Domestic Fiscal Policy Framework for Climate Finance in Indonesia

Summary of Focus Group Discussions August to November 2008




Working Group on Climate Change
Fiscal Policy Office Ministry of Finance

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Disclaimer. This document summarizes a series of informal FGDs among central and provincial government officials, banks, private sector carbon finance project proponents, academics, and NGOs. The views and suggestions expressed here are those of the participants. These statements do not necessarily reflect the official positions of the Government of Indonesia or the Ministry of Finance. The Ministry of Finance makes no claims about the accuracy of data, estimates of citations to legal documents presented or discussed during the FGDs.

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Foreword

In December 2007, Indonesia hosted the High Level Event on Climate Change in Bali in conjunction with the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties 13. This event aimed to initiate sustained discussions among Finance Ministers on this critical topic. Ministers of Finance agreed that it is in the global interest to improve international financing mechanisms and develop innovative approaches for climate financing. During the event, Finance Minister Sri Mulyani declared climate change mitigation and adaptation as development issues.

Mitigating and adapting to climate change requires macro-economic management, fiscal policy plans, revenue raising alternatives, insurance markets, and long-term investment options. The Ministry of Finance needs to manage these challenges by adopting budget priorities, pricing policies, and financial market rules. In order to do this, the Fiscal Policy Office appointed a working group to study and map out fiscal issues for climate change. In 2008, the group hosted a series of Focus Group Discussions (FGDs), conducted studies on forestry and regulatory impact assessment, and initiated studies of low carbon development, geothermal energy, and institutional issues. The World Bank, JICA, Australian Treasury, and GTZ all contributed expertise and resources to the FGD process.

This paper shares the findings and lessons of the Fiscal Policy Office Working Group from the Focus Group Discussion process. These results can serve as an input to the Government's discussions of appropriate fiscal policy instruments to promote low carbon development, carbon markets, and climate finance opportunities.

Head of Fiscal Policy Office
Jakarta, March 2009

Acronyms

Bapepam-LK	Badan Pengawas Pasar Modal dan Lembaga Keuangan, Indonesia Capital Market and Financial Institution Supervisory Agency
Bappenas	Badan Perencanaan Pembangunan Nasional, National Development Planning Agency
CC	Carbon Conservation
CDM	Clean Development Mechanism
CERs	Certified Emissions Reductions
CTF	Clean Technology Fund
DNPI	Dewan Nasional Perubahan Iklim, Indonesia National Council on Climate Change
FCPF	Forest Carbon Partnership Facility
FPO	Fiscal Policy Office
GDP	Gross domestic product
GHG	Greenhouse gas
GTZ	Gesellschaft fuer Technische Zusammenarbeit, German Agency for Technical Cooperation
HLECC	High Level Event on Climate Change for Finance Ministers
IPB	Institute Pertanian Bogor, Bogor Agricultural University
IPO	Initial Public Offering
JICA	Japan International Cooperation Agency
KLH	Kementerian Lingkungan Hidup, Ministry of Environment
MESDM	Ministry of Energy and Mineral Resources
MoF	Ministry of Finance
MoFr	Ministry of Forestry
PLN	Perusahaan Listrik Negara, Indonesia State Electricity Company
PP	Peraturan Pemerintah, Government Regulations
REDD	Reduced Emissions from Deforestation and Forest Degradation
SCF	Strategic Climate Fund
UNDIP	Universitas Diponegoro, Diponegoro University
UNFCCC	United Nations Framework Convention on Climate Change
WGCC	Working Group on Climate Change
WTO	World Trade Organization

Contents

Executive Summary: Main Policy Issues, Barriers and Economic Instruments

In mid 2007, the Minister of Finance established a working group on climate change in the Fiscal Policy Office to help prepare for the UN Climate Change Conference and the High Level Event on Climate Change for Finance Ministers, both hosted by Indonesia in Bali in December 2007. In mid 2008, the Working Group on Climate Change initiated a series of Focus Group Discussions (FGD) to develop capacity, ideas, and networks that will improve the Government's ability to consider economic policy responses to climate change issues.

The aim of the focus group series was to obtain information from key stakeholder groups, develop an inventory of issues, and to seek inputs on the strategic role of the Ministry of Finance. The overall policy objective was to identify key policies and sectors where carbon finance mechanisms could be best applied and seek ways to broaden and scale up mitigation initiatives using carbon finance programs. To this end, the Focus Group Discussion series invited experts from inside and outside the Government to provide information and experience with key issues related to climate finance in Indonesia. Results from the FGDs provided inputs for the Ministry's contribution to the second High Level Event on Climate Change held in Warsaw, Poland in December 2008. The FGD results also contributed to the Warm-Up Seminar on Climate Change held in February 2009, which served as an input to the MoF's preparations for the Annual ADB meetings in May 2009. The FGD process also contributed to internal Ministry discussions to harmonize perceptions and develop action plans for dealing with key climate change issues that fall within the main areas of responsibility of the Ministry.

Suggestions from the FGDs focused on the following main areas and sectors where policies can be formulated to broaden the scope of carbon/climate finance.

First, Indonesia can deepen its engagement on the international level to make the best possible use of global financial mechanisms to support mitigation and adaptation efforts. These mechanisms include the financial mechanisms under the UNFCCC and Kyoto Protocol framework, of which the Clean Development Mechanism (CDM) is the most important one for Indonesia. One interesting point arising from the FGDs was that Indonesia's role in the global climate change negotiations mirrors very much its engagement in other multilateral fora such as the World Trade Organization. Indonesia's efforts to formulate clear strategies and roadmaps for the negotiation process are particularly important in the ongoing international efforts to install various climate investment funds. Like any other investment, successfully attracting carbon finance flows will ultimately depend on creating a conducive domestic investment climate.

Second, general fiscal and economic incentives are crucial to address the structural barriers to carbon/ climate finance projects, especially in fossil fuel consuming sectors. The main barriers are distorted energy and fuel prices which prevent clear market signals to investors (CDM project developers) and in many instances make the development of renewable energy options economically unviable. Addressing these distortions, however, requires a gradual approach, given that subsidies also function as a social measure to provide affordable energy. Thus, it is important to identify policy synergies, which reduce environmental externalities, but also provide social benefits and improve economic efficiency. For instance, reducing fuel subsidies and allocating the budget resources to poverty alleviation programs is one already tried successful policy option. Phasing in subsidy reduction and providing tax breaks at the same time is another interesting policy option mentioned in one of the FGDs. Allowing for progressive taxation linked to emission trends in the medium and long term is another compelling proposal. In this context, some participants highlighted the need to undertake an overall review of environmental fiscal issues as a basis for establishing a step by step approach toward key reforms. Any environmental fiscal reform will have to be based on clear guiding principles and a broad consensus of policymakers and stakeholders.

A third policy area is the use of specific policy incentives and fiscal instruments to address policy barriers to CDM project development. Beyond the structural distortions mentioned above, the FGDs identified the link between CDM and carbon markets to more general issues, such as the investment climate and lack of local government capacity to handle carbon finance issues. Participants also mentioned high transaction costs of the CDM project cycle and access to finance for private project developers as important barriers to the smooth development of carbon/climate finance in Indonesia.

Tax treatment of CDM earnings was identified by participants and project developers as an important area of uncertainty and a barrier to emission reduction project investments. Some suggested that existing tax incentives and breaks for selected investment areas, sectors and specific regions could also be applied to CDM-related businesses. Tax breaks and holidays for importing clean energy equipment or waste treatment technology have already been applied in several cases and could be expanded in future. However, a need for caution was also expressed, as the principle of equal treatment under the tax code must be adhered to as much as possible. Income taxes are the most likely instrument to apply to carbon finance revenues in future.

Fourth, there are important sectoral opportunities to address barriers or create opportunities for expanding carbon/climate finance potential. Chief among these sectoral opportunities are banking, forestry and alternative energy. The role of the banking sector is seen to be crucial in improving access to finance in carbon/climate finance projects. So far, the Indonesian banking sector is not much engaged in financing CDM projects. The key issue is risk perception: Certified Emissions Reductions (CERs, the tradable commodity produced from CDM projects) are still not viewed as 'real' outputs by credit analysts, thus making CERs also difficult to act as collaterals and guarantees. Bank Indonesia and Bapepam-LK are in the process of factoring environmental sustainability into risk rating and assessment frameworks as a way to improve the awareness in the industry.

