United Nations Office for Sustainable Development
Incheon, Republic of Korea

Greenhouse Gas Inventory System Training Workshop

Bangkok, Thailand,
10-13 September 2018

Substantive Report

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Substantive Report on the Greenhouse Gas Inventory System Training Workshop

Introduction

The Greenhouse Gas Inventory System Training Workshop sought to provide policymakers, policy shapers and working-level staff members in national governments and private sectors in the Asian region with the concepts and tools for setting up the GHG inventory system in different countries. The present substantive report provides (1) an analysis of each session of the workshop with a synthesis of presentations and discussions and (2) an overall synthesis of the proceedings, outcomes, conclusions and recommendations. The annexes include a bibliography, links to the agenda, participant list and other resources.

The main objectives of the training workshop were as follows:

- Capacity development for policymakers, policy shapers and working-level staff members in governments, think thanks, private sector and civil society in the Asian region on the 2030 Agenda and the SDGs;
- Contribution to the implementation of GHG inventory system in different countries and understanding technical aspects of climate change, such as emission trading and GHG reduction technologies;
- Exchange of advanced knowledge and experiences on climate change and network-building among participating organizations, countries and regions to promote the implementation of SDGs and Climate Action

The workshop was structured around three major concepts to assist the understanding of GHG inventory in more detail. First, the workshop included the general understanding of global climate change regimes such as the Paris Agreement, NDCs (Nationally Determined Contributions) and the 2030 Agenda and the SDGs. It helped to understand the importance of climate change and the reasons for reducing GHG emissions. Second, the workshop also discussed main principles regarding the calculation of GHG emissions on the national level, as well as IPCC Guidelines Vol.1 to 5. To help better understand how to calculate GHG emissions, this session contained practical exercises and group activities designed to help the participants calculate GHG emissions on their own. Lastly, the workshop studied the case of national GHG mitigation target setting in Korea, in addition to the financial support methods for GHG mitigation projects. The workshop equipped the participants with technical knowledge regarding GHG emissions calculation, which can be applied to climate change policies in their home countries. Furthermore, the participants were exposed to diverse policies and global discussions regarding sustainable development and climate change.

The workshop consisted of formal presentations and group activities. Group activities involved concrete practical exercises calculating GHG emissions and setting the GHG mitigation targets. In the half-day field trip, the participants went to a solar park called the Sunny BangChak, presented as a GHG mitigation option.

Context

The workshop took place immediately after the Bangkok Climate Change Conference. The year 2018 is very important because it is the year in which the rulebook regarding specific implementation of the Paris Agreement must be published. In December 2018, a Conference of Parties will be held in Katowice, Poland, where the rulebook describing the specific implementation plan of the Paris Agreement will be presented. According to the Paris Agreement, all Parties are required to submit their Nationally Determined Contributions (NDCs) to the UNFCCC. The submitted NDCs will be assessed every five years. To meet the requirement of the Paris Agreement, it is essential to establish a national-level greenhouse gas inventory system that sets reduction targets and assess whether the targets are implemented. In particular, the Paris Agreement obligates all Parties to reduce their GHG emissions, which makes it necessary for all Parties to establish a GHG reduction target and assessment of implementation. In addition, it requires a high-quality GHG inventory system in developing countries. These are the reason that the workshop was focused on establishing the national level of GHG inventory system as a basic concept of climate change and mitigation action.

The full agenda of the workshop indicating sessions with speakers and readings is attached as Annex 1.

