP, which actually surpassed the cost of damages over the last 20 years. The law puts particular emphasis on adaptation while the discussion on mitigation focused more on GHG reduction as key result area. Nonetheless, the government is now looking for new opportunities and new econometrics with guidance from the principle that "what you cannot measure you cannot manage". The government is seriously looking into discussions on mitigation because in the end, the country would not be able to afford its impacts if GHG emission continues to increase. She noted that while developing countries are putting a lot of initiatives on mitigation, developed countries that have the capacity should as well contribute to this action. For instance, China as one of the biggest GHG emitters in the world has been putting good efforts in technologies allowing developing countries to pick up lessons from these technologies.

In the case of the country, the government passed the Renewable Energy (RE)[1] law in 2008 to mainstream utilization of renewable energies that would result to reduction of GHG emission in the country. And although the country has yet to determine its emission level for each sector and INDCs, it opted to contribute and will continue to contribute with or without external support. Thus, the workshop is timely to learn from each other in terms of giving meaning to green growth and even INDCs. To that end, Sec. Sering hoped for good results and learning exchange between countries.

Dr. Liss mentioned that GIZ started working on climate change issues in 2008 under IKI – a funding mechanism that provides new and additional finance for countries that would like to progress in terms of addressing climate change related issues. And since then GIZ has had the honor of working with the Climate Change Commission as partner for projects under the Climate portfolio - a backdrop of GIZ's work in the Philippines. And as a take away from Sec. Sering's point of "what you cannot measure, you cannot manage", there is a need for indicators to measure the impacts.

He hoped for good deliberations and sharing in terms of efforts being implemented by the countries which could be taken back home. He wished that the workshop would lay the foundation for more interaction and since GIZ is the secretariat for international initiatives on MRV, GIZ would be glad to provide assistance in learning exchanges not just South-South but also North-South.

Finally, Dr. Liss expressed his delight to have representatives from different international agencies as well as his gratitude to GIZ and CCC team for making the workshop possible. He welcomed the participants and mentioned that the day marks the 60th year of diplomatic relationship between Germany and Philippines.

It was then followed by introduction of participants and overview of the two-day workshop given by Ms. Kirsten Orschulok, Coordinator for the GIZ-Information Matters project.

Expectations Check

The participants were then requested to write down their expectations from the workshop in terms of what should be discussed and what they would like to learn to support their work back home. The table below details the expectations specific to information/concepts on GHGI, MRV, and Non-GHG indicators, and transformational change.

[1] Republic Act No. 9513, s. 2008 or the Renewable Energy Act of 2008

Table 2. Board of Expectations

THEME	EXPECTATIONS
Concepts/Information on MRV, NAMA, Mitigation Action	• Performance of indicators in specific countries • How to address uncertainties in the MRV indicators • Principles in developing indicators • Database of indicators from various countries/regions that could be adopted • Learn how indicators are developed • Learn about NAMA process in other countries • Learn from other countries their challenges and experiences on GHG inventory and mitigation initiatives • Discuss GHG Mitigation and Industry • Policy on GHG Mitigation • Support to capacity building on climate change • What constitute mitigation action? • Understand needs and challenges of countries • Identify partnerships for the future • How are other countries collect/gather information related to CC at the national level • Stakeholders engagement • Financial process • Achieving system for GHG data management • Country experiences in GHG data collection • GHG national/institutional arrangement process • Financial support on work on GHG inventory • How can CDM be of use to formulate NAMA • Regional exchange on MRV • Get to know other people • More concepts about climate change that should further be discussed • Collaboration of solutions based on some climatic event experienced by other countries with regards to the Philippines • Are there any guidelines developed by any UN organization or other development agency like GIZ • How these indicators are helpful in MRV system • For developing national indicators, what should be the starting point and next steps • How and how much help is available from GIZ in developing indicators
Specific	
GHG/Non-GHG Indicators	• More information on GHG and non-GHG indicators • GHG Indicators in sectors • Non-GHG Indicators • Country practitioners share their views on how new indicators can be integrated into existing MRV systems and processes. What are the challenges? • What is the difference between GHG and Non-GHG indicators • Why we need non-GHG indicators for a mitigation action • What is the importance of indicators in SDGs • What parameters should be kept in mind for developing • GHG and non-GHG indicators at the national level

THEME	EXPECTATIONS
	• Who and how to monitor and assess GHG and non-GHG indicators • Validity of indicators • Criteria for saying an indicator is no longer valid • What are the non-GHG indicators for national level policy use • Non-GHG indicators for scaling up CDM
Sustainable Development Indicators	• SDI in CDM and MRV • The workshop will serve as a venue on the exchange of experiences regarding development indicators • SD indicators that support alleviation and attainment of MDG targets in the context of GHG reduction • How to identify and distinguish appropriate SDI • MRV tools applicable for SD monitoring • Tools that measures SD benefit of mitigation actions
Transformational Change	• Learn about transformational change vs sustainable development • Learning more on indicators for transformational change • Learn something new about transformational change and how it can be arrived

II. GHG and Non-GHG Indicators on the sectorial level

State of the Art: Which Indicators are developed for which aim

Mr. Ranping Song, World Resource Institute

Mr. Song focused his discussion on four sub-topics: current status and purpose of indicator framework, indicator framework to track progress of goals, indicator framework to track specific policy, action and projects, and monitoring and data.

The ICI Coordination Group on NAMAs MRV Working Group (CCAP; DECC; ECOFYS; GGGI; GIZ; UNDP; WRI) has been enhanced in order to show the complementary work between international agencies and to determine the gaps. And to make it easier, a spreadsheet was organized by type of activity (e.g. methodology, tool or metrics and indicators, level of MRV (e.g. bottom up (facility, corporate level) or top down; or project, policy or goal), scope (sector specific, cross-sectoral, or initiative specific), organization leading the work and a description of the activity or project.

Setting of indicators has two main purposes: as management tool and reporting tool. The former is used to develop implementation strategy, track policy implementation, and improve policy design and implementation, while the latter is to understand final effect, for communication, and accountability. Thus, indicators are used to track and understand the following:

a. Overall Performance of Sustainable Development Goals
   - Specific to the SD goal
   - Broad in scope
   - Primarily national data
   - Need tailor to national circumstances/priorities
   - Usually top-down
   - Usually effect/outcome indicators
   - Cannot attribute to specific policy or action

b. Performance of specific policies, actions and projects –specific to the policy, action, or project in question:
   - Primarily at the same scale of the policy/action/project
   - Top-down and bottom-up
   - Include both process (input and activities) and effect/outcome indicators
   - Cannot reflect the overall picture

Mr. Song presented the different indicators to track progress of goals and performance of policies and actions.

1. Indicators to Track Progress of Goals
   a. CSD Indicators of Sustainable Development. Third Set of Commission on Sustainable Development Indicators, published in 2007 and consistent with 14 themes and 44 sub-themes adopted in 2001. There are 50 core indicators and 46 other indicators. Figure below shows a snapshot of CSD Indicators.

Table 3. Snapshots of CSD Indicators

Theme	Sub-theme	Core indicator	Other indicator
Atmosphere	Climate change	Carbon dioxide emissions	Emissions of greenhouse gases
	Ozone layer depletion	Consumption of ozone depleting substances	
	Air quality	Ambient concentration of air pollutants in urban areas	
Natural hazards	Vulnerability to natural hazards	Percentage of population living in hazard prone areas	
	Disaster preparedness and response		Human and economic loss due to natural disasters

b. Indicators for Sustainable Development. A report by the Leadership Council of the Sustainable Development Solutions Network (SDSN), commissioned by UN Secretary-General through mobilization of scientific and technical expertise from academia, civil society, and the private sector. The report is based on an action agenda for sustainable development on 10 goals and 30 targets, with 100 indicators tied up to 30 targets under 10 goals. The development has undergone extensive public consultation with several hundred sets of comments.

c. Indicators for Climate and Energy. A proposal of SDSN in terms of curbing human-induced climate change and ensure sustainable energy.

2. Indicators to track performance of policies and action
   a. GHG Protocol Policy and Action Standard. Aims to understand the effect of policy and action before and after implementation and to track progress of policy during implementation. A three-year process with 30 members in Advisory Committee and 50 experts in working groups that underwent to hundred comments in two rounds of public consultation. This is already piloted in 17 countries with 25 policies.

   b. Climate Policy Implementation Tracking Framework. Aims to develop basis for monitoring progress towards policy action adoption and implementation in an applied policy context. This framework is already piloted in four countries for five policies.

   c. Key Performance Indicators for policy/action implementation.
      - *Input Indicators*. A metric that describes the delivery of resources that support policy implementation as well as finance and other inputs. In terms of finance indicators there are key factors to consider such as any specific sources of funding that have been identified, any institution that has been designated as recipient, and whether the institutions have received the resources designated in a timely manner.
      - *Activity Indicators*. Policy administration activities that must occur on a regular basis while the policy is in effect such as licensing, permitting, and procurement, information collection and tracking, compliance and enforcement.
        - Licensing, Permitting, and Procurement. Key factors to consider are; any ongoing administrative functions required by the policy instrument, the institutions responsible for each function, and the quantitative metrics that might indicate functions have been carried out.
        - Information Collection and Tracking. Key factors to consider are: definition of compliance and/or non-compliance, consequences of non-compliance, the institutions responsible for compliance, action is the responsible authority required or authorized to take to ensure compliance, and information that would indicate compliance officers are taking action.
        - Intermediate effect indicators. These are changes in behaviour, technology, processes, or practices that result from implementation of a policy instrument.
        - Effects indicators. Changes resulted from policy or action and many effects are typically not monitored directly but instead are estimated based on changes in various other parameters. These includes GHG effect and non-GHG effect, the former are changes in GHG emissions by sources or removals by sinks that result from the intermediate effects of the policy or action such as reduced CO2, CH4, and N2O emissions from the

specific policy, while the latter includes effects on environment, social and economic.

Lastly, Mr. Song discussed the steps on monitoring and data that includes steps and samples of data needs from NAMA MRV plans. There are five (5) monitoring steps:

a. Define key performance indicators that includes inputs, activities, intermediate effects, and effects (GHG and non-GHG)
b. Define data needed for ex-post assessment of each sector
c. Define the period for NAMA implementation, monitoring and assessment periods.
d. Create a monitoring plan which should describe key areas from sources of data to procedures for internal auditing, QA, and QC.
e. Monitor parameters over time.

During the pilot testing of WRI, there are distinct data challenges:

a. Technical expertise required
b. Capacity building may be necessary
c. Challenging to apply methodology retrospectively, if appropriate data has not been collected
d. Best to put systems in place to collect data and apply the methodologies before the policy or action is implemented and once systems are in place, future assessments require less time and resources.

Discussion Highlights

- On further elaboration of indicators in terms of dealing with NAMAs since the challenge is how to quantify indicators in terms of long terms effects of policies set in place.
  It is not much on indicators rather on methodologies in terms of setting the baselines and process scenario.

- On feedback and challenges from countries where indicators were pilot tested.
  The last slide came from pilot countries. Indicators can adapt to certain methodologies but monitoring should be based on country's specific circumstances. For instance in defining the baselines, data should be available to tailor fit with the indicators.