Forestry is a key sectoral carbon/climate finance opportunity for Indonesia. Reducing Emissions from Deforestation and Forest Degradation (REDD) is a proposed approach to create a new carbon market to allow payments to countries that can reduce the rate of deforestation (which contributes about a fifth of greenhouse gases, globally). If UNFCCC negotiations are successful, REDD could be implemented after 2012 and Indonesia as a country well-endowed with rainforests could benefit through a system of international payments. From a fiscal perspective, REDD payments can be seen as way to capture the full value of forests by including environmental externalities from deforestation and valuing services provided by forests. However, one main concern is that the current undervaluation of forest resources combined with ineffective rent collection and monitoring will undermine future carbon prices. Equity concerns and revenue-sharing mechanisms also need to be addressed in the government's current efforts to develop the REDD policy framework. Addressing forest sector issues will require a multi-sector approach and the Ministry of Finance can play a crucial role in developing clear regulatory mechanisms and incentive frameworks that affect the financial side of a REDD program.

The energy sector - particularly geothermal energy production - represents an important carbon/climate finance opportunity for Indonesia. FGD participants mentioned renewable energy sources as an important area of opportunity. Of renewable resources, geothermal energy is one of the most promising because it is abundant in Indonesia and could be a focus area for designing future programmatic carbon finance and CDM incentives. One policy approach to foster geothermal energy production would be to use climate investment funds to subsidize the high up-front investment costs to build geothermal plants. Emissions reduction approaches can also be pursued in the fossil fuel power generation sector by considering alternative technologies.

There are also opportunities for emissions reductions and carbon finance in the industrial sector. The Ministry of Industry has started to develop emissions strategies for key industries, including textiles, cement, pulp and paper and steel. However, in order to achieve substantial emissions cuts and stay competitive, it was suggested that the industries need substantial help in the form of tax exemptions and investment incentives.

This FGD series was a starting point for thinking about prioritizing economic policy options for mitigation and adaption from the viewpoint of fiscal policy makers in the Ministry of Finance. These suggestions were organized into a summary policy matrix that extracts the main issues discussed in the FGDs with invited international and domestic experts (see Appendix A). The matrix groups these findings into main policy areas and attempts to link identified policy barriers and issues to the main economic policy instruments discussed in the FGDs.

1 Introduction and Policy Context

In mid 2007, the Minister of Finance established a working group on climate change (WGCC) to help prepare for the UN Climate Change Conference and the High Level Event on Climate Change for Finance Ministers (HLECC), both hosted by Indonesia in Bali in December 2007. The first task of this WGCC, led by the Fiscal Policy Office, was to manage the HLECC and prepare materials to brief the Minister on key issues of concern regarding economic policies to address climate change. After the Bali meetings, the Working Group continued to provide analytical and technical assistance on economic policy instruments, carbon finance and international climate change policy to the Minister, who has lead delegations to a series of international ministerial dialogues through 2008. The working group has collaborated with other key Government institutions such as the Ministry of Environment, the National Council on Climate Change, the Ministry of Forestry, BAPPENAS and other government agencies.

In mid 2008, the Ministry of Finance Working Group on Climate Change initiated a series of Focus Group Discussions (FGDs) to develop capacity, ideas, and networks that will improve the Government's ability to consider economic policy responses to climate change issues. According to the Head of the Fiscal Policy Office, the objectives of the focus group series were to obtain information from key stakeholder groups, develop an inventory of issues, and to seek inputs on the strategic role of the Ministry of Finance as the fiscal and budgetary authority in Indonesia. Specifically, the working group is concerned with identifying the appropriate fiscal incentives to ensure that the government and private sector take an active role in handling climate change impacts and financing needs. The

FGD series invited experts from inside and outside the government to provide information and experience with key issues related to climate finance in Indonesia. In addition to the FGDs, international and domestic experts were consulted by the working group members on an informal basis.

The results from the FGD discussions and related investigations aimed at providing relevant materials and inputs for the Ministry's contribution to the second High Level Event on Climate Change held in Warsaw, Poland in December 2008. The FGD results also contributed to planning and materials for the Warm-Up Seminar on Climate Change held in February 2009, in preparation for the ADB Annual Meeting to be held in Bali in May 2009. The FGD process also contributed to internal Ministry discussions to harmonize perceptions and develop action plans for dealing with key climate change issues that fall within the main areas of responsibility of the Ministry. Finally, the WGCC will investigate, through the FGD process, the range of domestic and international financing sources that can contribute to Indonesia's development and the fiscal and non-fiscal facilities that can provide the private sector with easier access to financing sources, including both carbon finance and climate finance.

These FGDs – and resource material provided by international and domestic experts consulted outside the FGDs - will guide the MoF in formulating its own research agenda on climate change policy and action. This process will contribute to the Ministry's efforts to develop a concrete policy focus, in line with its key responsibilities and comparative advantages. The findings and policy products developed by the WGCC will provide contributions to both domestic and international climate change policy dialogue processes, such as the IMF-World Bank Annual Meetings, the UNFCCC COP 15 in Copenhagen (December 2009) and the ADB summit in Indonesia (May 2009). The results from the FGDs and other investigations of the WGCC will be made available on the Ministry's website at www.depkeu.go.id.

Structure of the FGDs. The FGD series was formulated as a regular informal discussion forum among the CCWG and key stakeholders and experts on climate change issues within and outside the Government of Indonesia. Each FGD focused on a particular thematic area related to economic and fiscal incentives to promote carbon finance in Indonesia. The initially planned FGDs focused on the themes in Table 1 below. The FGD process contributed not only to inter-departmental sharing of information, but also to building up networks of expertise that the FPO can draw upon in following up on its responsibility areas.

As the process and networks developed, additional opportunities for technical discussions and briefings arose and were incorporated into the WGCC's learning process, including sessions on climate financing, forestry, REDD, and lessons from other countries. The FGD series and related meetings were accomplished with support from the World Bank, Australia Treasury, GTZ ProLH project, Diponegoro University, and counterpart financing from the Fiscal Policy Office.

Table 1: Schedule of Focus Group Discussion Series in Ministry of Finance/Fiscal Policy Office

No.	FGD	Topic	Participants	Speakers
1	Tuesday, Sept 02, 2008 Time: 15:30 – 18:00 WIB	Setting a Fiscal Policy Framework to stimulate Carbon Finance in Indonesia	BAPPENAS	Medrilzam
			KLH	Laksmi Dhewanthi
2.	Tuesday, Sept 09, 2008 Time: 15:30 – 18:00 WIB	Investment Policy and Fiscal Instruments on Carbon Finance & CDM	BAPPENAS	Syamsidar Thamrin
			KLH	Sulistyowati
3.	Tuesday, Sept 16, 2008 Time: 15:30 – 18:00 WIB	The Role of Banking Sector on Climate Change Financing	Bank Indonesia	Mulyana Sukarni
			Bank Danamon	Ronald
			Asbanda	Heru Setyawan
4.	Tuesday, Sept 23, 2008 Time: 15:30 – 18:00 WIB	Carbon Investors and Clean Development Mechanism	Asia Carbon	Architrandi Priyambodo
			Eco Securities	Agus P. Sari
			Gikoko	Joseph Hwang
Forest 1	Wednesday, Oct 14, 2008 Time: 09:00 – 12:00 WIB	Overview of REDD Potential for Climate Finance in Forestry Sector	Dept Forestry	Nur Masripatin
			Province of Aceh	Wibisono
5.	Wednesday, Oct 15, 2008 Time: 09:00 – 12:00 WIB	Potential on Carbon Finance & Sectoral Challenges – CDM, REDD, Other Carbon Initiatives	IPB	Rizaldi Boer
			MESDM	Isnudwiatmono S
6.	Tuesday, Oct 21, 2008 Time: 09:00 – 12:00 WIB	Climate change, Carbon Finance & Development	DJP	Hestu Yoga
			DJP	Prima
			PDPN	Gunawan Pribadi
7.	Tuesday, Nov 4, 2008 Time: 09:00 – 12:00 WIB	Investment Policy Carbon Finance in Industry Sector	Ministry of Industry	Agus Wahyudi
Forest 2	Thursday, Nov 13, 2008 Time: 09:00 – 12:00 WIB	Forest Management, Fiscal Policies, and Regional Perspective on REDD	IPB	Bintang Simangunsong
			Province of Jambi	Budidaya, Head of Forest Service

Related Investigations. Concurrently with the FGD process, the CCWG was engaged in a broader program of study and leaning. All of these activities contributed to the learning process for the CCWG staff and officials and to the thought process behind the development of this summary document.