Monday, 10 September 2018

Morning

Formal Opening and Outline of Workshop

The Senior Development Management Expert of UNOSD, Ms. Eunhae Jeong, opened the workshop, providing an introduction of UNOSD. She briefly discussed the role of the UNOSD, explaining that it is one of the leading organizations addressing the SDGs through various activities and programs over the world. She divulged her viewpoint regarding the immediate action for the climate change (SDG 13). She also emphasized the seriousness of the climate change, responses to climate change, how to adopt SDGs to attain the 2030 Agenda and the importance of the Paris Agreement. Additionally, she explained the necessity of SDG 13 (Climate Action) and suggested three steps to meet the target as follows: 1) strengthening the resilience and adaptive capacity to climate-related hazards and national disasters in all countries; 2) integrating climate change measures into national policies and strategies; and 3) improving education, awareness-raising and human and institutional capacity on climate change. She concluded her address by emphasizing the importance of joint implementation of SDGs and Paris Agreement.

In her welcome address, the Inspector-General of Thai Ministry of Natural Resources and Environment, Mrs. Asdaporn Krairapanond, warmly welcomed the participants and speakers at the workshop. She also highlighted the urgency of the climate change action. She mentioned Thailand's target of reducing emissions by 20% by 2020, which is the long-term GHG reduction target in the country. She expressed her anticipation that the outcome of this workshop would be not only limited to an enhanced collective understanding of GHG, how to calculate it, policies on the climate change and the GHG reduction technologies: She hoped for the development of a strong network among the stakeholders throughout the world. She concluded her address by wishing successful implementation of the workshop.

The workshop coordinator Mr. Okhyun Yang, Associate Research and Policy Expert, UNOSD, then provided an outline of the 4-day workshop.

Session 1: Overview of Nationally Determined Contributions (NDCs) and NDCs Financing in Developing Nations

In his presentation, Mr. Dharma K.C, Executive Director of Climate Advocacy International in Nepal, introduced the Paris Agreement by comparing it to the Kyoto Protocol, discussed how to meet NDC targets in developing countries using NDC financing aids from developed countries, and presented NDC partnership program as one of the financing methods. He began the presentation with a brief YouTube video on the Paris Agreement, enabling the attendees to understand the basic concept of the Agreement. The video described advances in the global climate regime and the way forward to make it more flexible. The reason the Paris Agreement is more flexible than the Kyoto Protocol is that while the latter only includes the GHG reduction targets of Annex 1 countries and their implementation as an option to tackle the climate change, the former provides various options for addressing the climate change, including GHG reduction targets for all member countries, climate-resilient development, technology transfer and capacity building methods.

According to his presentation, approximately one-fifth of the NDCs submitted to UNFCCC consists of conditional contributions by developed countries such as financial subsidy, technology transfer, and capacity building campaigns. This is the reason that NDC financing is necessary: It is one of the key support mechanisms for developing countries to meet their NDC targets. He also pointed out that most developing countries impose such conditional components on their NDCs on developing countries. Finally, he stressed that it is not easy to prepare and implement NDCs in developing countries without financial and technical support from developed countries. He concluded his presentation by explaining NDC Partnership Program, which could be helpful for policymakers in developing countries.

Monday, 10 September 2018

Afternoon

Session 2: Achieving SDGs by 2030: Importance of Climate Change Regime under the Paris Agreement

In his presentation, Dr. Suhyong Chung, Professor at the Division of International Studies in Korea University in the Republic of Korea, explained the definitions of SDGs (Sustainable Development Goals) and SDG17 (Climate Action). He also explained the main principles of SDG Agenda, such as universality, integration and the notion of "no one left behind."
He also emphasized the importance of the workshop to attain effective implementation of SDGs, referring to the five elements of financing, multi-stakeholders, monitoring, national, and the capacity building.

According to his presentation, the warming effects caused by the climate change is already being observed globally, with countries experiencing changes in rainfall, in addition to more frequent flooding, droughts, intense rain and heat waves. Those climate impacts are much closer to us as they affect the availability of freshwater, food security, and energy. Also, it threatens our lives directly. He stressed that SDG 13 for Climate Action, therefore, is the most crucial among the 17 SDGs. He also emphasized the importance of the developing countries' contribution to SDG achievement. This is because the amount of GHG emissions in developing countries would increase by approximately 5 times by 2100 compared to 2010, which makes the mitigation potential of developing countries much higher than that of their developed counterparts. In this part, he reiterated that the role of developing countries is becoming ever more critical if we are to attain SDG13.