- On development of methodology in terms of who is qualified.
  Framework development is a key in determining which methodology to use, where the former would need standards in terms of compatibility to other models. Thus, the framework would provide guidance on how to use different methodologies.

Group Exercise I: Indicator Chain

The participants were sub-divided into three (3) groups and tasked to discuss indicators and monitoring plan for NAMA using the framework as guidance in their discussion.

Mr. Song gave his feedback after the groups' presentation. He mentioned that each group has different focus: the first group details the inputs to make investment which is a first step of NAMA, while the second group highlighted effects/outcomes and identified socio and economic benefits, lastly the third group showed intermediate effects before the final outcome and highlighted technology change in the discussion.

Table 4. Group 1: Finance/Investments

Indicator	Data Source	Monitoring Frequency	Level of Uncertainty	Responsible Entity
Budget requirement (internal/external, no. of funders, amount of fund, sources: international, private sector)	Finance Ministry Budget Ministry and Other relevant ministries	Annually	Medium - Projected Budget Low – Actual Budget	Implementation entity Coordination (monitoring) entity
Expertise required (internal/external)	Development partners and Funding Agencies	Quarterly		
Number of relevant policies issued and implemented	Development and Planning Ministry			
Consultation with relevant stakeholders				
Number of companies benefited from the initiative				

Table 5. Group 2: Effect/Outcomes and Socio-Economic Benefits

Indicator	Data Source	Monitoring Frequency	Level of Uncertainty	Responsible Entity
Budget Allocation	Finance Ministries	Annual	Low	DBM
Reduction of GHG emission per year	Ministry of Energy	Annual	Medium High	DOE/DENR/Ministry of Energy
Number of government agencies trained				

Savings from government subsidies	Finance Ministries website			
Capacity of solar panels installed in buildings	Ministry of Industries/DOE			
% of data for GHG indicator gathered				
Number of buildings which participated in NAMA				
Amount of fund financed by banks for local industries				
Savings from electricity bills	Electricity providers	Quarterly	Low	DOE/Ministry of Energy
Number of jobs created	DOLE/Public Service Commission	Quarterly	High	

Table 6. Group 3: Technology Change

	Indicator	Data Source	Monitoring Frequency	Level of Uncertainty	Responsible Entity
Heating/Cooling NAMA	• Number of modern air conditioning units • Type of air conditioning	• Sellers/distributors of air conditioning units • Local agreement from building permits	Annual Inventory	Medium-low	National and local agencies
Low energy lightning	Number and type of lamp/bulb installed	Installers, sellers, producers of lamps and bulbs	Annual Inventory	Medium	Ministry of commerce and/or energy
Green Building better thermal control	Gross floor area with thermal control	Building operations and maintenance unit	Monthly	Medium	
General energy consumption	Number of kilowatt hour consumption	Electric utility company	Monthly	Medium	Ministry of Energy

Group Exercise II: Country Experience exchange in break out groups using the Indicator Work Plan for sectorial project experience

A. The same groups were tasked to identify and share their experiences on development of indicators at the sectoral level within their group. They were also reminded that the frame for the discussion is to fill out the indicator workplan template.

Table 7. Group 1: Cambodia's Experience

Sector	Responsible Entity	Intended Target Outcome	Indicators needed to monitor outcome			Status of the MRV System in Place	Barriers/restraints in defining measurable indicators
			Indicator	Level of uncertainty	Data Source		
Ecomobile in the Angkor Wat Region (transport)	Climate Change Department	Tourist Attraction Reduce Emission	Number of tourists	Medium	Ministry of Tourism Ministry of Environment-Provincial Office	Preparation of design phase	Technical Capacity Finance Stakeholder participation
			Number of electric vehicles	low	Department of Energy		
			Reduced Buses	low	Department of Transportation		
			Reduce air pollution	Low or high	Department of Environment and transportation		

Table 8. Group 2: Pakistan's Experience

Sector	Responsible Entity	Intended Target Outcome	Indicators needed to monitor outcome			Status of the MRV System in Place	Barriers/restraints in defining measurable indicators
			Indicator	Level of uncertainty	Data Source		
Energy Efficiency and Building	Climate Change Division Ministry of	Gases: CO2 Quantitative Goal 19M tons	No. of efficient products sold	Medium	Ministry of Industry Ministry of Industry and Sales/Revenue	On going	Developing sectoral baselines

Sector	Responsible Entity	Intended Target Outcome	Indicators needed to monitor outcome			Status of the MRV System in Place	Barriers/restraints in defining measurable indicators
			Indicator	Level of uncertainty	Data Source		
	Energy	of CO2 per annum			Department		
			No of efficient products purchased at low cost	Low			
			No of media appearances/no. of viewers/listeners	Low	Ministry of Information and Broadcasting		
			GHG indicators: no of CO2e reduced	Low	Climate Change Division		
			Non GHG: annual savings, amount of hazardous materials reduced No of jobs created	Low	Ministry of Finance Public Commission Climate Change Division and Provincial Environment Department		

Table 9. Group 3: Malaysia's Experience

Sector	Responsible Entity	Intended Target Outcome	Indicators needed to monitor outcome			Status of the MRV System in Place	Barriers/restraints in defining measurable indicators
			Indicator	Level of uncertainty	Data Source		
Methane Capture from Palm Oil Mills (Agri/Waste)	Malaysia Palm oil Board Ministry of Natural resources	Reduction of Methane Emission from Open ponding	No of Licenses/mills (capacity) Production volume	Low	Mills Palm oil Board Ministry of Environment	Under development	• Understanding of the NAMA, MRV indicators, methodologies • Key planners not defined • No of institutional arrangement/coordination • Additional cost in monitoring
			Amount of methane captured Fuel saving in utilization of methane	High	Mills		

III. GHG and Non-GHG Indicators on the national policy level

National Policies for Emission Reduction and GHG Measurement

Dr. John D. Watterson, RICARDO-AEA

Dr. Watterson presented the national policies in UK for GHG emission reduction and national policy for GHG inventory. He also covered discussion on mapping the "causal chain" because it is fundament to the setting and review of baselines and approaches to avoid double counting of emission savings, defining and using indicators, and problems of and some solutions to judging the effectiveness of mitigation policies.

GHG emission reduction should be a "no-regret option" and in UK there are various policies both at the national and regional levels set in place to support emission reduction actions.

a. *Commitment to Global Action on Climate Change under the UNFCCC.* 12.5% reduction under the protocol was achieved, with emission being reduced by 27% in 2011.

b. *Reducing UK's GHG emission by 80% by 2050*. First published in 2013 and updated on October 2014, to support the Climate Change Act 2008 that established the world's first legally binding climate change target.

c. *Scotland Climate Change Policy*. Scottish government's commitment are set out in its Climate Change Act of 2009, that requires a minimum of 42% cut in emission by 2020 including aviation and shipping and defines annual emission reduction target from 2010-2050.

The national approach of UK to GHG measurement is focused on GHG Inventory. It is used as primary source of information to judge progress towards the national and international commitments. The sets of information can be seen in the annual report submitted under the Framework Convention on Climate Change. UK's Climate Change Act includes the following commitments.

- *2050 Target*. To reduce emissions by at least 80% from 1990 level. This target was based on the advice form the CCC report. Building a low-carbon economy, which includes devolved administrations currently accounts for around 20% of UK's total emission.

- *Carbon Budget*. The Act that requires government to set legally binding "carbon budgets". A carbon budget is a cap on the amount of the appropriate level of each carbon budget which is designed to reflect cost effective path to achieving long term objectives. The first four carbon budgets have been in legislation and run up to 2027.