- **Forestry.** To learn more directly about issues in the forestry sector and opportunities presented by the potential for payments for Reduced Emissions from Deforestation and Degradation, WGCC members traveled to the provinces of NAD and Kalimantan Timur for discussions with local government, local communities, and REDD project proponents. This work was supported through departmental funds.
- **Study of Policy Instruments.** To learn more about fiscal policy instruments and opportunities within the reach of the Ministry of Finance, the WGCC commissioned a special study from Diponegoro University and this team attended many of the FGDs for integration and consistency of concepts. This work was supported by Departmental funds.
- **Environmental Taxation Conference.** To learn more about environmental fiscal instruments, participants from the WGCC attended the Ninth Global Conference on Environmental Taxation, 6 & 7 November 2008 in Singapore. This is an annual series of conferences for the exchange of ideas, information and research findings on environmental economic instruments and how these policy tools can help create a sustainable economy. GTZ provided support for the Ministry of Finance involvement.

- **CDM Experience in India.** To learn more about carbon finance experience in other developing countries, the WGCC scheduled a session (supported by GTZ) on lessons about CDM from India. The focus of the session was on how India has taken advantage of the CDM, the sectoral profile of India's CDM projects, the performance of domestic CDM administrative and regulatory agencies, the lessons or prospects are for the CDM after 2012, and the implications for Indonesia of India's experience.
- **Climate Investment Funds.** To learn more about strategic opportunities related to developing international vehicles for financing climate investments, members of the WGCC participated in a briefing provided by a World Bank Carbon Finance expert. The team also traveled to Washington, DC (with World Bank support) to participate in partnership forums, trust fund committees, and design meetings related to the Climate Investment Funds, including the Clean Technology Fund, the Strategic Climate Fund, and the Forest Investment Program. The Minister of Finance designated the head of the WGCC as the GOI's representative to the Strategic Climate Fund.

Summary of Focus Group Discussions

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This section summarizes the main findings and lessons from the FGDs based on the presentations by the invited speakers and the minutes of the discussions. The following sections address the issues in each of the discussion sessions.

2.1. Setting a Fiscal Policy Framework to Stimulate Carbon Finance in Indonesia (FGD1)

Understanding the linkages between climate change, carbon finance and development. This session gave an overview of the carbon finance mechanisms available under the Kyoto Protocol. Indonesia as a developing country is not obliged to reduce emissions; only developed countries under the Kyoto Protocol have emissions reduction obligations. The CDM mechanism is currently the main mechanism under which Indonesia can implement carbon finance projects. A second presentation described a range of economic incentive instruments available to address environmental problems. This was useful in expanding the discussion from a limited view on CDM to a wider view of the role of economic incentives in climate and environmental financing. One key point is that environmental fiscal instruments can raise revenues and reduce externalities at the same time. This contributes to people's welfare and overall economic development. Climate change policies and carbon finance can play a vital part in sustainable development.

Indonesia's engagement in the international climate change framework. Participants described Indonesia's current engagement in the international negotiation process and several of the key provisions of the Framework Convention where proposals have been put forward. Participants mainly agreed on the need for a focused policy approach. Some compared the Kyoto Protocol to WTO negotiations: there are a lot of good intentions, but implementation is not optimal. Bilateral and regional efforts in trade were also cited as an effective way to make progress, in contrast to multilateral processes which can be slow and complex. It is important for Indonesia to have clear roadmaps and strategies to negotiate good bilateral and multilateral agreements. In comparison to other Asian countries, some were concerned that Indonesia should show more resolve and strengthen its capacity to negotiate beneficial outcomes.

Economic and fiscal instruments. Participants noted the importance of economic incentives and fiscal policy instruments in the improvement of conditions for carbon finance investments, as well as the key role of the Ministry of Finance in applying these instruments. They also suggested that sometimes the interactions between economic policies and environmental outcomes can be unclear, so a broad fiscal framework is needed for understanding. For instance, taxing motor vehicles to reduce pollution will not produce an automatic reduction of cars and emissions. The reason is that underlying elasticity assumptions are not straightforward, especially, if other supporting conditions such as functioning infrastructure (for alternative means of transport, for example) are lacking. It was noted that Indonesia's tax office started to deal with certified emissions credits (CERs) since 2006, in response to private sector requests to clarify the regulatory framework for CER trading. There is still some debate and uncertainty about whether CERs should be taxed and whether a VAT (PPN) is the best approach to do this. To address this uncertainty, another FGD was devoted to this issue (FGD6, summarized on page 25). It was also noted that annual budget policies should start to prioritize key policy actions for mitigation and adaptation objectives.

Main lessons from FGD1:

- Carbon finance plays a vital part in Indonesia's climate change policy and sustainable development
- Carbon finance options should not be limited to CDM
- Carbon finance needs to be viewed within a comprehensive fiscal incentives framework
- Indonesia needs a focused and strategic approach in international climate change negotiations to tap more effectively into finance mechanisms

Potential short – term policy action agenda:

- Intensify GOI efforts to tap into all internationally available climate finance mechanisms
- Improve inter-governmental coordination mechanisms, possibly led by DNPI
- Develop clear roadmap and strategy for Indonesia's stance on post-Kyoto framework
- Identify key policy areas for scaled – up climate finance and include in Annual Work Programs and Budgets (RKT)

2.2. Investment Policy and Fiscal Instruments on Carbon Finance & CDM Project Development (FGD2)

The Clean Development Mechanism (CDM) has had only a limited impact in Indonesia. There are two main sectors for CDM projects for Indonesia: energy and forestry. Until now there are no forestry programs using the CDM except in China. Experience with CDM project implementation so far has shown that transaction costs are very high. Statistics on CDM projects show that in comparison to other developing countries the share of total projects registered for Indonesia is still quite small. There has been little transfer of technology from developed countries and Indonesia is also having difficulties to guarantee the transfer of technology. The presentation also discussed programmatic CDM, which considers a set of activities and policies for a certain sector as one CDM project.

Financing and coordination of climate change. Climate/carbon finance aims at mitigation of emissions, with opportunities mainly in the energy, industry and forestry sectors. Several funding schemes are available for Indonesia, but financing has to comply with existing government regulations. The project approval system is complex and results in high transactions costs. Moreover, there is no credible system for financing of these projects. The project proponent must put up the money at the beginning and get payments for carbon emissions reductions only at the end of the project cycle. Geothermal energy is considered to be one of the most available and efficient resources for alternative energy in Indonesia. Regarding the choice of economic instruments, some participants suggested that giving tax breaks to firms for green energy technology application should be considered because it will also bring down the subsidy for other goods such as oil.

Improving CDM implementation and investment in Indonesia. Participants in this FGD suggested that domestic CDM and carbon finance industries should play a greater role, as foreign consultants still dominate the business. This makes carbon finance projects more costly. Domestic firms like Surveyor Indonesia or Sucofindo have the potential to engage in the carbon finance business. The total cost for CDM transaction is in the range of USD 100,000-200,000 even before implementation (some verification and methodology costs can be quite high, disadvantaging smaller projects). There was discussion of the need for up front financing for CDM projects. An example was cited where the World Bank (as carbon buyer) provided up-front financing, where 30 percent was borne by the Bank and 70 percent was traded in the market.

CDM is an investment issue. CDM should no longer be considered only as an environmental issue, but as an investment issue. Denmark provides an excellent example for giving incentives to investors to add value. Investment policies should be considered as CDM-oriented. To this end, business that harms the environment could be clustered in the negative list of investment. Indonesia could learn some lessons from China and India where government involvement has been deep and where there has been strong facilitation for loans, financing and verification for CDM. However, India and China moved faster since they have started CDM projects earlier in comparison to other countries. Currently, the Ministry of Industry is preparing a road map of emission reduction and assessing the amount of tons of carbon of the product produced (taken up in FGD7, page 27).

Applying economic and fiscal policy instruments for CDM in Indonesia. There is a need to clarify the different efficiency effects of fiscal and tax instruments on the one hand and financing instruments on the other hand. It would also be useful to look into a scenario in which it would be possible to observe the effects of providing tax breaks and at the same time decreasing subsidies. Another suggestion is to apply progressive taxation linked to emissions produced. Lastly, it would be useful to clarify the status of the revolving fund and whether it can be used as a trust fund for carbon finance activities.

Participants again noted that geothermal energy production is an advantage for Indonesia, due to its strategic location on the "ring of fire" and its zero carbon emissions. However, there are barriers for development of these projects, including availability of financing and the relatively higher cost of doing business with green (newer) technology (estimated at 20 percent). One key problem is the existing subsidy structure distorts price signals, which makes it very difficult for geothermal projects to become competitive.