He restated that developing countries are important in the effort to tackle the climate change because their mitigation potential is much higher than that of developed countries. He also mentioned that political issues are related to climate change issues because climate change is tied to economic indicators such as GDP growth rates, industrial structure and primary energy usage. He emphasized, therefore, that political issues must be taken into account when addressing climate change issues. He explained the 6 pillars of general obligations as per the Paris Agreement: Mitigation, adaptation, finance, technology, capacity building and transparency. He described these principles as being inseparable from addressing climate change issues. He closed his presentation by stressing the Low Emission Development Strategies (LEDS) and Low Carbon Development (LCD), which are implementation tools for reaching the Paris Agreement and SDG13 (Climate Action).

Session 3: Policies of Republic of Korea on Climate Change

In his presentation, Dr. Minho Lee, Professor at the Department of Environmental Science and Engineering in Kyung Hee University, Republic of Korea, addressed the climate policies of the Republic of Korea. He briefed the audience on the climate policies in that country, citing mitigation and adaptation as the two main policy categories, and delved deeper into these topics later in his presentation.

In discussing the climate policies in the Republic of Korea, Dr. Lee began by talking about how the global CO2 emissions reached the highest levels in recorded history. He underscored GHG emissions in terms of various types of gases such as F-gas, N2O, CH4, and CO2, as well as industrial process and the resulting emissions levels that are continuing to rise. He also discussed various climate change policies instituted in Korea to reduce GHG emissions, with a particular emphasis on the Framework Act on Low Carbon Green Growth, explaining that the enactment of the law was the turning point for climate change policy in the Republic of Korea.

The main points of the climate policies were also delivered during this session. He introduced policies such as the national GHG inventory system, 2030 GHG reduction roadmap and Korean Emission Trading Schemes (ETS).
Furthermore, he described Korea's National Climate Change Adaptation Policy, which is a program to promote adaptation activities, as one of the major components of the Paris Agreement, whose importance is growing in recent years. Under the framework established by this policy, the National Climate Change Adaptation Center of

Korea was established, and the role of the country's Ministry of Environment was expanded to cover climate change adaptation.

Session 4: Main Contents of 2006 IPCC (The Intergovernmental Panel on Climate Change) Guideline-Vol. 1 (General Guidance Reporting)

In his presentation, Mr. Dharma K.C, Executive Director of Climate Advocacy International in Nepal, discussed his idea regarding the 2006 IPCC (Intergovernmental Panel on Climate Change) guideline during Session Four. His presentation covered the overview of the GHG emission inventory and its calculation. He put a special focus on ways to properly establish the national GHG inventory, providing practical advices for its calculation.

He briefly summarized the IPCC Guidelines of National Greenhouse Gas Inventories in general, then talked in detail about Volume 1, the part on General Guidance and Reporting. His presentation also dealt with the definition of the GHG emissions inventory. He emphasized that GHG inventory is a product of calculation annual emission and removal volumes. He provided comparison between not only the target gases delineated by IPCC Guideline 1996 and 2006, but also the sub-categories of GHG and their default values. In addition, he highlighted that GHG inventory should be developed using the same general guidance and reporting methods for the classified sectors by the IPCC Guidelines such as energy, IPPU (Industrial Process and Product Use), waste, and AFLOUs (Agriculture, Forestry and Other Land Use).

During his presentation, he provided general information regarding the GHG emissions inventory and its calculation. He also gave brief explanations of each chapter and appendix in the guidelines. In particular, he emphasized the importance of Volume 1 in establishing a national GHG inventory, as Volume 1 provides the fundamentals that help understand other volumes. The concluded his presentation by introducing a simple method of calculating GHG emissions.