Figure 1. Summary of Policies in the UK

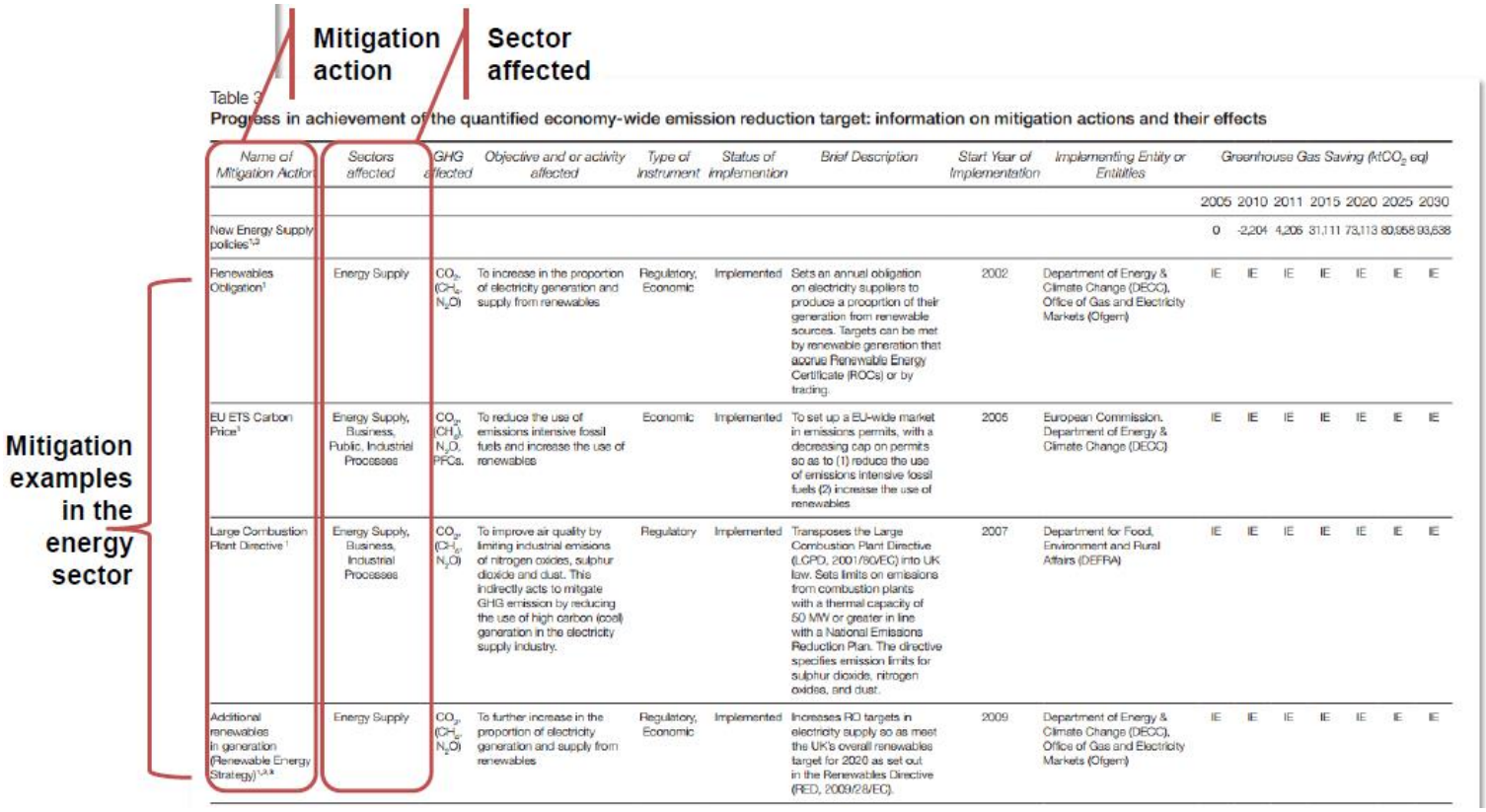


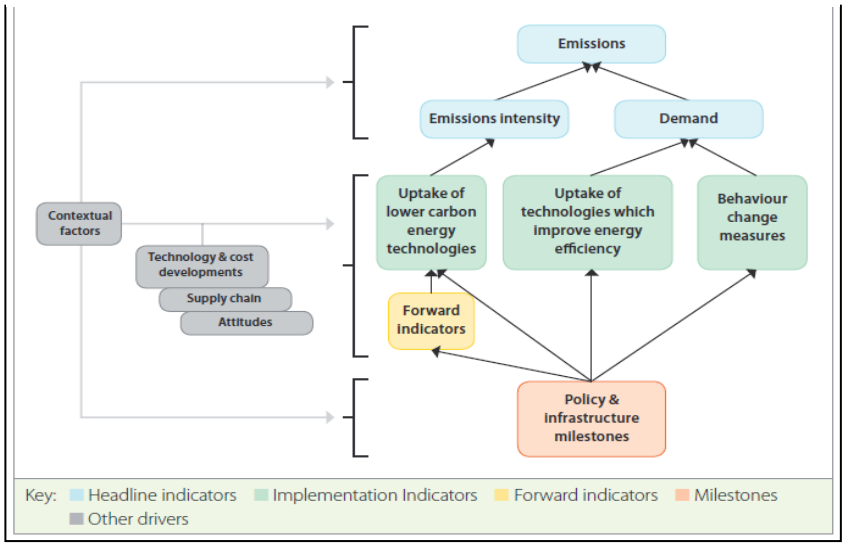
Table 3
Progress in achievement of the quantified economy-wide emission reduction target: information on mitigation actions and their effects

Name of Mitigation Action	Sectors affected	GHG affected	Objective and or activity affected	Type of instrument	Status of implementation	Brief Description	Start Year of Implementation	Implementing Entity or Entities	Greenhouse Gas Saving ($ktCO_2$ eq)						
									2005	2010	2011	2015	2020	2025	2030
New Energy Supply policies[1,2]									0	-2,204	4,206	31,111	73,113	80,958	93,638
Renewables Obligation[1]	Energy Supply	CO_2, (CH_4, N_2O)	To increase in the proportion of electricity generation and supply from renewables	Regulatory, Economic	Implemented	Sets an annual obligation on electricity suppliers to produce a proportion of their generation from renewable sources. Targets can be met by renewable generation that accrue Renewable Energy Certificate (ROCs) or by trading.	2002	Department of Energy & Climate Change (DECC), Office of Gas and Electricity Markets (Ofgem)	IE	IE	IE	IE	IE	IE	IE
EU ETS Carbon Price[1]	Energy Supply, Business, Public, Industrial Processes	CO_2, (CH_4), N_2O, PFCs.	To reduce the use of emissions intensive fossil fuels and increase the use of renewables	Economic	Implemented	To set up a EU-wide market in emissions permits, with a decreasing cap on permits so as to (1) reduce the use of emissions intensive fossil fuels (2) increase the use of renewables	2005	European Commission, Department of Energy & Climate Change (DECC)	IE	IE	IE	IE	IE	IE	IE
Large Combustion Plant Directive[1]	Energy Supply, Business, Industrial Processes	CO_2, (CH_4, N_2O)	To improve air quality by limiting industrial emisions of nitrogen oxides, sulphur dioxide and dust. This indirectly acts to mitgate GHG emission by reducing the use of high carbon (coal) generation in the electricity supply industry.	Regulatory	Implemented	Transposes the Large Combustion Plant Directive (LCPD, 2001/80/EC) into UK law. Sets limits on emissions from combustion plants with a thermal capacity of 50 MW or greater in line with a National Emissions Reduction Plan. The directive specifies emission limits for sulphur dioxide, nitrogen oxides, and dust.	2007	Department for Food, Environment and Rural Affairs (DEFRA)	IE	IE	IE	IE	IE	IE	IE
Additional renewables in generation (Renewable Energy Strategy)[1,2,3]	Energy Supply	CO_2, (CH_4, N_2O)	To further increase in the proportion of electricity generation and supply from renewables	Regulatory, Economic	Implemented	Increases RO targets in electricity supply so as meet the UK's overall renewables target for 2020 as set out in the Renewables Directive (RED, 2009/28/EC).	2009	Department of Energy & Climate Change (DECC), Office of Gas and Electricity Markets (Ofgem)	IE	IE	IE	IE	IE	IE	IE

- The Committee on Climate Change was set up to advice the Government on emissions targets and a report to the Parliament on progress made on reducing GHG emissions. It includes the Adaptation Sub-Committee (ASC) which scrutinizes and advises on the Government's programme for adapting climate change.
- A National Adaptation Plan requires the government to assess UK's risks from climate change, prepare a strategy to address theme and encourage critical organizations to do the same.

In terms of MRV approach to UK Climate Change targets, it considers causality and basic approach of defining indicators based on relevant effects as well as drivers, developing indicator trajectories based on expected developments, collecting indicators values

Figure 2. Framework of Indicators



annually, and comparing collected indicator values with trajectories. Below is the Climate Change Committee Indicator Framework of UK.

The framework details the following key indicators

a. Headline indicators
- Emissions - sectoral breakdown of economy wide emissions
- Emissions intensity and demand - high level indicators of the supply and demand side factors which drive emissions

b. Supporting indicators
- Implementation indicators - a set of indicators which track progress in implementing the measures required to achieve sustainable emissions reduction
- Forward indicators - trajectories for forward indicators that are used to assess whether the UK is on track to deliver measures as required
- Policy milestones - In order that measures are successfully implemented, the appropriate enabling framework will have to be in place. We therefore include in our framework indicators reflecting key policy milestones and high level aspects of policy design

To that end, Dr. Watterson wrapped up the discussion with the following key points:

a. Lessons learned from the UK Carbon Budget MRV approach
- Finding the right level of detail in indicators is key
- Indicators related to factors influencing emissions provide good insight into effectiveness of measures
- Getting acceptance and support from "policy owners" takes time
- Policy owners might lack necessary expertise to provide the indicator data required
- GHG inventory cannot provide all indicator data (and likely never will)
- Accept system is not perfect at first and improve over time
- Independent evaluation by non-government organisation (Climate Change Committee) that can lend credibility to the result and hinder open discussion on evaluation results.

b. Challenges to MRV of mitigation activities
- Change of emission levels, jobs, health, etc. can have many influencing factors.
- An MRVed change might stem from a specific NAMA (or mitigation action), but potentially also from the interaction of several NAMAs or factors external to mitigation actions, e.g. economic or social developments
- It is not easy to understand **whether** a specific NAMA has caused an MRVed change and *to what extent.*
- Accept these limitations and adjust expectations.
- Move away from a CDM-like MRV focussing on highly accurate emission reduction values
- Aim to understand, whether your NAMA does contribute to achieving desired impacts and whether it has a relevant impact or not. Note that MRV systems can be set up to at least help understanding causality, package NAMAs targeting the same impacts and assess their combined impact, assess potential impacts in detail a forehand and design MRV accordingly

c. Good Practices for Mitigation Activity/NAMA MRV
- *Good information and communication* are of vital importance. Gathering and keeping a record of information for reporting relies on good communication and coordination between all entities involved in the monitoring process.
- *Define clear roles and responsibilities* and give *transparent guidance* to each organisation involved in developing and implementing the NAMA MRV-plan. This will ensure the reliability and consistency of the measured information, as well as its timely reporting and verification.
- *Calculate emission* mitigation and mitigation costs based on proven or credible methods and using the best available data.
- *Monitoring quality and reliability of data* and an *open and transparent access to information* increases the efficiency of the MRV process. Emission mitigation and

mitigation costs should be calculated based on *proven or credible methods* using the *best available data.*

- *Examine existing MRV best practice* to ensure the MRV plan is designed according to national requirements.
- *Perform* continuous *review and improvement of the MRV plan*. Organisations with different expertise should be involved, in order to maximise technical capabilities.

d. Build on what you have – minimise the need for new indicators and institutions

- Use and build on indicators they already have wherever possible. This should make monitoring easier and also make the indicators more relevant and linked to what they are already focussed on achieving for their country.
- Wherever possible the existing development plan indicators and/or Climate Change Action plan indicators should be looked at to see if they can be used for NAMA indicators
- Only where there are no relevant indicators should new indicators be selected
- Thinking about the level of indicators being developed from "Input level" up to "Outcome level
- The higher up the hierarchy, the more joined up the indicators should be few high strategic level indicators common to many actions (NAMAS, Development plan activities, climate change action Plan activities), lower down, the more individual and numerous the indicators become, these may be specific only to activities in a specific action or project

e. Taking account of policy interactions

- GHG mitigation policies do not exist in isolation
- Avoid double counting and omissions
- Important to consider other policies that may affect the same variables (AD and EF), that the policy in question would be affecting
- An assessment of what other interventions are leading to reinforcing or counteracting trends because there may still be activity even in a 'do nothing' scenario, because other policies are having the same effect
- Consider other policies, carry out a mapping exercise. What are the possible policies that are targeting the same emissions source(s) and will they be neutral/ independent, counteracting or reinforcing?

Discussion Highlights

- <u>On having mitigation actions in the absence of baselines</u>
  There are chances that a country might not need massive calculations since determining the baselines depends on what a country wants to achieve taken into consideration the "no regret options" despite of data limitation. Unless a country wants to have recognition from the international level, setting the baselines is required.

- <u>On importance of causality, like possible co-benefits such as linking generation of jobs to mitigation action.</u>
  If there are supplementary indicators where creation of jobs is a by-product of the activity, it can be attributed to certain policies, like mitigation and development. Nonetheless, setting up of mechanism either simple or complex would still depend on the decision of the country based on their context.

Group Exercise III: National policies for emission reduction and GHG measurement

The same groups were tasked to identify and share their experiences on development of indicators at the national level. They were also reminded that the frame for the discussion is to fill out the indicator workplan template. After their group discussion, reporter from each group was asked to present their respective outputs in a talk-show type presentation where they were asked key questions by the moderators.