Main lessons from FGD2:

- CDM – related investment is limited in Indonesia
- Barriers to investment include high transaction costs of the CDM verification process, lack of access to finance and the investment climate
- Lessons from China and India point to a stronger role for government to facilitate investment
- A sound fiscal policy mix is key to promote carbon finance projects
- Geothermal energy development is a promising area for future programmatic CDM

Potential short – term policy action agenda:

- Initiate first steps to gradually remove energy price distortions by developing strategies that build on policy synergies between:
    - fuel subsidy reductions and social spending
    - electricity tariff reforms and making renewable energy competitive
- Improve general investment climate by continuing governance and regulatory reform agenda

2.3. The Role of the Banking Sector in Climate Change Financing (FGD3)

This FGD began with an elaboration of the Banking Sector role for climate change. Bank Indonesia stressed the need for incentives on regulation which will build up the interest of the banking sector on financing climate change activities. Climate change brought opportunities and challenges for Bank Indonesia as the agent of change. The opportunity for climate change investment will support the project financing on mitigation and adaptation however there are also potential high risks attached to it such as the volatility of the carbon market mechanism, lack of regulation support and human resources that are exposed to it.

The presentation continued with the elaboration of the supporting factors for carbon market, where China and India lead for CDM projects. The banking products and services on climate change also have been varied such as carbon fund management, certification, microfinance, etc. PROPER (Program for Pollution Control, Evaluation and Rating) is an environmental rating system for industrial firms, developed and applied by the Ministry of Environment, and based on the quality of their pollution control and environmental performance. Different colors represent different levels of compliance and performance. As an example of Banking regulation in relation to environmental purposes, Bank Indonesia adopted the PROPER rating system as a condition for banks to provide loans to businesses. The presentation closed with a request for feed back from the participants on best practice from other countries to support this view.

Experience of the banking sector with carbon finance has been fairly recent. For instance, Bank Danamon has started its engagement since 1.5 years. The bank has extensively discussed and consulted the issue with practitioners such as carbon finance consulting companies. Currently, there are discussions on several projects on a big scale. This project pipeline is expected to get CERs within 12-18 months. Danamon Bank also has been focusing on small-medium enterprises, and has been supporting efficiency through farm, waste and garbage management. There have also been environmental initiatives under its CSR program channeled by the Danamon Peduli Foundation in cooperation with the local government. This initiative is to show to the people that they can benefit from small carbon projects.

There are many barriers to CDM financing from the point of view of the banking sector. Application costs are high, at around USD 100,000. Another obstacle is to educate the business players about CDM. Furthermore, credit analysts need to be instructed on whether the applied prudent principles are in accordance with Bank of Indonesia regulations. A CDM project is also considered as a high risk, as there is a possibility that it will not reach the quota and will not get the approval from the Executive Board (an international agency). Lastly, there is a view that climate change finance is interesting but since there is only a time limit until 2012, there is an urgent need to discuss this thoroughly with the regulator, whether the CER can be considered as collateral.

Bank Indonesia sees climate change finance as an opportunity, but there are still high uncertainties. Specifically, there are uncertainties in this climate change framework in terms of market mechanism, lack of knowledge of the human resources, which makes the risk of failure high. CER as collateral is still controversial. In addition, one needs to take account of the fact that money put into the banks is people's money. Thus, investing into CDM projects which potentially carries a high risk could lead to higher burden for the people, and no institution will bail out in case of failures. Given the current market situation, there is a need to look at this opportunity case by case. Risk assessment procedures could be improved by involving experts from the Ministry of Environment to set up ratings criteria. In principle, Bank Indonesia will support projects, as long as it is feasible, complies with the regulation (set by the Ministry of Environment), though the difficulty at this point is how to project the cash flow, and whether it is profitable or not. With the growing attention to climate change initiative, Bank Indonesia is willing to have dialogue with related parties to reduce misperception in relation to regulation.

Risk ratings should include environmental indicators. Banks give credit by looking at the environmental rating. Bapepam-LK in cooperation with Ministry of Environment has started to make sure that any listed Initial Public Offering (IPO) related to environment needs to be endorsed with a certificate from the Ministry of Environment. For example, Bapepam-LK will not be issuing IPO for plantation companies that have problems with the clearance of the area. Another example is that IPO for expansion in the textile industry means the company also ensures that there is also an expansion of its capacity for waste management. Generally, there is a need for government intervention on the investment side and there are opportunities to learn from the experience of capital market establishment.

Specific examples of carbon finance. Banking could facilitate companies that support the environment. For example, five years ago Bukit Asam mining company gave land for the community. The community used the land for conducting alternative energy activities by implementing a waste system management from farming. They approached Bank Danamon with this program. There has been a lot of on-going environmental projects in Bali using the debt swap program in cooperation with the German agencies. The soft loan for environmental investment started in 1992. Waste management supported by the World Bank in Bekasi, West Java, is considered successful and will be replicated in several areas.

General views on the role of the banking sector. There is high demand for environmental investment but slow response from the banking and financial sector. The banking sector still considers this type of investment to carry a high risk. The approval process coming from the board is not as fast as the approval process for getting CER in Indonesia.

Main lessons from FGD3:

- Banking sector's experience with carbon finance is limited
- Banking sector views CDM as too risky, as CERs are not usable as collateral
- Credit risk ratings need to be improved to include environmental performance and sustainability criteria
- Bank Indonesia is undertaking efforts to engage with private sector on carbon finance issues

Potential short – term policy action agenda:

- MoF and Bapepam-LK to issue guidelines and regulations on including environmental and CSR criteria into credit ratings and credit analysis
- Clarify banking sector policies and guidance
- Undertake socialization and capacity development for banks to engage in climate finance

2.4. Carbon Investors and CDM (FGD4)

This focus group discussion lays out the view of private sector players who are involved in CDM project development in Indonesia.

Ecosecurities. The presentation focused on an overview of the firm's domestic engagement in CDM projects but also gave an overview of the carbon markets in general. Ecosecurities is one of the largest carbon companies in the world and is a serious player in the domestic carbon and CDM project market. Projects range from hydropower, geothermal, biomass, cement, combined cycle gas power plant and palm oil mills composting with an estimated 16 million CERs in Indonesia. CDM is very much a financing opportunity for firms to invest in green technology. The expanding carbon market shows that CDM works as a financing mechanism. But Indonesia is lagging behind in CDM project implementation due to various factors mainly regarding information, available financing and certainty of regulations. The public sector has a vital role to play in terms of providing essential services and certainty in rules and regulations, donor coordination and information dissemination.

GIKOKO. GIKOKO presented an overview about its CDM projects in Indonesia and emphasized its public-private partnership approach. The firm is mainly engaged in landfill gas treatment projects. There are many investment barriers in the way of CDM project development. GIKOKO faces problems in accessing domestic finance for project development, including lack of opportunity for investor to receive guarantees and long bureaucratic CDM approval process. CDM is a monetary incentive for positive environmental mitigation of GHG emissions. Local governments do not have budgets for proper waste management. Access to finance is a key barrier. GIKOKO invests 7 percent of revenues to community development activities. There are also sectoral investment barriers in the energy/power generation sector. For example, there are difficulties in negotiating power purchase agreements with the National Electricity Company (PLN). There is also a general problem with energy price structure in Indonesia which is subsidized. This inhibits projects that want to invest in cleaner ways to produce electricity, for example, from landfill gas capture and use. For these reasons, Indonesia is not achieving its potential for emissions reductions. Low carbon presents an export commodity opportunity for Indonesia, if incentives are set right. For example, Indonesia could provide tax holidays for CDM investors or establish carbon-offset backed CDM fund to provide concessional loans and guarantees.

Asia Carbon Indonesia gave an overview of international carbon finance, the climate change negotiations framework and the CDM project cycle. Apart from the trends in the global CDM market, the presentation also highlighted the importance of the growing voluntary carbon market with Corporate Social Responsibility (CSR) strategies and improved practices in monitoring carbon emission reduction policies in the private sector. Asia emerges as the largest supplier of Voluntary Emissions Reductions (VERs). Future challenges ahead include the development of new innovative finance mechanisms, increased standardization of transactions, technology transfer to developing countries and structuring new carbon products to leverage finance. Domestic firms invest in CDM because it adds value to the firm. For this reason, Ministry of Finance should consider fiscal incentives that are appropriate for firms.

International dimensions of CDM. The international carbon finance structure is still evolving. There are several options after 2012 for developing countries' participation in the system. Looking at CDM regimes in China and India, the former has a centralized approach while the latter is more decentralized. It was argued that developed industrialized countries should pay for the emissions reductions, not the developing world. CDM seems to be a first step to give developing countries an opportunity to participate in carbon markets.