Session 5: Main Contents of 2006 IPCC Guideline-Vol. 2(Energy)

In his presentation, Mr. Mert Engin, Senior Consultant, Kagitsokagi, Turkey, provided an overview of Volume 2 as well as practical calculation examples for the energy sector. His presentation emphasized the characteristics of Volume 2 in the 2006 IPCC Guideline. Firstly, Mr. Engin introduced how to calculate GHG emissions originating from the energy sector. He used methods defined in the 2006 IPCC Guideline Vol. 2. He mentioned that the energy sector has the biggest share in the total GHG emissions and almost 80% of the total GHG emissions originate from the energy sector in Annex 1 countries.

His discussion ventured into the various Tiers, from 1 to 3. Tier 1 involves activity data and default values, whereas Tier 2 describes the method to estimate GHG emissions using values calculated at a national or a regional level. Tier 3 requires calculation using an independent GHG emission estimation model or measured data from individual facility units. He stated that although it is hard to say that GHG emissions estimated using a higher Tier method are more accurate, countries must calculate their GHG emissions by identifying the correct Tier applicable to the features and practices of each emissions facility.

He finished his presentation by explaining the various GHG formulas of the energy sector. He showed a brief example of the calculation of GHG emissions by comparing various energy sector categories including non-CO2 emissions, biomass, aviation, road traffic and fugitive emissions.

Tuesday, 11 September 2018
Morning

Session 6: Main Contents of 2006 IPCC Guideline-Vol. 3(Industrial Process and Product Use)

In her presentation, Dr. Heejeong Yim, Director of Erdeliebe Institute in Republic of Korea, stressed the importance of allocation methodologies and discussed related issues using an example from the steel industry. She also detailed the way to calculate emissions using Volume 3, and provided more examples.

The main idea of this session was to enhance the audience's understanding on how to apply Volume 3. First, Dr. Yim introduced the definition of the tier system and how to allocate GHG emissions. She emphasized that allocation methods are critical factors in estimating GHG emissions in the IPPU (Industrial Process and Product Use) sector. Additionally, the steel industry was cited as an example to illustrate the issues of IPPU's allocation.

She mentioned that byproduct gases are usually generated from the industrial process of a steel company. If the generated gases are used as raw materials in power plants, then the steel industry has to choose the method of calculating its emissions, between an IPPU sector of steelmakers and an energy sector of power plants. In the case of using the generated gases that have been reused in other production processes, a method for the IPPU sector should be chosen for its calculation, while the gases are provided to third parties, like electricity or steam producers, the calculation should follow the energy sector methodology. The speaker completed the presentation by explaining a number of lessons learned from her experience on the national GHG inventory of the Republic of Korea. She pointed out that the national level guidelines based on the IPCC guidelines should be adequately trained, and it is imperative to consider the data traffic, data storage space and data size when building a web-based data collection process. In addition, she emphasized the importance of sufficient education and verification processes regarding the Tier 3 calculation method for large emitters.

Session 7: Main Contents of 2006 IPCC Guideline-Vol. 4(Agriculture, forestry and Other Land Use)

In her presentation, Dr. Patthra Penthamkeerati, Associate Professor, Environmental Technology and Management Faculty of Environment, Kasetsart University, Thailand, brought the details of the Volume and its features. A calculation was demonstrated as an example of using Volume 4, and she provided practical advices related to the calculation in the waste sector. She gave an overview of the Agriculture, Forestry and Other Land Use (AFOLU) sector according to the IPCC 2006 Guidelines. Primarily, she explained the basic concepts regarding how greenhouse gases are emitted or removed in the AFOLU sector.

She said the emissions in the AFOLU sector mainly comes from the management process of an ecosystem. Then, she explained the causes of emissions in this sector, which are direct and indirect emissions of agricultural activity, biomass burning, urea fertilization, and plantation categories. On her next slide, she introduced the method for calculating GHG emissions using activity data and emission factors, which are the most basic ways for calculating emissions from the AFOLU sector. Her presentation also covered the calculation formula, as well as examples of emission in the AFOLU sector. Dr. Patthra demonstrated various formulas for calculating GHG emissions, comparing each calculation method to sub-categories of emissions sources in the sector. She further explained more factors applied to various sub-categories to enhance the audience's understanding. She finished her presentation by demonstrating actual calculations of GHG emissions in each sub-category of the waste sector as a practical example.