Table 10.Group 1. China's Reduction of Carbon Intensity

Sector Involved	All Sectors	
Responsible Entity for MRV process	State Council and National Bureau of Statistics NDRC	
Intended target Outcome	40-45% reduction carbon intensity in 2020	
Indicators to Monitor Outcome	**Level of Uncertainty**	**Data Source**
Industry structure	Low	National Bureau of Statistics, NDRC
Reduction of energy consumption per GDP	Medium	
Non-fossil fuel energy consumption	Low	
Forest Coverage	High	
Status of the MRV system in place	Operational and pending for improvement	
Barriers and restraints in defining measurable impacts	Causal relationship is uncertain Data quality is low Lack of incentives	

Table 11. Group 2. Philippines' Case

Sector Involved	Energy including Transportation Industries and Waste		
Responsible Entity for MRV process	Climate Change Commission, DENR, DOE NICCDIES currently being developed		
Intended Target Outcome	**Indicators to Monitor Outcome**	**Level of Uncertainty**	**Data Source**
RE: Sustainable, RE and ecologically-efficient technologies adopted as major components sustainable development	RBMES (currently being developed)		
	Installed RE Capacities	Medium	
Climate-smart industries and service promoted, developed, and sustained	Low carbon vehicles/transport	Medium-High	
Sustainable livelihood and jobs created from climate-smart industries and services	Jobs created	Low	
	Eco-efficient production indictors	High	
Status of the MRV system in place	MRV System currently being developed		
Barriers and restraints in defining measurable impacts	Developing indicators		

Table 12. Group 3. Vietnam's National Policy Matrix for Climate Change

Sector Involved	All Ministries		
Responsible Entity for MRV process	National Commission on Climate Change		
Intended Target Outcome	**Indicators to Monitor Outcome**	**Level of Uncertainty**	**Data Source**
Policy issuances on CCC by Different Ministries	Number of policies issued	Accurate Low Medium	Line Ministries
	Progress (time elapsed in issuing policy)		
	Resources used in issuing policy (financial, manpower, etc.)		
Status of the MRV system in place	No clear MRV but can be an MR		
Barriers and restraints in defining measurable impacts			

Discussion Highlights

- On developing the indicators in terms of starting point, challenges, and difficulties.
  For China, the government invests a lot on MRV system, as well as international agreements for support. It has developed a five-year plan in which regulations were set by the National Development and Reform Commission. The approach on MRV system was top-down – five (5) major categories related to CC with 30 corresponding indicators for mitigation were developed by the National Bureau of Statistics. Indicators for adaptation on one hand are still pending for improvement. The country's target is allocated to different provinces, wherein data are collected by the local government to be submitted to National Bureau of Statistics.

  For the Philippines, the Climate Change Commission takes the lead in the discussion of MRV system with sectoral groups. While in terms of GHG inventory, PSA does not have the budget yet but the agency already includes this gap for conduct of future surveys.

  For Vietnam, the system was developed through support from an international institution that focuses on monitoring and reporting only. And since the arrangement was under an international funding, the government needs to put a policy to sustain the program. While in terms of compliance with the international regulations, it would still depend on its economic status.

- On impacts of NAMA to country's development plan, for instance in the Philippines the Climate Change Adaptation Plan is being mainstreamed with the country's development plan.

  In Beijing, alignment is very easy due to its current situation. For instance, Beijing is known for its air quality, alignment is not direct to industry development rather beyond industry economics that looks at other sectors like health. Thus, it is necessary to look at the development plan and possible entry points in terms of hooking up the NAMAs.

  IISD has developed a guidebook for NAMAs, where it details steps from listing, screening using criteria and evidence of viability and non-negative benefits to aligning with the country's development strategies. For instance in Kenya, the country looks at NAMA options that are aligned with their development strategies.

IV. Sustainable Development Indicators

Sustainable Development Indicators for Mitigation Actions

Mr. Jason Dion, International Institute for Sustainable Development (iisd)

Mr. Dion gave a quick overview of IISD and its partnership with UNEP DTU and support from UNFCCC on measuring sustainable development in NAMAs. The project was funded by UNDP through the NAMA Partnership's Working Group on Sustainable Development. It has two phases: first phase involved review of existing SD assessment tools to assess their applicability to the context of NAMAs and establish criteria for a NAMAs SDI framework; while second phase aimed to develop and pilot a NAMAs framework.

He presented five (5) relevant tools that focus on the SD impacts of mitigation options

a. *NAMA SD Evaluation tool* (South Pole and MDG Carbon). New excel-based tool with eight (8) worksheets; SDGs and Target, instructions, SD evaluation, Selection of indicators, MRV. It provides high-level methodological framework on SD co-benefit analysis form NAMAs, offers process guidance, links with SDGs, and functions as a tracking system that countries apply. The details of what to track and how to track are mostly left up to the user to determine.
b. *Indian Co-benefits approach*. Methodology for operationalizing a co-benefit approach to climate policy formulation. It is a decision-making tool that focuses on energy, but could be applied to other sectors. The approach is qualitative and employs multi-criteria analysis that considers economic growth, inclusion, environment, and GHG mitigation and provides final score compared to DIA that only provides visuals to compare between options that can be used for decision making
c. *Gold Standard*. A certification standard for mitigation projects that verifies GHG emission reduction, consult with local stakeholders, and improve environment and people's lives. A powerful tool but monetization can be complex and may miss part of the story.
d. *CDM SD tool*. Voluntary tool from the CDM Board for assessing SD impacts of CDM projects, outputs goes to PDD. A qualitative, web-based platform that walks user through consideration of various SD impacts.
e. *Development Impact Assessment (DIA) visualization tool*. Discussion facilitation, decision-making tool that links mitigation with SD co-benefits (+/-), provides a view that can fit in one page; sector-specific, where inputs can be qualitative or quantitative. The tool is being applied in the evaluation of NAMAs in Kenya's electric sector.

The different perspectives and priorities of each actor in terms of sustainable development are presented in the table below.

Table 13. Perspectives and Priorities of Each Actor in Sustainable Development

SD goals	Needs for SD assessment	Approaches/MRV	Challenges	
Public	*'Co-benefits'* shall reflect dev. goals for SD – nat. or sub-nat.- and incl. negative impacts	*Development first* - to align mitigation activities. *A national certification scheme* to ensure goals are reached	*Ex-ante assessment* most important. Ex-post also needed with independent review, e.g. a common registry. *Stakeholders involved* at all stages.	An *international NAMA SD Tool* - similar to the CDM SD tool - may be useful but more flexibility is needed. No obligations

SD goals	Needs for SD assessment	Approaches/MRV	Challenges	
Private	SD co-benefits are the *'social goods'* of investments. NAMAs are driven by the value of the social goods/co-benefits.	The monetary benefit of the social good - *unit based measurement* (X per unit) - is needed to identify the willingness to pay for mitigation actions	*A rigorous M&E process* is needed. Clear, measurable indicators – for planning and investment/funding. Accreditation useful.	The key challenge is to establish *government support* for quantification
Civil society	In NAMAs *GHG reduction is a co-benefit*. A need for coordination of SD goals between different levels and activities.	Also measure *negative impacts*. The key need is *a safeguard system* - anything that does not harm is good. Standardized (UNFCCC) guidelines with flexibility to certify SD impacts.	*Public participation* is a key element of SD assessment and may be a goal in itself. Qualitative and quantitative assessments are both needed to prioritize and show social returns.	Ensuring public participation is a major challenge. The key need is *a structured way to assess SD in NAMAs* – this is currently lacking
International agency	Development benefits are the driver. Climate change abatement is the co-benefit.	SD assessment is important to governments to justify public spending. Certification of SD is a good idea for visibility.	M&E should not be a burden to countries.	There is no need for a tool that forces indicators on activities.

Hence in summary, Mr. Dion presented the take-away points from literature review, surveys, and interviews they made related to the development of the SDI tools.

- *Holistic view - SD co-benefits assessments should have strong ties to all aspects of SD* so that SD contributions end up being ambitions
- *Importance of participatory processes* e.g. stakeholders' view are indeed taken into account to inform/modify the strategy/assessment and the stakeholders are aware of the planned participation process (instead of ad-hoc consultations: consulting rather than informing)
- *Qualitative assessments of different SD co-benefits is critical to form a basis* for more detailed quantifications, as well as guide the trade-off assessment between different NAMA choices.
- Key to have *specific quantified indicators that measure contributions to all aspects of SD* – as the overview of current projects and proposals showed a very brief and generic indication of benefits, strongly focused on economic.
- Need to *articulate and compare different options* that maximize mitigation benefits but also takes into account other aspects of **SD** and provide transparent comparison of the trade-offs and thus a justification for the chosen NAMA actions and projects … merge different measures
- *Need for both ex-ante and ex-post assessment* – ex-ante to inform the LCDS climate policy process and the design of individual NAMAs; ex-post to track progress towards the SD goals after implementation

Discussion Highlights

- Is there an available study that looks on comparability of different tools and visualization tool?
  Prior to setting SDIs, the country should have a clear direction in terms of its objectives and needs of different sectors. While different perspectives may be used as guide of the government, CSOs and private sector may have varying needs based on their respective point of views. Hence, the key is to find the link between existing MRV system, focusing on what needs to be done and improved based on country's situation.

- In looking at the capacity of a community on adaptation and mitigation, one may have a look into co-benefits or development impact assessment. However, Mr. Dion

mentioned that he is biased on the use of development impact assessment tool due to his experience and the tool has one view on mitigation and sustainable impacts. However, IISD is still collecting feedback on the next tools. Thus, Dr. Watterson mentioned that in Kenya, a simple method combining adaptation and mitigation was developed, which could be presented as reference IISD work.

Development and Integration of SD Indicators in the Philippines

Mr. Albert Magalang, CCO-EMB, DENR, Philippines

CDM eligibility depends on specific project circumstances. At the minimum, the main CDM eligibility criteria are as follows:

- not a baseline scenario
- is an additionality
- contributes to sustainable development
- host country participation is voluntary
- noth host and investor country have ratified KP
- Participating country parties have their respective DNA for CDM

The roles of DNA focused on formulation and development of a national CDM, development of criteria, indicators, standards, systems and procedures, and evaluation tools, assessment of proposed CDM projects, and monitoring of CDM projects. Figure below shows the basic steps on approval process of CDM projects. (insert figure)

In terms of general SD criteria, the country has three dimensions: economic, environmental, and social dimensions.

Table 14. Sustainable Development Criteria

Economic dimension	Environmental dimension	Social dimension
- **Provides livelihood and other economic opportunities in the community** - **Provides proper safety nets and compensatory measures for affected stakeholders** - **Promotes the use of cleaner, more efficient and environment-friendly technology** - **Provides new financial resources**	- Complies with environmental policies and standards - Improves local environment (e.g. air, water, soil) quality - Promotes sustainable use of natural resources	- Provides education and training which build the capacities of local stakeholders - Provides vulnerable groups access to local resources and services - Promotes local participation in the project

The scheme for measuring and monitoring SD benefits in the country is through point system. The guidelines cover both proposed and existing projects by giving scores to a set of sustainable development (SD) criteria/indicators that is applicable to a particular project.

A post 2012 assessment and monitoring of CDM projects was conducted that aimed at getting updates on the development stage of CDM project activities, identifying problems and issues of project developers, and providing recommendations to address the issues. Hence it resulted to the following:

A. <u>Survey results</u>

- CER issuances as compared to planned range from 32% - 79%, due to the low CER price and high transaction cost, some project proponents are deferring verification and CER issuance;

- Most CDM projects implemented were able to deliver the SD benefits to communities.
- There are CDM-related and non-CDM specific reasons affecting the decision-making of project proponents at different stages of project development.

B. Observations

- CDM-related specific reasons include carbon market price and technical barriers, which can be addressed by the improvement of the mechanism itself.
- Non-CDM specific reasons such as national policies can only be addressed by the broader approach of the national government.