CDM is also a trade issue. CDM projects help to offset CO_2 emissions, not reduce them. The principle is to reduce emissions at feasible costs. CDM is based on trading, it has to be advantageous to both sides. In the end, it is also a competitiveness issue: if private carbon traders face too many taxes, they invest in projects in other countries. CDM depends very much on foreign direct investment and foreign investors. In this regard it is important to mention that 51 percent of firms still have to be owned by domestic partners. This is still a barrier to investment.

Policy instruments. Participants suggested that government should facilitate access to finance for private sector to invest in CDM projects. The newly established Clean Technology Fund might be pointing in the right direction. Due diligence standards are needed. In terms of incentives in other countries, in Thailand, there are tax holidays for biomass and biogas electricity producers. In China, there are subsidies and other incentives to invest in renewable energy production. One could apply a 'strategic industries' approach for climate change, i.e., identify key sectors in the economy to push for energy saving and efficient policy reforms or to provide incentives to develop certain technologies.

During informal discussion, it was suggested that CERs should be taxed because they are traded goods which create revenue and profits. On the other hand, there is also a rationale for considering incentives for industries that are reducing emissions and applying newer, greener technologies. The economic principle should be to tax 'bads' like polluting behavior, but subsidize 'goods' such as technology to reduce waste or improve air quality. There was recognition that access to finance seems to be a priority and domestic financial architecture needs to be reformed. General, structural economic barriers were also recognized as complex issues that will not be resolved immediately. Renewable energy projects might be closely related to oil price development. Renewable energy production has been discussed for decades. It is important to focus on overall energy policies to make investment in renewable energy more attractive.

Policy instruments and general principles. Indonesia needs to do what makes economic sense to the country regardless of climate change. Indonesia needs to take leadership and set targets. Many of the policies suggested make economic sense. For instance, reducing energy intensity per GDP is more efficient and makes growth sustainable. Similarly, managing forests properly results in multiple economic benefits derived from preserving environmental and ecosystem services, not only from direct economic benefits coming from felling timber. Fuel subsidy reduction and access to finance also emerged as priority issues.

Main lessons from FGD4:

- Private sector CDM developers face many investment barriers: regulatory uncertainties, access to finance and price distortions
- CDM is also a trade issue and competitiveness factors are important
- Fuel subsidy reduction and applying sustainable forest management are key economic policy issues
- Consider 'strategic industries' approach to identify key sectors where energy saving and policy reforms can be promoted

Potential short – term policy action agenda:

- Broader dissemination of information on carbon finance and CDM at local level
- Define and develop programmatic CDM activities in key sectors (specific industries, geothermal, landfill)
- Develop clear CER revenue sharing formula between project developers and local governments
- Develop clear national regulations on tax incentives for carbon finance and CDM projects

2.5. REDD and Forest Management (Forest FGD Series 1)

The Ministry of Forestry (MoFr) presented an overview of the proposed REDD framework which is still being discussed in stakeholder discussions led by the Ministry of Forestry. The effectiveness of the REDD approach depends on whether it should be a national or a project-based approach or a 'nested' (combination) approach. The current consensus is that REDD should be based on a 'national approach' with flexible implementation according to national circumstances. The presentation also gave a detailed account of Indonesia's efforts on the international level to shape the REDD process.

The main challenges ahead are as follows:

- Establish a multi-sector REDD commission
- Forge a strong link between regional and central levels in the REDD policy framework; better coordination of 'voluntary' carbon trading
- Ensure good governance and assess capacity of stakeholders
- Regulate the financial, payment and incentives system.

In terms of fiscal policies, REDD is expected to provide incentives to improve sustainable forest management. There needs to be a clear channel for REDD payments within the budgetary framework to ensure that payments are also allocated to the intended beneficiaries and stakeholders at the local level. There is a need to follow-up with a continuous dialogue between the Ministry of Finance and the Ministry of Forestry's sections which deal with fiscal and financial issues.

Project-specific experience in Aceh. The presentation highlighted the challenges in implementing a REDD pilot project. The Government of Aceh appointed Carbon Conservation (CC) and Fauna and Flora International (FFI) as project developers to implement the REDD project in Ulu Masen forest area. In implementing the project, several principles were followed. First, the provincial government still retains the control over the implementation process and the CERs. Second, carbon trading can be an effective mechanism for sustainable forest management if it produces value added to the local communities. Third, one needs to ensure the most effective way to channel the benefits to the local communities and 'surplus' benefits should be allocated to other areas with a high conservation value. Fourth, local communities must accept all aspects of the project implementation. Lastly, there needs to be a transparent financial management of the project. In terms of needed fiscal incentives, during the discussion it was suggested that an option to create an incentive for low carbon investments would be to offer tax-free treatment of CERs, for some specific period, for example 2 years, which would give carbon markets needed time to develop. Another suggestion was that revenues from carbon trading should be allocated directly to the provincial and district governments.

2.6. Sector Challenges: CDM, REDD and Other Carbon Initiatives (FGD5)

Dr. Rizaldi Boer presented an overview of various carbon finance mechanisms, focusing on REDD, CDM and the challenges for sectoral and scaled up approaches. After presenting the scientific evidence of the adverse short and long-term impacts of climate change (weather-related, floods, etc.), the presentation focused on the global mitigation mechanisms, distinguishing between Kyoto and Non-Kyoto mechanisms.

Any post-Kyoto framework will likely be built on programmatic or sector-based CDM approaches. Programmatic CDM is a program of activities carried out by a private or government organization to support government policies to reduce GHG emissions or increase carbon absorption capacity (compared to the emissions outcome without a programmatic CDM in place). In contrast, a CDM program activity is a project activity limited to a certain location and can be part of a wider programmatic CDM. Currently these mechanisms are still outside the CDM and UNFCCC framework. The question is how to incorporate these mechanisms and expand developing countries' participation in these mechanisms. COP 15 at Copenhagen in 2009 will be the key meeting in this regard.

REDD presents a scaled-up carbon finance mechanism that compensates for emissions reduction in the forestry sector. Its framework and methodology are still being negotiated, with Indonesia being at the forefront in developing pilot projects and demonstration activities. Some of the key issues in developing REDD include: emissions from national demonstration activities should be assessed based on national emissions; historical emissions taking account of national circumstances should be factored into the assessment process; demonstration activities should be consistent with sustainable forest management. REDD is based on the principle of verifiable reduced emissions. REDD is voluntary (for participating countries) and the traded commodity of REDD is reduced deforestation in terms of emission credits

The Ministry of Energy and Mineral Resources sees strong potential to use CDM for the development of geothermal projects. The presentation highlighted the following facts. Until 2012 eight geothermal energy projects will be developed under the CDM scheme. The installed capacity by then will be 680 MW. The projected emissions reduction will be 3,600,000 tCO_2 worth of CERs. The current project-based approach is bureaucratic and cumbersome, thus there are efforts to bundle smaller energy projects with a maximum of 15 MW. The government should consider a programmatic approach for financing geothermal projects. There are efforts to apply a programmatic CDM approach with the World Bank.

The discussion also summarized key issues in the forestry sector, including conversion of forest land into non-forest, land degradation, land ownership and tenure arrangements over forest land. During discussion there was some focus on the methodology of assessing emissions. For example, forest and REDD efforts will have to take account of the different absorption capacities of different land uses, such as, virgin forests, converted forests, plantations, and other land uses. For example, if forests were converted into palm oil plantations, the absorption capacity of palm oil plants would be different and that would have to be measured under a REDD approach. One important distinction is between tradable terrestrial carbon and non-tradable terrestrial carbon. The distinction is mainly due to legal status of forest land where the carbon sink is located, whether it is located on production or protected forests.

In terms of financing, there is still some uncertainty regarding climate investment funds and readiness schemes and whether they will mostly consist of grants or loans. Potential carbon funds include, the Forest Carbon

Partnership Facility (FCPF), Strategic Climate Fund (SCF), Clean Technology Fund (CTF) and bilateral funds between Indonesia and individual donor countries. In principle these funds could help the MoF to make up the difference between market carbon price and the costs needed to invest in readiness projects. The discussion then also clarified that in case of projects failing under the REDD scheme, the host country and project developers would not face penalties by the UNFCCC system. However, the risk is the loss of investment and no goods (i.e., CERs) that can be sold.

Some key questions and challenges raised during discussion included:

- What fiscal policies are needed to accelerate the programmatic CDM, REDD and other environmental programs on the regional level?
- Can and should government act to propose carbon trade activities and how should those funds be regulated?
- How to regulate and share the revenues from carbon finance projects under REDD which produce indirect 'surplus' emissions reductions?
- How to identify synergies between CSR and government programs to alleviate poverty (empowering communities) and to reduce GHG emissions?