Session 8: Main Contents of 2006 IPCC Guideline-Vol. 5(Waste)

In his presentation, Mr. Christoper Eric Godlove, Founding Principal, THINKCities Consulting, Belgium, showed the methodologies used to establish a national inventory in the waste sector according to the characteristics of the waste, and demonstrated how to calculate emissions using practical calculation models. He presented the details using Volume 5, covering the general information and methodologies according to the features, as well as important calculation models. This Volume focuses on how to estimate emissions in the waste sector. He explained the methodologies for a national GHG inventory in the waste sector that includes the solid waste disposal, the biological treatment of solid waste, and incineration and open burning of waste, wastewater treatment, and discharge sectors. Later, the presentation highlighted the basic concept of the Municipal Solid Waste (MSW) and its calculation methodology per each characteristic of waste.

At the same time, he discussed the main features of MSW in Asian regions and methods of the GHG emission calculation in the waste sector which varies in the treatment methods of MSW. Next, the presenter demonstrated

several useful calculation models, the First Order Decay (FOD) and the IPCC 2006 Waste model. He accentuated the FOD model as one of the most important GHG emission calculation methods. He used a spreadsheet-based tool, the IPCC 2006 Waste model, to explain and demonstrate a calculation. This model can automatically calculate the methane emissions amount by country, region and population level. Methane emission is the major emission source of the waste sector. He concluded by the emphasizing the important role of measurement, reporting, and verification (MRV) and gave an overview of key waste in Asian regions. He also provided wastewater organizations and other related internet-based resources.

Tuesday, 11 September 2018
Afternoon

Session 9: Tools and Guidance for Assessing Impacts of Policies and Actions

In her presentation, Ms. Cynthia Elliot, Associate Researcher, WRI (World Resources Institute), USA, suggested a new method for developing GHG inventory that can encompass the impact of climate policies, as well as climate actions used to reduce GHG emissions mentioned in the NDCs. According to her presentation, ICAT guidelines can address not only the MRV for the GHG emissions but also the MRV for the mitigation actions and policies mentioned together in the NDCs. Specifically, she introduced a guideline document prepared under the Initiative for Climate Action Transparency (ICAT) and explained how the MRV of policies and actions complements GHG inventories in the context of the Paris Agreement. In addition to this, she explained how to assess sustainable development and transformational impacts of policies and actions to supplement efforts to track progress toward NDCs and SDGs.

She explained that the ICAT guidelines enable member states to assess the impact of, resilience against, and capacity for GHG emissions, in addition to sustainable development potentials, as well as non-state and subnational actions. She emphasized that it can benefit users by calculating GHG emissions changed by the implementation of several policies such as feed-in tariff, emissions auction, emissions tax, and use of renewable energy. She concluded her presentation by introducing the four steps of ICAT guidelines, as well as pilot cases which applied ICAT guideline.

Session 10: MRV (Measuring, Reporting and Verification)

In his presentation, Mr. Yungyul Choi, 3rd Party Verifier, Korean Foundation for Quality, Republic of Korea, explained that the measuring process is an essential part of ETS (Emission Trading Scheme) because it is a part of the compliance cycle. He explained the process of the MRV compliance cycle using the EU-ETS case. Every January to March, each compliance company under the EU-ETS must submit their own emissions report. By the end of March, all compliance companies are required to verify and submit their emissions report to the EU Commissions. Finally, by the end of April, the EU Commission must verify the company's emissions reports, after which the compliance companies are required to surrender emissions allowances, calculated based on the verified emissions data.