C. Recommendations

- Explore other mechanisms (e.g. NAMAs or NMMs) as an alternative market for carbon credits generated by mitigation projects – to co-exist with the existing market mechanism;
- Actively support the improvement of the modalities and procedures of CDM to encourage better participation;
- National policies should promote the participation of the small players in the industry especially in the energy sector;
- DNA needs regular reporting system to facilitate better monitoring and feedback mechanism for the CDM projects

D. New approaches using SD indicators

- Domestic Incentive system for the business sector (e.g. Carbon Sequestration Initiative)
- Co-benefits (e.g. 1 ton of CO2 ~ US$100) – dependent on baseline data and linked to national priorities (significant roles of DOH, DA,DENR, DSWD, etc)

GHG and Non-GHG Indicators in Vietnam

Mr. Pham Nam Hung, Division of GHG Emission Management and Low Carbon Economy, Department of Meteorology, Hydrology, and Climate Change

Mr. Hung gave a brief introduction on the general information of Vietnam. In 2005, a GHG inventory was conducted for five sectors: energy, industrial processes (metal production), agriculture, LULUCF, and waste. The total emission excluding LULUCF accounted for 205.24ppm, while 155.48ppm total emissions including LULUCF.

The government of Vietnam passed various policies on mitigation and sustainable development:

Table 15. Policy on Mitigation and Sustainable Development

Policy	Implementation Date	Content
National Target Programme on Response to Climate Change	02/12/2008	Sets out a range of activities to move towards a low-carbon economy
Law on Economical and Efficient Use of Energy	17/06/2010	Measures for efficient use of energy and promotion of renewables with incentives, labels etc.
Environmental Protection Tax Law	Approved 15/11/2010 and 01/01/2012 in force	Possibility for environmental taxes e.g. on liquid fuels and coal and potential for carbon tax
National Master Plan for Power Development for the 2011-2020 Period with the Vision to 2030	21/07/2011	Energy price shall reflect marginal costs; tax incentives

Policy	Implementation Date	Content
Vietnam's National Climate Change Strategy	05/12/2011	Objective of low-carbon economy
National Green Growth Strategy	25/09/2012	GHG reduction targets; NAMAs; MRV system
Project of GHG Emission Management	21/12/2012	GHG reduction targets; NAMAs; MRV system

Consequently, the implementation of the above policies is through two (2) strategies:

a. *National Green Growth Strategy***.** Focus on 1,775 targets (transport 8%, agriculture 20%, LULUCF 20%, and waster 5%)
- Reduce the GHG emission intensity: 8-10% in period 2011-2020 as compared to 2010 level
- Reduce energy consumption per unit of GDP by 1-1.5% per year
- Reduce GHG emission from energy activities from 10-20% compared to BAU

b. *Sustainable Development Strategy*. Prime Minister Nguyen tan Dung signed a decision approving the Vietnam Sustainable Development Strategy for 2011-2020 on April 2012. The strategy has 30 SD indicators including indicator for energy consumption reduction for GDP (target 2%/year in 20200MPI), share of renewable energy in total energy consumption (target 4% in 2015 and 5% in 2020-MOIT). All of the indicators are supervised by line ministries and reported to PM.

Lastly, he presented indicators for mitigation actions in Vietnam at different levels: policy, project, measurement, progress and, and impact.

Development of Indicators in Pakistan

Mr. Mazhar Hayat, Section Officer (Climate Change), Climate Change Division

Mr. Hayat presented the sustainable development goals, climate change mitigation actions and the national circumstances of Pakistan.

Pakistan is a very small contributor to the problem, adding only 0.8% to these global emissions. The country is turning out to be one of the worst casualties of climate change based on the Maple Croft index, Columbia University vulnerability index and the recently launched "German Watch" climate risk index Pakistan can definitely be termed as prime victim of global "climate injustice" - bearing the burden of the impacts with a minimal contribution to this global problem. Thus, it has created a National Climate Change Policy and a National Sustainable Development Strategy. While, in the context of NAMAs, it has 7 NAMAs seeking support for preparation and gave details on energy efficiency to demonstrate their experience in developing indicators.

- Energy Efficient Lighting in Residential, Commercial, Industrial, and Outdoor Sectors of Pakistan
- Supporting Mechanisms for Promoting Distributed Generation (Net Metering, Wheeling, Banking etc.) in Pakistan to put 3 GW Alternative and Renewable Energy (ARE) Projects in next 7 years.
- Strategizing for Grid Strengthening / Improvement for evacuation of power from Solar Power Projects

- Accelerating the Market Transformation to Energy Efficient Lighting
- Development and Installation of Carbon Dioxide Sequestration Technologies in Pakistan
- Harnessing Municipal Waste of big Cities of Pakistan to Generate Electricity
- Strategizing for Grid Strengthening / Improvement for evacuation of power from Wind Power Projects

He emphasized that indicators should be SMART (specific, measurable, accurate, realistic, and time-bound), developed in two folds: as a management tool and report card in the context of sustainable development goal. They also developed progress and impact indicators for EE NAMA.

a. Progress Indicators for EE NAMA
   - Number of efficient products sold (or distributed) and in use.
   - Number of efficient products purchased at low cost and in use.
   - Number of media appearances (times), Number of viewers or listeners.
   - Additional enforcement programmes and/or officers trained to recognize standards violations.
   - Labelling programme established and in use by industry.
   - Facilities are built and scheme is operating, and handling Number of tons of spent products annually.
   - Number of sessions conducted (times), Number of persons trained.

b. Impact Indicators for EE NAMA
   - GHG Indicators: Number of tCO2e reduced
   - Non-GHG Indicators: Annual savings (amount) attributable to use of efficient lighting products; Amount of hazardous materials reduced or removed from waste streams and environment ; Number of jobs created

Table 16. Correlation between Impact Indicators of EE NAM with SDGs

S#	Impact Indicator	Meeting SDG
1	Number of tCO2e reduced	GOAL 08: Curb human induced climate change and ensure sustainable energy GOAL 07: Empower Inclusive, Productive and Resilient Cities GOAL 09: Secure Ecosystem Services and Biodiversity, and Ensure Good Management of Water, Oceans, Forests and Natural Resources
2	Annual savings (amount) attributable to use of efficient lighting products	GOAL 01: End Extreme Poverty including Hunger GOAL 02: Achieve Development within Planetary Boundaries
3	Amount of hazardous materials reduced or removed from waste streams and environment	GOAL 08: Curb human induced climate change and ensure sustainable energy GOAL 09: Secure Ecosystem Services and Biodiversity, and Ensure Good Management of Water, Oceans, Forests and Natural Resources
4	Number of jobs created	GOAL 01: End Extreme Poverty including Hunger GOAL 04: Achieve Gender Equality, Social Inclusion, and Human Rights

Group Excercise IV: Experience exchange on the development of Sustainable Development Indicators

A world café was then followed. Four rounds happened, in each round participants were tasked to select a table assigned to the resource persons so they can raise more questions related to each topic presented in the plenary. As the time for each round ended, the participants were asked to switch tables.
Highlights of the World Café Activity

1. **Philippines**
   a. Compared to other countries, technology transfer is already embedded in economic dimensions as criterion in sustainable development.
   b. Incentives from carbon sequestration are more of monetizing the CSR related projects being implemented by the private sector.
   c. There is need to expand to cover SD goals in terms of linking SD to existing MRV specific to CDM and M&E system.

2. **Vietnam**
   a. There are 250 CDM projects in Vietnam where indicators differ from one project to another.
   b. Every sector has a development action plan in which mitigation plan is being integrated. However the challenge is financial support since the national budget is more focused on adaptation

3. **Pakisatan**
   a. Socio-economic indicators are automatically included in NAMA planning and funding
   b. Most NAMAs are focused on energy due to country's experiece on power interruption.
   c. Local communisties ask regading the inatallation of energy source or is it the government who reprimands the need?

4. **IISD**
   a. The development impact assessment tool has somehow determines the negative effects of policies; nonetheless there is an effort in developing policies that would counter the adverse development impacts.
   b. There is limited available guidelines on NAMA, but in terms of NAMA submission to registry, there is little requirement on development impacts.

Figure 3. World Cafe Output

V. Transformational Change

Transformational Change in the Context of Mitigation Actions and Development Indicators

Dr. Sudhir Shrama, UNEP DTU Partnership

NAMA is a tool to contribute to limiting the increase in temperature below 2°C through mitigation action, that leads to deviation from BAU emission and to transform development toward low emission pathways in medium to long term.

In most literatures, transformational change is related to private sector. It defines changes as incremental, transitional and transformational. Transformation is change of profound nature. It is the creation and change of a whole new form, function or structure. It is to create something new that has never existed before and could not be predicted from the past. Thus, transformation is a "change" in mindset, based on learning a system of profound knowledge and taking actions based on leading with knowledge and courage.

In the context of transformational change to low carbon development, it is to have a chance of greater than 75% below 2 degrees and in to have 40%-60% below 1990 level global emissions. However, one of the key challenges is development of strategy that follows the process under UNFCCC in terms of starting actions on maintaining sustainable development paths.

There are three (3) scales on transformational change, a) breaking away from the past, 2) changing of mindset, and courage or leap of faith. He demonstrated transformation change through the following examples:

a. Results of the study of US health care sector transformational change.
    - Five interactive elements appear critical to successful transformation of patient care: Impetus to transform - For Climate Change it is the disastrous impacts;
    - Leadership commitment to quality - Highest Political Level commitment;
    - Improvement initiatives that actively engage staff in meaningful problem solving - Strong stakeholder participation;
    - Alignment to achieve consistency of organization goals with resource allocation and actions at all levels of the organization - Integrating climate change in all development planning aspects; and
    - Integration to bridge traditional intra-organizational boundaries among individual components - strong coordination with all executing and implementation arms.

b. *Nokia, have undergone transformational change* by changing their core products or focus as new technology comes along. Company began in 1865 as a paper mill. Following World War II, Nokia entered the telegraph and telephone business as a cable manufacturer. In the 1980s Nokia was a television manufacturer and transformed itself into a manufacturer of cell phones during the Finnish recession of the 1990s.

c. *Transformation in the publishing world*. Entire industry undergoing transformational change associated with new IT technology enabling delivering content online.

Meanwhile, in terms of ensuring transformational change impact of NAMAs, below should be taken note:

a. Transformational change is a systemic change driven by long term vision and strategy from the top - thus defining a strategy key to ensuring transformational change.
b. Ensuring means of continually responding, adapting and innovating
    - Effective implementation of a new solution.
    - Creation of the tools, skills and organisational capacity for ongoing change to integrate climate change into decision making and implementation,

- Focus on changing behaviour (policies, regulations, incentives), and
- Adding decision making and continuous assessments to the system (Monitoring)

c. Transformation – Integration, Capacities, and Feedback

The indicators should be able to track the progress and benefits in terms of SD:

a. Transformational change, both, for monitoring and evaluating climate change strategy implementation, as well as, at NAMA level.
b. Transformation indicators track systemic changes, which indicate sustainability of intervention.