Forestry and REDD issues need integrated policy approach. REDD stakeholder consultation is still ongoing and led by Ministry of Forestry. There is a big potential for Indonesia to tap into REDD as a financing mechanism, recognizing that forest incentives are not only a responsibility of MoFr management alone. Participants agreed that forestry incentives and REDD need an inter-departmental approach, with Ministry of Finance getting more involved in forestry management, incentive and fiscal/taxation issues.

2.7. REDD and Forest Management (Forest FGD Series 2)

Dr. Bintang Simangunsong of Bogor Agricultural University (*Institut Pertanian Bogo*r, or IPB) presented on economic instruments and REDD in the forestry sector. The objective of fiscal policies should be to reflect the true value of forest assets. There are economic instruments to capture 'economic rent.' REDD is part of a process to capture more of the total forest value by putting a price on carbon storage value. The CDM approach could be potentially undermined by undervaluation of natural resources and this could affect proper price of carbon credits in the REDD scheme. There is a need to find the appropriate balance between market-based and government-based mechanisms. Low collection rate of economic rent points to weak revenue collection and monitoring system in forestry.

Mr. Budidaya, Forest Service Head from Jambi Province, presented a regional government perspective on REDD. He enumerated some of the issues of forest management in the province, including illegal logging, community livelihoods, and large areas of conservation forest. He outlined the opportunity represented by REDD in terms of forest area potentially affected and potential earnings. He also raised a number of issues about REDD program implementation from the point of view of regional government, including equity concerns in terms of access to forest resources and treatment of carbon revenues. The principle of compensation for communities needs to be addressed. In discussion, participants noted that people need alternative livelihoods; a one time only compensation may not be sufficient to sustain a permanent reduction in the level of deforestation. There is also a danger that it will be privatized like water. The global goods aspect is important when devising REDD policy framework. There is a problem of outside actors coming in and trading for credits and forest goods. During discussion, there was a suggestion that MoFr needs an integrated risk management unit. There is already an auditing unit in MoFr which partially deals with risk management issues

Main lessons from FGD 5 and 2 FGDs on Forestry and REDD:

- Any post-Kyoto framework will likely focus on programmatic or sector – based CDM approaches; the GOI needs to anticipate and plan for this.
- For Indonesia, REDD presents a scaled up carbon finance mechanism that compensates for emissions reduction in the forestry sector
- REDD payments could be a large source of potential revenue for Indonesia, based on rough estimates and projections
- Underlying fiscal distortions in the forest sector need to be addressed as part of any future REDD policy framework.
- As long as true economic value of forests and ecosystem services are not captured, REDD will not work to maximum advantage.
- Equity and community concerns need to be addressed in REDD projects.

Potential short – term policy action agenda:

- Ministry of Forestry to finalize REDD policy framework and set up pilot projects
- Ministry of Finance to look into fiscal issues in forestry sector
- Establish inter-ministerial body to implement REDD framework

2.8. Climate Change, Carbon Finance and Fiscal/Taxation Policy (FGD6)

There are still many conceptual uncertainties regarding the tax treatment of Certified Emissions Reductions (CERs) and their exchange for payments. Value added tax (PPN) is currently not applicable for CERs. There is also a need for clarification from the Capital Market Supervisory Board (Bapepam-LK) on the treatment for CER, because it looks like a derivative transaction. In terms of income taxation, generally, the government must always consider the principle of equal treatment, when it devises economic incentives and tax regulations.

Until now, no specific tax policy instruments have been applied to carbon finance related products. So far, the Directorate General of Tax has not applied specific taxation rules on products and outputs related to carbon finance projects using CDM. Several instruments could be applied. Chief among them are the PPN (VAT), PPh (income tax), *bea masuk* (import duties), *pajak bahan bakar kendaraan bermotor* (fuel/gasoline taxes) and BPHTB (duty on land and building acquisition). The key issue is whether CERs themselves constitute a taxable product. There is also a view that CERs can not be categorized as a commercial paper, because it is regarded as an assistance from the developed countries to developing countries, which counts as delivery of non taxable goods. Thus no VAT is attached to it. There is also a difference between the 'subject' and 'object' of taxation. The former comprises of individuals, bodies and firms, while the latter means mainly revenues and incomes which are subjected to taxes.

Fiscal policies and CDM - general issues. The discussion on fiscal policies should not only focus on CDM when it comes to climate change. CDM is only one of many economic and financial instruments and thus it is necessary to address other elements of fiscal policies to address climate change. Policymakers at the MoF should also understand that CERs should be recognized as traded public goods, which have a global market. The one who does the trading is not a company but a country (between Annex I and non Annex I countries).

Several specific tax exemption facilities for certain investment areas already exist, which could also be applied to carbon finance projects. The main examples are Government Regulations 1/2007 and 62/2008 which provide tax incentives for several industries. These incentives include: a 30 percent deduction of income tax for investment for a period of 6 years; granting a quicker depreciation and amortization rate for investment projects; a tax tariff treaty for foreign firms with a uniform income rate of 10 percent; and investment allowance (compensation for losses) based on certain conditions for 5 – 10 years. Currently, there is zero tax for CDM – an incentive for investors. Companies that have conducted green initiatives have received tax facilities, for instance in the case of waste management. Also, during the start up investment period, if a company is in loss they don't have to pay income tax. This is all part of the overall effort to promote investment and CDM projects can already benefit from this reasonable set of incentives. If there is still not an increase in investment, there may be a need to look at other issues, not just fiscal policy.

For example, the Ministry of Finance has provided facilities to promote clean energy initiatives under Goverment Regulation No. 62/2008, which includes geothermal activities (Peraturan Menteri Keuangan No. 178/ PMK.011/2007). Geothermal power generation is considered to be the long term alternative to replace fossil fuel. However, so far the incentives and tax facilities already provided for geothermal development have not yet made it more competitive in the market. One key barrier to geothermal project development is pricing: PLN offers to buy electricity at a price below the production cost for geothermal facilities, a gap of 2-2.5 cents per kilowatt hour. Existing tax facilities can reduce the gap by about 1 cent, so there is a need to cover an additional gap to encourage this type of investment. Changing the pricing policy would be a non-tax approach to providing incentives for geothermal development. The Ministry of Energy and Mineral Resources is considering using the Carbon Partnership Facility (a carbon purchasing fund) in a strategic manner to sell carbon credits, which would help to cover some of the remaining gap between the purchase price and the production cost of geothermal electricity. Since geothermal development is still in early stages, any tax measures should be crafted carefully so that it will not burden project developers.

On top of the existing facilities, there are other options and proposals for fiscal policies that can benefit climate-friendly investment. For example, there is the possibility to install a channel for CER facilitation, if the regulation set by the tax office (on VAT -Article 16 B and Income tax – Article 31 A) is not adequate to address the climate change initiative incentives. This could be done by using the Law on APBN (Budget Law) although any incentives mandated would only be valid for one year. Another option would be to exempt firms from taxes when they import machines or equipment for clean energy objectives. There has been a suggestion that the tax can be applied for the value added from processing, but not for the sale of CERs. Also, investors can already benefit if the investment and transactions costs are deducted from CER earnings, thus lowering the potential tax burden.

Participants agreed that there is a need for greater clarity and guidance on the taxation issues. For example, investors and bankers may need more information on the range of facilities, incentives and tax breaks that already exist. As another example, there is a need to clarify the roles and responsibilities of local governments regarding taxes and CDM. In some areas, the companies that try to issue CERs have been "taxed" (profit share) by local government, with amounts varying. It is important for the private sector to have clarity on how much fees need to be allocated to the government from trading CERs.

To respond to the issue of climate finance and incentives more generally, the MoF needs more in-depth information. Tax policy and rules are based on the overall strategy of the Government, not in isolated considerations for specific sectors or causes. Tax policies need to differentiate between general fiscal objectives (budgetary) and specific objectives (such as addressing commodities like CERs). To address the tax issue comprehensively, there is a need to raise carbon finance and CDM to the policy making level for more direct consideration. The suggestion is to conduct further investigation to develop and propose an appropriate fiscal framework for climate change financing. Then, tax policies will emerge from the overall framework.