He also explained the two methods for monitoring GHG emissions. One is the measurement-based method and the other is the calculation-based method. According to his presentation, the measurement-based method is more applicable in determining hourly emissions. Also, in practice, it is only relevant if the calculation method is not applicable. For the calculation method, it is standard to use a specific equation. He emphasized the importance of data management to improve the accuracy of GHG emissions amount. Also, it helps the verification process for the verifier.

Finally, he concluded his presentation by explaining the objective of the verification process. He pointed out that the objective of the verification process is to ensure that data are monitored and reported according to the Monitoring process and Reporting Regulation.

Session 11: Practical Exercise

Mr. Yungyul Choi, 3rd Party Verifier, Korean Foundation, covered Practical Exercise session. Practical Exercise session included group games. Mr. Choi divided the audience into 7 different groups of eight participants and explained the rules of the activity. Specific Activity Data for GHG emissions calculation were distributed to each group and using the distributed Activity Data, each group calculated the resulting GHG emissions on their own. The participants learned the Measuring, Reporting and Verification procedure through the game. They experienced the Measuring procedure through the calculation of their own GHG emissions amount and also experienced the Reporting procedure through the submissions of the calculation results of the GHG emissions amount. The participants experienced the verification procedure as Mr. Choi explained the process for submitting GHG emissions amount. Throughout the session, the participants benefited from the group game, learning the MRV from the Measuring to Verification. Furthermore, each group engaged in emissions trading market based on the verified GHG emissions data. The participants experienced not only MRV but also emissions trading market in an indirect way of the group game.

Finally, based on the accuracy of GHG calculation and emissions trading results, the best group was selected and received a prize. Through the whole process, the participants gained experience in the MRV until the ETS all together at once and it was very useful.

Session 12: Group Discussion

The group discussion was organized into seven groups. The moderators presented a roadmap for GHG reduction based on the basic GHG emissions information provided by United Nations Office for Sustainable Development (UNOSD) for virtual countries. Each group was asked to present a projected amount of GHG emissions by 2030, a GHG reduction target and a reduction plan to meet the reduction target. UNOSD provided each group with certain information on the general context of the country, historical GHG emissions status by gas and sectors which can estimate GHG emission level by 2030, and GHG mitigation potentials. Each group was required to select a representative to present their national mitigation roadmap, and the presentation was made by the selected representative. In addition, the presentation of each group was evaluated by the speakers of the workshop.

Each group presented a wide range of reduction and adaptation options and ambitious mitigation targets for each emission sector. Most groups proposed a minimum of 20% to a maximum 40% of reduction target by 2030, which were very ambitious. Some groups suggested adaptation options such as emissions trading and renewable energy that are more appropriate for mitigation options. In general, almost every group chose options that were suitable for reduction and adaptation. Overall, the group discussion helped the participant to understand the context of national GHG reduction plan and how to set the reduction options. Thanks to the active participation of the participants, the group discussion session was fruitful, and it enhanced the capacity for building national-level GHG inventories, the preparing for development of NDC and selecting of GHG reduction options.

Wednesday, 12 September 2018
Morning

Session 13: Setting the National Cap in the Republic of Korea (NDC and GHG Reduction Roadmap)

In his presentation, Mr. Jongchul Bang, Environment Researcher, GHG Inventory & Research Center of Korea (GIR), Republic of Korea, introduced the national GHG emissions cap in the Republic of Korea. He emphasized that Korea has been actively participating in the global response to climate change through its efforts to reduce greenhouse gas emissions. He explained that there are four steps to establishing the national GHG emissions cap: Technical Expert Working Group, Roadmap Preparation Working Group, Green Growth Committee and Cabinet meeting. Nearly 20–30 experts from relevant institutes participated in Technical Expert Working Group, which conducted the modeling

analysis of reference GHG emissions scenarios and reduction scenarios to meet the national emissions cap. Based on the result of the Technical Expert Working Group, the Roadmap Preparation Working Group finalized the national roadmap. Afterwards, the finalized national roadmap was reviewed and confirmed by the Green Growth Committee and received the final approval of the GHG reduction roadmap during the Cabinet meeting.