- Behaviour of actors/stakeholders
  - Government - Integrating consideration of GHG impacts in: development planning; policy & regulation development; and, allocation of budgetary resources.
  - Private sectors and households - investments in options/equipments/technologies that have low GHG impact.
  - Finance sector - integration of GHG impact consideration
- Capacities of decision makers and actors/stakeholders
- Capacities of decision makers and actors/stakeholders
  - To design and implement regulations and policies that incentivizes right choices.
  - To design systems and enforce regulations for ensuring appropriate behaviour.
  - To evaluate various options and choose the appropriate options.
  - Capacity in the system to measure and estimate the GHG impacts of actions.
- Information - key to making the right choice
  - institutions and systems to disseminate information on low carbon options
  - Ease of access to information on low carbon options
  - Integration of climate change issues in education and training curriculum.

In summary, transformational change can be framed as:

a. A system-wide change.
b. Sustainability of efforts is a key to ensure system-wide change.
c. Monitoring of transformation goes beyond usual progress and impact indicators.
d. Monitoring needs to focus on enabling conditions that ensure a systemic change.

Discussion Highlights

- What are the experiences of other countries especially on technologies to make NAMAs effective?
  A lot of structure is limited only in terms of looking at the structure of the government, however there are other stakeholders that should be involved like CSO and the private sector, so actions would become more relevant. The actors need to understand the need for changes and how change would come about.

- On main drivers for transformational change in the context of economy that is more liberal compared to government that has regulations.
  High level of political commitment is the main driver since the government plays a big role in influencing behavior to increase the stress of tools in terms of involving CSOs and the private sector parallel to conduct of information drive on transformational change.

  For a centralized government, the creation of right incentives and allocation of resources from the government is easier due to their control, while decentralized government delves much more on concerns related to regulations and policies.

- On difference between transformational change and SD
  Sustainable development is a set of matrix that focuses on outcomes of the development considering key variables like equitable, inclusive, reducing impact to environment and addressing basic issues, whereas transformational change is getting at a particular state of being and influencing the system that would deliver the final stage in achieving goals.

Group Exercise V: Country Experience of national Transformational Change Potentials

The participants were divided into three (3) groups and tasked to discuss the following key questions:

- Is the NAMA an element of a broader programme or policy framework?
- Does the NAMA help to change the prevailing structure of the sector that contributes to high emission levels?
- What transformational impacts does the NAMA have beyond the scope of the project?
- Does the NAMA envisage the participation of the private sector?

Table 17. Transformational Change Workshop

Case	Element of a broader programme or policy framework	Change in prevailing structure of the sector that contribute to high emission levels	Transformational impacts does the NAMA have beyond the scope of the project	Participation of the private sector?
China Emission Trading	• High-level Commitment • Functioning Institutional Arrangement (multi-level, multi-sector) • Part of bigger	• In business processes • In mindset: business cost and opportunity • Coverage of the sectors (caps)	• Supply impact chain • Investments and corporate image • Inputs in the planning process	• Employment • Improve expertise on MRV, data management • Air quality improvement

Case	Element of a broader programme or policy framework	Change in prevailing structure of the sector that contribute to high emission levels	Transformational impacts does the NAMA have beyond the scope of the project	Participation of the private sector?
	program/national plan			
Cambodia Case Study: Eco-Mobile	• Pilot project could be scaled up • Part on an effort to mainstream NAMA planning in line ministries • Transport sector seen as key. This NAMA part of strategy for the sector	• Changes of sector structures • Complemented by efforts to change behavior	Awareness raising effect Starting to see signs of shift in thinking	• Capacity building in manufacture of eco-mobile • Engaging private sector • Encouraging relationship between Japanese producers of eco-mobile and the domestic private sector
Philippines: Alternate Wet-Dry Planting			• Reduces CH4 Emissions • Water is made available for other uses • More Labor Intensive	Involvement of Irrigators Associations

VI. Forward Planning

Prior to proceeding to plenary session on next steps, Mr. Sven Egbers from GIZ presented the international partnership for Mitigation and MRV program. He then took note that group may consider capacity building that can be offered through the partnership until 2105.

Table 18. Suggested Activities

Topics	Formats	When
SD Tools	Workshop to elaborate SD tools e.g.	
GHG and Non-GHG Indicators per sector	"deep dive" training-workshop	
Development of MRV System	Webinar focusing on a specific MRV topic (upto 2 hours) Workshop (1 day)	
Set up MRV for non-GHG Indicators	Workshop	
Methodology for estimating stationary or mobile GHG emission (road and off road sector)	Workshop/Training	
Training on registration process of NAMA and development of NAMA proposals	Workshop/Training	NAMA Training November 20th Maldives
Establishing of baseline indicators	Workshop/E-learning	
Success stories/best practices of NAMA implementation in other countries (case study)	Webinar, E-learning	

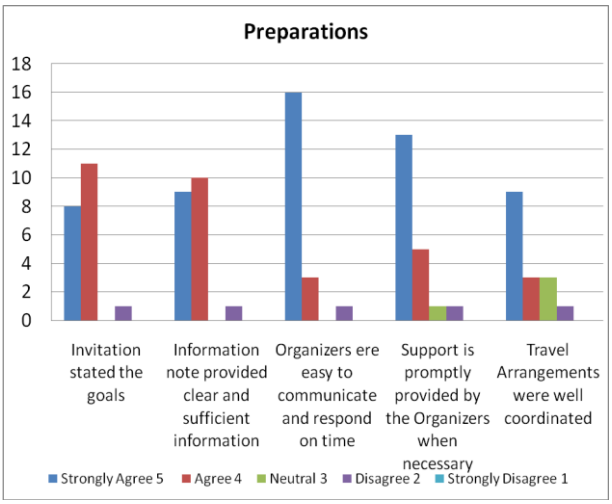
Closing Remarks

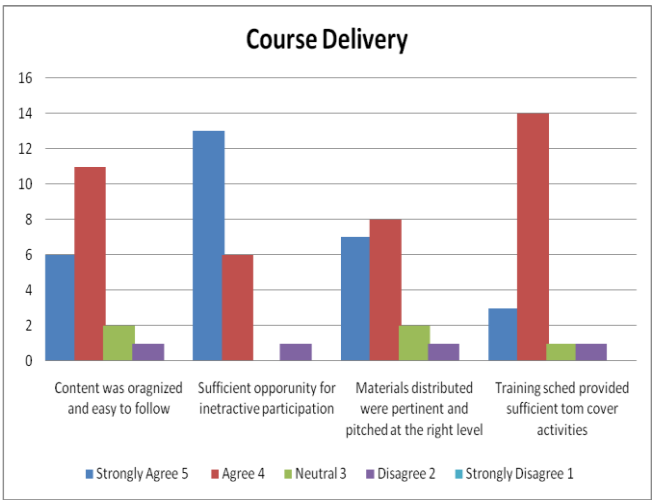
Dr. Bernd-Markus Liss thanked everyone who has been part of the activity and the secretariat from GIZ and the Commission for making the event possible. He mentioned that the session on transformational change is very enlightening since it immediately transformed possible actions in the Philippines. GIZ will continue to support countries in terms of working out the INDCs, pre-conditions and technical inputs for mitigation in the context of emission reduction and non-GHG benefits. Hence, the next few discussions with CCC would focus on coming up with a roadmap on how to move further in terms of addressing CC-related issues. To that end he thanked CCC and hoped that the partnership will continue towards an output oriented partnership.

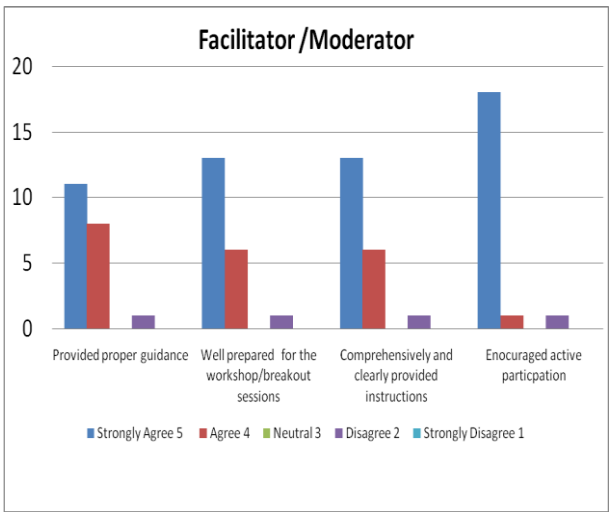
On behalf of the Climate Change Commission, ***Ms. Lovella Segayo*** thanked the delegates for their active participation and resource persons for providing knowledge in developing NAMAs. She also thanked GIZ for the continuous support to the Commission. She hoped that lesson-sharing will continue and all plans for 2015 will be realized.

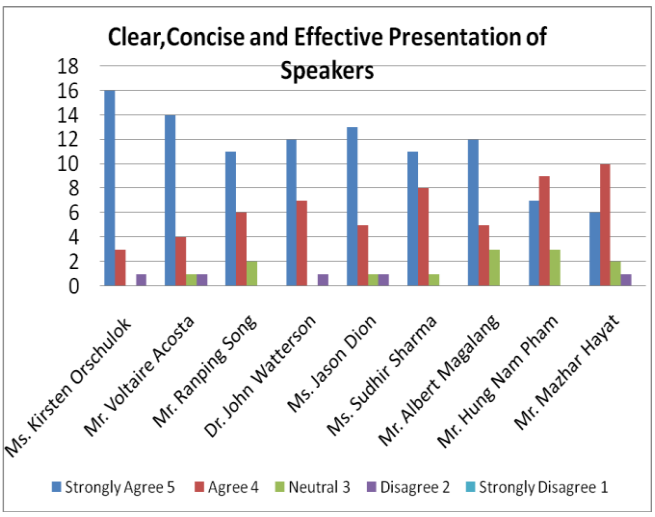
Post-Training Evaluation by Participants

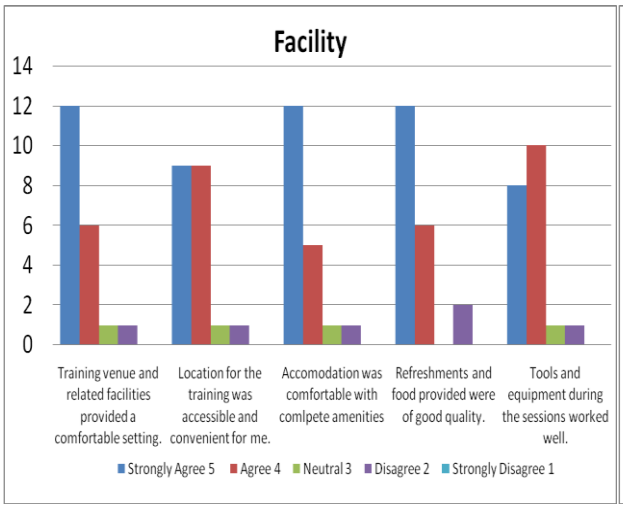
In general, participants showed much interest on the training-workshop given that majority of the participants' agreed that objectives were met, 50% of the respondents gave a rating of "4". On one hand, 60% and 70% of the respondents strongly agreed that they have learned a lot of new concepts and tools and satisfied with the increased understanding of the topics, respectively. Below are additional comments from the post-evaluation exercise.