Tax policy could possibly help with other issues that investors face. Participants recognized that carbon investors face other barriers, such as high initial costs, and high transaction costs, with CER revenue streams only kicking in late in the project cycle. One suggestion would be to apply taxes based on the annual progress of the CDM project. Another suggestion, ensure even treatment for all investments in pollution control/emissions reduction, both downstream and upstream. Currently, it is normal for end-of-pipe treatment equipment to receive facilities (reduced taxes) on import of technology. However, it should also be possible for beginning-of-pipe equipment and investments to access these facilities (many CDM projects involve process changes or technologies, rather than downstream pollution abatement equipment). An examination of import tax facilities might reveal other opportunities; for example, there are currently no facilities regarding import taxes on solar energy equipment.

Profit-sharing is another important policy issue when setting taxation regulations. For instance, profit sharing in forestry sector involves various key players such as local government, communities, companies that issue CERs. To clarify this issue, the Ministry of Finance could examine the profit sharing mechanism between local and central governments and which tax instruments are adequate to address this problem. Directorate of Tax welcomes more in-depth discussion on this matter to achieve consolidation at the policy making level for clarity on perception of tax facilities.

Main lessons from FGD 6

- Until now, no specific tax policy instruments have been applied to carbon finance related products.
- Specific tax exemption facilities in other investment areas can already be applied to carbon finance projects.
- Special tax incentives for CDM developers are needed, such as tax exemptions for importing clean technologies.
- Geothermal energy production is a priority area that has received tax incentives, but needs removal of price distortions or other means to make investment viable.

Potential short – term policy action agenda:

- Gradual reduction of fuel and energy price distortions
- Tapping into climate investment funds or innovative carbon finance to bridge the gap between electricity purchasing price and firm production cost of geothermal power projects
- Study taxation policy to determine appropriate tax treatment for carbon finance and CDM projects and develop more comprehensive and consolidated guidance after consultations at policy level.

2.9. Investment Policy and Carbon Finance Potential in Industry (FGD7)

The Ministry of Industry has formulated a road map and strategy for greenhouse gas emission reductions for four key industries: Cement, Pulp and Paper, Steel and Textiles. The emission reductions projected for 2025 are as follows: Cement: 17%, Pulp and Paper: 20%, Steel: 32% and Textiles: 35%. Participants suggested that these industries need additional incentives to engage in the emission reduction initiative. Suggestions included: 1) Import tax reductions for machines and other related processing equipment. 2) Value added tax reduction for goods and services resulting from the emission reduction initiative. 3) Income tax reduction and 4) Tax holiday for incremental cost (meaning giving time to lengthen the investment period). The Ministry of Industry plans to issue a policy to promote emission reduction initiatives among the various industries.

Ministry of Industry reiterated some of the concerns about policies and barriers discussed in earlier sessions. For example, for the major industrial sectors under consideration, the high up-front cost of emissions reduction technologies is a serious barrier. With a carbon price around $10/ ton the potential revenue from CERs would not be sufficient to justify the start up investment in many cases. As carbon prices rise, these investments may begin to look more attractive. Measurement of emissions reductions and the complexity of approaches and the uncertainty of reductions achieved is another issue for industrial investors (which is being addressed by the UNFCCC through detailed guidelines on measurement problems). The Ministry of Industry also suggested that greater leadership, clarity and certainty from the banking sector in the climate change support facilities would help with climate friendly investments. For instance, the PROPER approach has not been very effective from an industry perspective. (Participants noted, in response, however, that banks should not have to fund companies with bad track records on protecting the environment.)

On the existing fiscal and financial facilities, there is concern that these provide only limited coverage and benefits in the industrial sector. Specifically, Government Regulation (Peraturan Pemerintah or PP) No. 12/2001 Article 2 sub-article 1, PP No. 143/2000, PP No. 24 /2002 and Minister of Finance Decision No. 231/KMK.03/2001. There is also an income tax facility through the Income Tax Law.

Participants sought more information and clarity regarding the implementation of the emissions reduction strategy as presented. There are questions in particular about how much it costs to initiate emission reduction from the industry sector. There are also questions about the viability of the approach under the possibility of a drop in demand for CERs, in case carbon markets and the Post-Kyoto framework will change radically. Participants sought more information on how the Ministry of Industry will engage with the private sector to achieve the goals of the program. Some suggested that raising awareness about CDM is an important activity, so that the industry can take a significant role and be part of the agenda based on their potential sources of financing and emissions reductions.

Though the session was designed for informal information sharing, not policy making, participants were reasonably clear on the tax considerations, following on from understanding developed in prior sessions. In particular, Ministry of Finance participants noted that that it is quite difficult to give cuts or carve out exceptions on income taxes, without giving the impression of unfairness. Government Regulation (PP) No 31/2007 and PP No. 1/2007 and PP No. 62/2008 already lay out the conditions and cases where special treatment can be applied or offered. The MOF reiterated its interest in developing fiscal policies and guidance that are supportive of climate change needs. The MOF will not act alone on tax or fiscal policies, but rather in collaboration with the Government, under the Leadership of Coordinating Ministry for Economic Affairs. Only when a comprehensive climate finance and fiscal policy program is developed and adopted will the tax and fiscal policies change to provide additional facilities or incentives.

Main lessons from FGD 7

- Industry faces many barriers, including high-up front costs to implement emissions reduction projects that can later earn CERs.
- The existing fiscal and financial facilities provide only limited coverage of benefits.
- The Ministry of Industry has formulated a road map and strategy for emission reductions in four major industries (Cement, Pulp and Paper, Steel and Textile).
- There are still no accurate cost estimates on of the investment needed to achieve emissions reduction projections.

<u>Potential short – term policy action agenda</u>:

- Continue to improve general investment climate through differential or delayed tax approaches, as already developed. Spread the word.
- Facilitate private sector investment to become more energy efficient by reducing tax and trade barriers on clean technology.
- Evaluate existing policies and proposals from the industry perspective to ensure incentive compatibility.
- Initiate a review of tax and tariff policies as a basis for developing a comprehensive and consolidated fiscal policy approach and guidance to support climate friendly investment.

Key Findings

3

Key role for Ministry of Finance. The FGD process reinforced the view that the Ministry of Finance must play an essential role in the development and implementation of climate change policies and programs in Indonesia. The presentations and discussion sessions revealed that climate change will affect macro-economic management approaches, fiscal policy choices, revenue-raising alternatives, insurance markets, and long term investment options. Various contributors emphasized the Ministry of Finance key role in managing budget priorities, setting pricing and incentive policies, influencing investment choices, overseeing bank/financial market rules, and monitoring distributional impacts on the poor. Ministry of Finance manages the investment climate, fiscal policies, direct spending, and risk and financial markets. The Finance Ministry plays a role in inviting or influencing foreign and domestic investment toward climate change mitigation and adaptation priorities.

Climate change and development principles. The stakeholder inputs clarified even more strongly that climate change is a development issue and that climate issues need to be factored into Indonesia's economic, social and environmental development strategies. Various presentations confirmed that Indonesia can benefit from investing in development with a climate-friendly lens – a cleaner, more efficient pathway to development. For example, because Indonesia has large geothermal resources, investing in this sector makes sense as an energy security issue, as well as a climate issue. Similarly, in the forest sector, investments in improved forest management can reduce environmental degradation and fires, which cause health hazards. Indonesia's investment in this sector would protect Indonesians' well-being, as well as potentially earning carbon financing.

Climate change financing. The focus groups and related domestic and international meetings revealed that carbon markets are an important source of financing that is under-utilized in Indonesia. However, because the international markets are changing and the global framework is evolving through the UNFCCC negotiation process, clean development mechanism deals or project-based financing may not be the greatest opportunity in the future. In contrast, programmatic CDM, climate finance mechanisms, and catalytic or transformative technology investments may be more beneficial for Indonesia in the future, at least in terms of a role for Government. To mobilize the financing needed to address climate change, Indonesia should be considering a mix of mechanisms paired with integrated national policies, a strong enabling framework and long-term incentives to attract investment. Stakeholders agreed that the Finance Ministry's comparative advantage is in considering the allocation and incentive decisions that affect investor and donor confidence and future investment streams.

Next Steps

4

Capacity building. To continue the capacity and network development initiated through this process, additional Focus Group Discussions could be considered to keep the momentum in 2009. Some suggested areas for follow up include:

- Climate change experience from other countries and projects. The Ministry of Finance could request briefings on Australia's Garnaut Review, as well as the ADB/DFID's Regional Review on the Economics of Climate Change (modeled on the Stern review).
- Assessment of policy issues and opportunities in additional sectors not yet covered, for example, trade policy and transportation sector issues
- More detailed, practical inter-ministerial working sessions on specific issues and sectors of high interest, including energy, renewables and forestry
- Workshops and seminars to disseminate results and seek feedback and discussion of policy proposals (for example, on environmental economics, fiscal policies aimed at environmental outcomes).
- Technical assistance from donor agencies is an important activity that can contribute to the Government's overall capacity building effort. Specific training or technical assistance could be focused on policy management , quantitative policy analysis, legal analysis and drafting, macro economic impact modeling, risk analysis and insurance for climate change adaptation, with banking sector.