Since the declaration of the Low Carbon Green Growth vision in 2008, Korea has set its mid-term GHG reduction targets for 2020 and 2030. The initial GHG emissions reduction target for 2020 was set at 30%. He also explained that Technical Expert Working Group forecasted the GDP, oil price, industrial structure and other factors to set the national GHG emissions cap. 2020 GHG emissions scenarios were developed using the forecasted results, and the reduction options were also introduced for each scenario. The proposed 2020 GHG reduction target was submitted to INDC (Intended Nationally determined Contribution) of the Republic of Korea. In addition, the Republic of Korea developed 2030 reduction target to support the Paris Agreement. It is the emissions target to limit 2030 GHG emissions at 536 million tons of GHG which is reduced by 37% from the 851 million tons of GHG of 2030 BAU.

Session 14: Emissions Trading and the Linkage among Countries

In his presentation, Mr. Quoqiang Qian, Deputy General Manager, SinoCarbon Innovation & Investment, China, delivered his presentation on emissions trading and the link among countries. He started his presentation by explaining that pricing carbon is the most cost-effective and efficient way to reduce CO2 emissions.

He explained that ETS has been widely adopted by over 40 nations and 24 sub-regions, according to statistics provided by the World Bank. EU-ETS is the pioneer in the area and is the biggest ETS market in the world. Although it encounters many problems such as oversupplying of allowance and inappropriate regulations, it remains the most active and robust carbon market in the world. He talked about RGGI (Regional Greenhouse Gas Initiatives) and California, which are North American ETS markets. RGGI is receiving attention from the ETS market in a unique way that it can change its quota of allocation amount. He also introduced various emissions trading markets in developed and developing countries. South Korea, New Zealand, South Africa, Mexico and Colombia were introduced as examples of international emerging ETS market. He also emphasized that China's emissions trading market will become the largest single national-level trading market, based on his experience in ETS pilot projects.

He noted the collapse of the CDM market in other aspects of the international carbon market, and at the same time noted the contraction of the international offset market. Finally, he concluded this presentation by explaining the difficulties in linking different emissions trading markets. He explained that countries and regions have different MRV systems and trading standards, a problem which must be addressed before the markets can be linked.

Thursday, 13 September 2018
Morning

Session 15: Obtaining Financial Support for GHG Mitigation Projects from the Green Climate Fund

In his presentation, Mr. Andrei Chicherin, Senior Project Finance Specialist, Green Climate Fund, Russia, explained the Green Climate Fund (GCF), talking about its background, objectives and governance. He explained that the GCF promoted a paradigm shift towards low-emission and climate-resilient development, taking into account the needs of nations that are particularly vulnerable to climate change impacts. He also explained the business model of the GCF and its resource allocation plan. According to his presentation, the GCF has 10.3 billion US dollars in pledges and 10.1 billion US dollars in signed contributions. He emphasized that the six investment criteria for the proposed assessment are potential, paradigm shift potential, sustainable development potential, country ownership, efficiency and effectiveness and needs of recipients.

He concluded his presentation by explaining the project approval process, project portfolio by region and investment types. According to his presentation, there are currently 74 projects worldwide, among which 45% are located in Africa, 41% dedicated to GHG reduction, and 42% of grant type.

Concluding Plenary and Formal Closure

In his closing remarks, Mr. Chessada Sakulku, Director of GHG Information Centre of Thailand Greenhouse Gas Management Organization (TGO), described the importance of climate action as a key factor to achieve the Sustainable Development Goals. In the fifteen sessions, participants had learned about global climate change regimes such as the Paris Agreement and Nationally Determined Contributions (NDCs), in addition to calculation method of GHG emissions as defined by 2006 IPCC Guidelines. Participants had acquired the ability to conduct GHG mitigation and manage the GHG emissions. The speaker also emphasized that the sharing of the knowledge, experience and cooperation among countries will help the participants to achieve the expected result of SDGs. He concluded his remarks by giving thanks to all participants, valuable speakers and co-organizers for their roles in hosting a successful workshop.