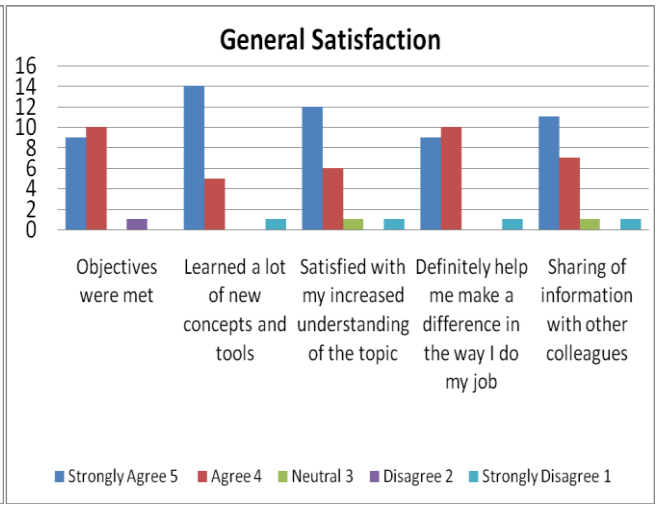








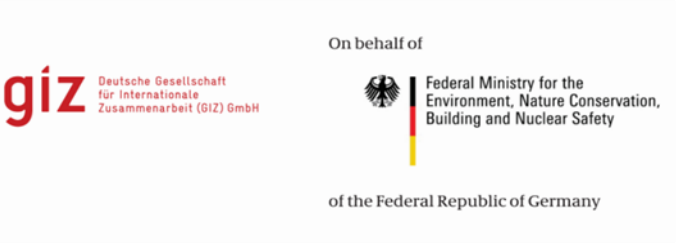




Specific Comments were:

Questions	Comments
What will you do differently in your work/practice setting as a result of this workshop	• Better understanding of how indicators can be established • Assist in the identification of data needs for the indicators • The administration in the workshop is excellent. • Topics are relevant, all these can be adopted/replicate on the way to carry out the workshop especially on climate change • Continuous study/research on new knowledge that I have gained • Have ice beaker • Develop any policy to use the kind of tools indicator and GHG emission • I think that my work, with the experience from this workshop is much improved • I will share the knowledge that I have gained to my workmates and colleagues.
What aspects of the workshop could be improved	• Get materials in advance • More details in discussion of topics • Estimate and review GHG and mobile combustion (focus on road and off road emissions factor at transport sector) • We need further discussion on non-GHG indicators and how to MRV them in proper way
Other Remarks	• The workshop was well appreciated as I learned a lot from it • Very informative and would facilitate developing the NAMAs indicators and MRVs • The training workshop is very informative and relevant to my work and understanding climate change in a broader perspective • Thank you for the opportunity to learn • Thank you to GIZ and CCC of the Philippines for making this workshop very fruitful result • GIZ should provide SA for participants for expenditure for Terminal round trip

Annex 01: Participants List



Information Matters Asian Regional Workshop on Greenhouse Gas (GHG) and Non-GHG Indicators:
Making climate change for sustainable development measurable
4-5 November 2014
Manila, Philippines

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Annex 02: Workshop Agenda

Information Matters Asian Regional Workshop on GHG and Non GHG Indicators: Making climate change for sustainable development measurable

4-5 November 2014
Molave and Narra Meeting Rooms, Dusit Thani Hotel, Makati City, Philippines

Rationale

The IPCC Fifth Assessment Report findings for Asia reveal that this region is one of the most vulnerable areas in the world with regards to the impacts of global climate change. An exchange of national experiences regarding GHG mitigation policies to avoid a further global warming was held during the Asian regional workshop of the International Partnership on Mitigation and MRV in Seoul, July 8-11 where the participants agreed on a technical follow-up workshop to expand the cooperation on this topic for the region. In addition, the participants from the workshops conducted under the Information Matters Project on Domestic MRV Systems identified the need for examples for sustainable development indicators (SDI) in MRV systems.

In order to strategically address these expressed needs, the Information Matters Project offers to support this experience and knowledge exchange through a two-day, regional peer-to-peer exchange on specific indicators, which will be hosted by the Philippines' Climate Change Commission (CCC) in Manila, Philippines. This proposed technical workshop will focus on the following topics: GHG indicators, GHG mitigation indicators, sustainable development and transformational change indicators, and the sharing of existing country-specific developments regarding these topics. In particular, the development of the Philippines' SDI in Clean Development Mechanism (CDM) projects is one example that demonstrates a national experience in developing nationally appropriate indicators and could therefore be shared as a good practice. Other good practices on GHG and non-GHG indicators exist all over Asia and – once shared among the participants – could contribute to improving the understanding, concept and implementation of region-specific indicators.

Objective and Methodology of the Workshop

The workshop's aim is to provide a venue for peer-to-peer exchange on the use of indicators to monitor GHG emission reductions and sustainable development in the context of GHG mitigation programs. Furthermore, the workshop will provide space on the use and integration of indicators across sectors and with the national level. The learning process will build on keynote introductory presentations to the four different segments, followed by plenary discussions and break out group exercises.

Format and Participants

The workshop is designed for up to 40 participants. To create the character of a follow-up meeting of the *Asian Regional Workshop: Tracking Mitigation Actions in Asia*, hosted by the Department of Environmental Affairs of the Republic of Korea in cooperation with the International Partnership on Mitigation and MRV, the participants will be government experts from Asian countries.

In addition to experience exchange among country representatives, inputs provided by international experts (e.g. World Resources Institute, Ricardo-AEA and GIZ) and hands-on exercises will support the understanding of the different indicators at the sectoral and national levels, the mainstreaming of indicators in national MRV systems and MRV systems to measure mitigation of emission, as well as the developed SDIs in connection with low-emission development and emerging developments in this area.

Project involved:
Host: Climate Change Commission, Philippines, in cooperation with GIZ (Information Matters Project and Support CCC Project, GIZ Philippines)

Information Matters Asian Regional Workshop on GHG and Non GHG Indicators:

Making climate change for sustainable development measurable

November 4-5, 2014 * Makati City, Philippines

AGENDA

1st Day

TIME	TOPIC	SPEAKER
Introduction and Global Context		
09:00-09:30	• Welcome Note • Group Photo Session • Overview of the Agenda for the next 2 days • Introduction of Participants	Secretary Mary Ann Lucille L. Sering, *Climate Change Commission (CCC), Philippines* Dr. Bernd-Markus Liss, *BMUB/GIZ SupportCCC/ Information Matters Project* Ms.Kirsten Orschulok, *GIZ Information Matters* Ms. Sandee Recabar, *CCC, Philippines*
09:30 – 09:45	*Board of Expectations*	Ms. Kirsten Orschulok and Mr. Voltaire Acosta, *GIZ*
09:45 – 10:30	***State of the Art: Which indicators are developed for which aim?*** ***Q+A***	Mr. Ranping Song *World Resources Institute*
10:30 – 10:45	*Coffee Break*	
Segment I: GHG and Non-GHG Indicators on the sectorial level Development and use of Indicators for progress monitoring in mitigation sectors		
10:45-10:46	General mechanics on the use of meta cards and breakout group workshops	Mr. Voltaire Acosta, *GIZ*
10:46 – 11.15	Group Exercise I • Indicator chain development exercise in break out groups	Mr. Ranping Song *World Resources Institute*
11:15 – 11:45	Presentation of the results of exercise I to the plenary	
11:45 – 12:30	Group Exercise II • Experience exchange in break out groups using the Indicator Work Plan for sectorial project experience	Ms. Kirsten Orschulok and Mr. Sven Egbers, *GIZ*
12:30-13:15	*Lunch*	

TIME	TOPIC	SPEAKER
13:15-14:00	Plenary presentation and discussion of results from exercise II	
Segment II: GHG and Non-GHG Indicators on the national policy Level I: Tracking Progress for national policies and their benefits for mitigation projects		
13:45 – 14:30	***National policies for emission reduction and GHG measurement*** Q+A	Dr. John D. Watterson, *Ricardo-AEA*
14:30 – 15:30	Group Exercise III • Experience exchange in break out groups using the Indicator Work Plan for national policy level experience	Ms. Kirsten Orschulok and Mr. Sven Egbers, *GIZ*
15.30-15:45	*Coffee*	
15:45– 16:30	Plenary presentation and discussion of results from exercise III	
16:30-17:00	Wrap-up and Closing of Day 1	
19:00	*Welcome Dinner*	Climate Change Commission

2nd Day

TIME	SUBJECT	SPEAKER
09:00	Preliminaries: Recapitulation, Review of Board of Expectations, and Introduction to Agenda for Day 2	GIZ
Segment III: GHG and Non-GHG Indicators on the national policy Level II: Sustainable Development Indicators and consolidation of sectorial and national indicators		
09:15 – 10:00	***Sustainable Development Indicators from a global perspective – Progress and state of the art*** Q+A	Mr. Jason Dion, *International Institute for Sustainable Development (IISD)*
10:00 – 10:30	*Coffee Break*	
10:30 – 11:00	***Experience and Knowledge exchange on the Development and Integration of Sustainable Development Indicators*** Q+A	Mr. Albert Magalang, *Environmental Management Bureau (EMB)-DENR, Philippines* Mr. Hung Nam Pham, *Ministry of Natural Resources and Environment (MONRE), Vietnam* *Mr. Mazhar Hayat, Section Officer (Climate Change), Climate Change Division, Pakistan*
11:00 – 11:45	*Group Exercise IV*	

TIME	SUBJECT	SPEAKER
	• *Experience exchange on the development of Sustainable Development Indicators*	
11:45 – 12:15	***Plenary Discussion***	
12:15 – 13:15	*Lunch*	
Segment IV: Indicators for Transformational Change		
13:15-14:00	***Concept of Transformational Change in the context of mitigation actions and the development of indicators*** Q+A	Dr. Sudhir Sharma, *UNEP DTU*
14:00 – 14:30	Group Exercise V • Discussion on the differences between the Concepts of Sustainable Development and Transformational Change and how it could implemented into national planning	
14:30 – 15:00	Plenary Exchange	
15:00 – 15:15	*Coffee Break*	
Next Steps		
15:15-16:15	Outlook and agreement on next steps: - for each country individually In the regional collaboration, also within the Asian Regional Group of the International Partnership on Mitigation and MRV • What support needs are required, who will be able to address them? • What can be learned in terms of what ambition is feasible/ realistic for countries?	Ms. Lovella Segayo, *CCC, Philippines* and Mr. Sven Egbers, GIZ International Partnership for Mitigation and MRV
16:15– 16:30	Wrap-up and closing	

Ms. Sandee Recabar, Mr. Voltaire Acosta, Ms. Kirsten Orschulok,
Mr. Sven Egbers, Ms. Agnes Balota, Ms. Bianca Gutierrez
Moderator

Annex 03: Overview of Presented Tools/Guidance

Black = "Overview" presented by Mr. Ranping Son

Blue = "Indicators to track national policies" presented by Dr. John D. Watterson

Green = "Sustainable Development Indicators" presented by Mr. Jason Dion

Focus/ Type of Indicator	Tool	Developed by	Description	Data source/ Input requirements	Weblink
Guidance	GHG Protocol Policy and Action Standard	World Resources Institute	Guidance on assessing GHG impact of effect of policy and action before and after implementation, and track progress of policy during implementation. The same framework can also be used to assess non-GHG impact.	Chapter 10 provides guidance and examples on how to track policy impact over time, especially on intermediate effect and effect indicators; It also provides guidance on monitoring relevant data and parameters. Appendix C provides example of non-GHG effect.	http://www.ghgprotocol.org/policy-and-action-standard
Guidance	Climate Policy Implementation Framework	World Resources Institute	Supports monitoring of progress towards climate policy adoption and implementation. Develop a comprehensive approach to monitoring policy implementation and impact, when used in conjunction with the GHG Protocol Policy and Action Standard.	Section III provides guidance on how to track policy implementation indicators, especially on the Input, Activity and Intermediate Effect indicators.	Will be available for download on www.wri.org by early Dc 2014
Indicator List	Indicators of Sustainable Development: Guidance and Methodologies	United Nations Department of Economic and Social Affairs	A list of 50 core indicators and 46 other indicators organized around 14 themes and 44 sub-themes.	Users can pick SD indicators from the list as appropriate.	http://www.un.org/esa/sustdev/natlinfo/indicators/guidelines.pdf

Focus/ Type of Indicator	Tool	Developed by	Description	Data source/ Input requirements	Weblink
Indicator List	Indicators for Sustainable Development Goals Work Draft (2014 May)	Sustainable Development Solutions Network	A list of 100 core indicators and other tier II indicators organized around 10 sustainable goals and 30 targets.	Users can pick SD indicators from the list as appropriate	http://unsdsn.org/wp-content/uploads/2014/05/140522-SDSN-Indicator-Report.pdf
Indicator List/Guidance	MRV of NAMAs: Guidance for Selecting Sustainable Development Indicators	Center for Clean Air Policy	Guidance on how to select SD indicators; A list of indicators organized around economic, social and environment effect.	Users can pick SD indicators from the list as appropriate.	http://ccap.org/assets/MRV-of-NAMAs-Guidance-for-Selecting-Sustainable-Development-Indicators_CCAP-Oct-2012.pdf
Tool	Methodological approach to using **indicators – "RAG" or Red, Amber, Green rating** (*Part of the UK indicator framework for monitoring carbon budgets*)	UK Climate Change Committee	"**Traffic light**" evaluation of progress towards an indicator target	The data source will be the progress towards a value of an indicator. As an example of the application of the approach, see Table 2: *Non-traded sector traffic light assessment*	http://www.theccc.org.uk/wp-content/uploads/2014/07/CCC-Progress-Report-2014_web_2.pdf
Tool	Tool to measure and report synergies relating to adaptation and mitigation activities	Ricardo-AEA, LTS and Baastel	Index score method for adaptation, mitigation and development. The synergies screening methodology is used to identify interventions that will have synergies and trade-offs. This could be modified to deal with just adaptation and mitigation, or	See Section 3. *Synergies Screening Methodology* for details	http://www.kccap.info/

Focus/ Type of Indicator	Tool	Developed by	Description	Data source/ Input requirements	Weblink
			extended to cover other dimensions.		
Guidance	Quantification of the effects on greenhouse gas emissions of policies and measures. Reference: ENV.C.1/SER/ 2007/0019	European Commission	Ex-post evaluation of climate change policies at a European level		http://ec.europa.eu/clima/policies/package/docs/ghgpams_report_180110_en.pdf
SD impacts assessment guidance	Development Impact Assessment (DIA) Visualization Tool	NREL, ECN, IISD, GIZ, for LEDS GP	This tool links an action's development impacts with its mitigation potential and cost to provide a comprehensive basis for decision making and communication, compared to mitigation analysis using marginal abatement cost curves alone	Technology options, expert judgment and available data	ftp://ftp.ecn.nl/pub/www/library/ report/2012/l12070.pdf
SD impacts assessment guidance	Indian Climate Change Policy: Exploring a Co-benefits Approach	Navroz K Dubash, D Raghunanda n, Girish Sant, Ashok Sreenivas	This paper outlines a methodology for operationalizing a co-benefits approach to climate policy formulation, with a focus on policies related to energy	Technology options, stakeholder prioritization	http://www.mapsprogramme.org/ wp-content/uploads/ Indian_Climate_Change_Policy-A-Co-benefits-Approach-Dubash-et.-al.-EPW.pdf
SD impacts assessment guidance	NAMA SD Tool	South Pole & MDG Carbon	This paper provides a methodological framework to assist developing countries to quantify, and to the extent possible, monetize co-benefits of mitigation	Empirical data	Here (long link)

Focus/ Type of Indicator	Tool	Developed by	Description	Data source/ Input requirements	Weblink
			actions, including recommendations for the development of NAMAs.		
SD impacts assessment guidance	The Real Value of Robust Climate Action	Gold Standard	This paper provides a methodological framework to capture and monetize the environmental and socio-economic net benefits associated with issued Gold Standard (GS) projects to demonstrate the value and impact created	Categories of CDM projects	http://www.goldstandard.org/
SD impacts assessment guidance	CDM SD Tool	CDM	This tool aims to assist project participants in describing the sustainable development co-benefits of their CDM activities against established criteria, to enhance transparency, comparability and consistency.	CDM Project Design Document (PDD)	https://www.research.net/s/Request_CDM_SD_Tool

Annex 04: Article published in CCC's Website

http://climate.gov.ph/index.php/media-resource/25-media-resources/photo-release/86-information-matters-asian-regional-workshop-on-ghg-and-non-ghg-indicators

Information Matters Asian Regional Workshop on GHG and non-GHG Indicators

The Climate Change Commission (CCC) hosted the "Information Matters Asian Regional Workshop on Greenhouse Gas (GHG) and Non-GHG Indicators" in partnership with the Information Matters Project of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and in cooperation with the International Partnership for Mitigation and Measurement, Reporting and Verification (MRV) on November 4-5, 2014 at the Dusit Hotel, Makati City. Around 23 government representatives from 10 Asian countries participated in the workshop, including delegates from Cambodia, China, Lao PDR, Malaysia, Maldives, Mongolia, Pakistan, the Philippines, Singapore and Vietnam.

The activity was an offshoot of an Asian regional exchange of national experiences regarding GHG mitigation policies, which was held in Seoul, South Korea, last July where participants proposed a follow-up technical workshop to expand the cooperation on climate and sustainable development indicators (SDIs) for the region.

In her opening message, CCC Vice Chair Secretary Mary Ann Lucille L. Sering welcomed the Asian delegates to the Philippines and quoted the adage that "we cannot manage what we cannot measure," highlighting the importance of baselines and econometrics to support these in the context of each country's development and green growth priorities.

Dr. Bernd-Markus Liss, GIZ Principal Advisor for Climate Program in the Philippines, noted the importance of partnerships at various levels and that GIZ presently serves as the secretariat for international learning exchanges on climate change mitigation and MRV. He was positive that the workshop would facilitate the sharing of efforts by Asian countries and would lay the foundation for more interaction in the future.

The regional workshop covered the following topics: GHG mitigation indicators; sustainable development and transformational change indicators; and the sharing of existing country-specific developments. The event provided the venue for participants to gain knowledge on the use and integration of indicators across sectors and at the national level.

In addition to the experiences shared by country representatives from Pakistan, the Philippines and Vietnam, inputs were provided by international experts from the World Resources Institute (WRI), Ricardo-AEA, International Institute for Sustainable Development (IISD), United Nations Environment Programme (UNEP)-DTU Partnership and GIZ. Breakout group exercises supported the appreciation of the different indicators at the sectoral and national levels, the mainstreaming of indicators in national MRV systems to measure emission mitigation, as well as the developed SDIs in connection with low emission development and emerging advancements in this area.

The CCC then facilitated the discussions on the next steps for further regional collaboration within the Asian Regional Group of the International Partnership on Mitigation and MRV. Among the initial topics identified were trainings on specific sustainable development tools, a deep dive on sectoral GHG and non-GHG indicators, establishment of baseline indicators, development of a MRV system with application of non-GHG indicators and development of nationally appropriate mitigation actions (NAMAs) proposals with peer-to-peer exchange on country-specific case studies.

The Information Matters Project is part of the International Climate Initiative. The German Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag.

Annex 05: Post-Training Evaluation by Participants

	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1	Total	Weighted Average
PREPARATIONS							
Invitation stated the goals	8	11		1	0	20	**4.30**
Information note provided clear and sufficient information	9	10		1	0	20	**4.35**
Organizers were easy to communicate and respond on time	16	3		1	0	20	**4.70**
Support is promptly provided by the Organizers when necessary	13	5	1	1	0	20	**4.50**
Travel Arrangements were well coordinated	9	3	3	1	0	16	**4.25**
COURSE DELIVERY							
Content was organized and easy to follow	6	11	2	1	0	20	**4.10**
Sufficient opportunity for interactive participation	13	6	0	1	0	20	**4.55**
Materials distributed were pertinent and pitched at the right level	7	8	2	1	0	18	**4.17**
Training sched provided sufficient tom cover activities	3	14	1	1	0	19	**4.00**

	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1	Total	Weighted Average
FACLITATOR/MODERATOR							
Provided proper guidance	11	8	0	1	0	20	**4.45**
Well prepared for the workshop/breakout sessions	13	6	0	1	0	20	**4.55**
Comprehensively and clearly provided instructions	13	6	0	1	0	20	**4.55**
Encouraged active participation	18	1	0	1	0	20	**4.80**
SPEAKERS: Clear, Concise and Effective Presentation							
Ms. Kirsten Orschulok	16	3	0	1	0	20	**4.70**
Mr. Voltaire Acosta	14	4	1	1	0	20	**4.55**
Mr. Ranping Song	11	6	2	0	0	19	**4.47**
Dr. John Watterson	12	7	0	1	0	20	**4.50**
Ms. Jason Dion	13	5	1	1	0	20	**4.50**
Ms. Sudhir Sharma	11	8	1			20	**4.50**
Mr. Albert Magalang	12	5	3			20	**4.45**
Mr. Hung Nam Pham	7	9	3			19	**4.21**
Mr. Mazhar Hayat	6	10	2	1		19	**4.11**
GENERAL SATISFACTION							
Objectives were met	9	10	0	1	0	20	**4.35**
Learned a lot of new concepts and tools	14	5	0	0	1	20	**4.55**
Satisfied with my increased understanding of the topic	12	6	1	0	1	20	**4.40**

	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1	Total	Weighted Average
Definitely help me make a difference in the way I do my job	9	10		0	1	20	**4.30**
Sharing of information with other colleagues	11	7	1	0	1	20	**4.35**
FACILITY							
Training venue and related facilities provided a comfortable setting.	12	6	1	1	0	20	**4.45**
Location for the training was accessible and convenient for me.	9	9	1	1	0	20	**4.30**
Accommodation was comfortable with complete amenities	12	5	1	1	0	19	**4.47**
Refreshments and food provided were of good quality.	12	6		2	0	20	**4.40**
Tools and equipment during the sessions worked well.	8	10	1	1	0	20	**4.25**

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