Mr. Yang, Associate Research and Policy Expert, UNOSD, shared his 4-day workshop experience after the TGO director have his closing remarks. Mr. Yang also gave special thanks to all participants, speakers and organizers for hosting a beneficial workshop. He wished to explore other opportunities to host other training workshops with the same participants.

Each participant obtained valuable knowledge regarding global climate change regimes, GHG calculation methods and mitigation options. The group discussion session, was special in that all participants were exposed to diverse experiences by executing tasks related to climate change, such as GHG projection, setting up the mitigation target and roadmap and suggesting mitigation options for attaining the GHG reduction roadmap. The workshop was a good opportunity for all participants, especially government policymakers, for establishing national-level greenhouse gas inventories as well as setting up NDCs required by the Paris Agreement.

Overall Synthesis of Proceedings, Outcomes and Recommendations

All in all, the workshop proceedings, outcomes and recommendations as described above showed that at the end of the workshop the participants acquired deep understanding of GHG Inventory System and Climate Change regimes. The main three objectives of the workshop, as described in the introduction, were largely met:

- Capacity development of policymakers, policy shapers and working-level staff members in governments, think thanks, private sector and civil society in the Asian region on the 2030 Agenda and the SDGs;
- Contribution to the implementation of GHG inventory system in different countries and understanding technical aspect of climate change such as emission trading and GHG reduction technologies;
- Exchange of advanced knowledge and experiences on climate change and advancing networks among participating organizations, countries and regions to promote the implementation of SDGs and Climate Action

In their final anonymous written evaluation of the workshop, on a scale of 1 (lowest) to 5 (highest), participants gave 4.546 points for the format of the workshop, variety of expert presentations, presentations of country cases, interactive discussions and facilitated small-group sessions. They rated the quality of presentations at 4.425 points, the relevance of topics at 4.550 and the overall quality of their whole experience of the workshop at 4.600.

There were some recommendations from the participants. First, they asked to allocate more training days to facilitate the attendees' understanding of the details of each IPCC guideline in a practical manner. IPCC guidelines require a basic understanding of environmental science. Lack of such basic knowledge prevents participants from

understanding the subjects handled by the workshop, if not enough time is allocated to explain these basic concepts. Second, they asked to divide the workshop into basic and advanced courses to accommodate varying knowledge levels of participants. Depending on their background and current position, the participants said they were able to understand IPCC guidelines to widely varying degrees. Therefore, to make a more effective training workshop the participants asked the organizers to provide at least two different levels, such as basic and advanced courses. Third, they asked to enhance partnership and solidarity with collaborating organizations, corporations and institutions on providing educational programs to the policy makers and government officials. The issues related to climate change and greenhouse gas emission is not a simply solved problem. It is a problem that requires active participation of all stakeholders. Especially, the policy makers and government officials from the developing countries are very crucial to lead active participation.

From the point of view of the consultant who conducted this workshop, the general format and subjects for this workshop should be maintained in view of the strong endorsement they received in the evaluations and informal feedback from participants. The contents, of course, should be updated at each offering of the session, using the latest material from the current climate change regime and global trend of mitigation actions of GHG.

Annexes

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Session 14: **Emissions Trading and the Linkage among Countries**

References

- Carbon Pricing Dashboard, The World Bank
- Voluntary Carbon Markets Insights: 2018 Outlook and First-Quarter Trends, Ecosystem Marketplace
- A Guide to Linking Emissions Trading Systems, ICAP

Session 15: **Obtaining Financial Support for GHG Mitigation Projects from the Green Climate Fund**

References

- Green Climate Fund

Links to Agenda, List of Participants and other resources

Workshop Concept Note

List of Participants

Guide for Coordinator, Moderator and Resource Persons