Domestic and international policy process. The FGD series identified many opportunities for the Ministry of Finance to become more active in supporting the policy decision process for climate change response in Indonesia. This would entail engagement with inter-ministerial working groups; development of position/ white papers based on special studies using economic assessment or modeling; preparation of legal reviews or feasibility assessments; and monitoring and evaluation of results and spending.

Based on attendance at several international meetings, there could also be value in the Ministry taking an even more active role in international climate change venues, especially related to climate finance and financial restructuring, as linked to the recent financial crisis. The Ministry is already engaged in regular formal meeting processes through the multilateral development banks (MDBs), ASEAN, APEC, G20 and other venues. There could be greater staff focus on climate change issues within these venues. For example, emerging from the G20 and other meetings, special studies are sometimes commissioned and it would be useful to have resources to contribute Indonesia's perspective to analysis, comparative studies, working groups or steering committees of international efforts led by MDBs, OECD, UNFCCC, etc.

Evaluation criteria. The FGD process and consultations with sectoral ministries revealed that there is no shortage of suggestions for policy interventions, tax breaks and subsidies that could be offered. However, some of these suggestions are offered from a narrow sectoral perspective, while the Ministry of Finance must look at the overall economic, financial, and budgetary effects on the whole Indonesian economy, as well as its competiveness in the global economy. The FGD process revealed that the Ministry of Finance needs criteria and screening tools for evaluating policy instruments and specific suggestions for interventions at sectoral level. Such screening criteria could logically include carbon reduction (and financing) potential, comparative/competitive advantage, technical feasibility, political feasibility, and short-, medium-, long-run impacts. Further development and specification of these criteria and tools for applying them will be the subject of a guidance document to be produced in coming months.

Policy instruments/ priorities. The Ministry of Finance could usefully undertake an expanded role in looking at the appropriate management frameworks and incentive systems for financing and investment for climate change. In particular, there is a need to develop and specify the structures and systems that Indonesia will use to capture international climate investment flows toward energy and forestry sector reforms toward a lower carbon development path. More active and focused engagement on a matrix of policy options, screening and prioritizing, and developing time bound implementation plans for specific policies could become a major area for the working group in coming months and years. This could include development of policies and guidance for climate finance management and for financial institutions (in collaboration with Bank Indonesia). Analysis of the fiscal transfer system to provide incentives for climate-responsive development for Regional Governments would also be an area worth consideration.

Institutional structure. Given the large role and areas of responsibility of the Ministry of Finance, it may be necessary in the future to consider whether the institutional structure is appropriately arranged to optimize the focus on climate change issues, within FPO and within the Ministry. This work could begin with an examination of the kinds of skills and management structures needed to expand and target climate change policy action. Such a unit could need further development of skills in environmental economics, regulatory impact analysis, incentive design and investment climate, monitoring and evaluation of the impacts of policies. In the medium term, assistance could be sought for training, institutional needs assessments, and organizational review.

Appendix A

Domestic Fiscal Policy Framework for Scaling Up Mitigation and Carbon Finance in Indonesia

Sector and Policy Area	Barriers / Policy Issues	Suggested Economic Policy Instruments
International Climate Finance		
Access to international carbon finance mechanisms	• Post-2012 uncertainty	• Proactive stance on possible post-2012 framework
	• Lack of coordinated engagement in international negotiations and accessing various climate funding	• Develop clear roadmap and negotiation strategy • Improve knowledge base and capacity
	• Carbon finance and CDM is an investment issue, need to compete for financial flows	• Improve general investment climate • Develop clear emissions reductions strategy
Fiscal and Economic Incentives – General		
Need environmental fiscal reform (EFR)	• Guiding principles : • Internalizing external costs • Revenue neutrality • Broad consensus among stakeholders • Complimentary to CAC / regulations • Gradual step-wise implementation	• Energy and fuel subsidy reduction • Pollution taxes • Marketable permits • Tax breaks • Import and export tariffs • Pollution charges • Green accounting
	• Unclear linkages between economic policies and environmental outcomes	• Identify many existing policy synergies
	• Different efficiency effects of various fiscal and financial instruments	• Progressive taxation linked to emission trends
	• Energy and fuel price distortions	• Phase in tax breaks and subsidy reductions at same time
Fiscal and Economic Incentives – CDM		
Overcoming policy barriers to scale up CDM	• General investment barriers: • Access to finance • High transaction costs • High up-front costs for project developers • Energy price distortions • Difficulties in agreeing to purchasing power agreements with PLN • Lack of technology transfer • Local government capacity and knowledge constraints	• Improve general governance and investment climate at national and local level • Prepare and define programmatic CDM activities • Tax exemption for initial years of project • Access to tax incentives and exemption not only for end-of-pipe but also for beginning-of-pipe emission reduction investments • Gradual reduction of fuel and energy price distortions • Broader dissemination of information on carbon finance and CDM

Sector and Policy Area	Barriers / Policy Issues	Suggested Economic Policy Instruments
Taxation policies for CDM	• Need to distinguish between general fiscal / budgetary objectives and specific CDM objectives • Uncertainties regarding tax treatment of CERs • Income taxes (PPh) probably the most likely instrument in future • Local taxes on CERs • Post-Kyoto uncertainty on carbon markets	• Tax incentives could be applied by providing special rates when applying VAT, income taxes or tax exemptions • Example: existing tax exemptions and incentives for various industries and regions under Government Regulations 1/2007 and 62/2008. • Clear revenue sharing formula between firm and local government • Tax-free treatment of CERs for 2 years after investment
Fiscal and Economic Incentives – CDM Sector Specific		
Geothermal power development	• Energy price distortions • High fixed up-front capital costs	• Gradual reduction of fuel and energy price distortions • Tapping into climate investment funds to subsidize gap between PPN purchasing price and firm production cost • Look at potential to use carbon finance to support a program of activities
REDD / Forestry		
REDD is a scaled-up carbon finance policy issue most relevant for Indonesia	• Pilot projects to develop policy and methodology framework for reducing emissions from deforestation • Land and tenure arrangements key issue • Requires incentives to capture economic rent and true value of forest resources and services • Undervaluation of forest resources could affect carbon price underlying REDD mechanism • Equity concerns / revenue sharing with local communities	• Integrated fiscal policy approach needed • Improvement of fiscal instruments in forestry sector, rent collection and monitoring to induce sustainable forest management • Climate investment funds could bridge difference between carbon price and investment cost in readiness projects • Ensure local government and community participation in REDD project • Transparent financial management of projects
Comparative lessons from Brazil	• Need simple payment mechanisms for REDD • Need transparent monitoring and verification system • Involvement of CSO representatives	• Consider working with and building on existing fund management and disbursement channels for REDD, linked to MoFr • Establish inter-ministerial REDD body with clear division of labor and mandate

Sector and Policy Area	Barriers / Policy Issues	Suggested Economic Policy Instruments
Fiscal and Economic Incentives – CDM Sector Specific		
Banking Sector		
Improving access to finance for climate change initiatives and CDM project developers	• Indonesian banking sector little engaged in CDM and carbon finance • Risk perception is key: CERs still viewed not as a real commodity/collateral. • Regulatory incentives not clear for finance industry • Players in banking industry still need to be educated on carbon finance	• Include environmental and CSR criteria into credit ratings and credit analysis • Bank Indonesia uses PROPER as one criteria to come up with risk assessments • Bapepam collaborates with Ministry of Environment to issue certificates to any IPOs in environmental sensitive areas
Industry		
Government needs to provide incentives to industry to achieve emissions reduction targets	• Ministry of Industry has formulated a emissions reduction strategy until 2025 focusing on steel, cement, pulp and paper, and textiles industry. • Current carbon price too low to cover high up-front investment in clean technology and CDM projects	• Free of import tax for machine and other related processing equipment. • Free of value added tax for goods and services resulted from the emission reduction initiative. • Income Tax reduction • Tax holiday incremental cost, i.e. providing longer investment periods

Appendix B

Towards an Appropriate Fiscal and Government Support Policy: A Strategic Approach

Noeroso L. Wahyudi

From study to policy action

A series of focus group discussions (FGDs) conducted from August to December 2008 aimed to map out strategic issues on climate change. The main lesson learnt from these FGDs was the need to set an appropriate fiscal policy for climate change mitigation and adaptation and support national development. One priority issue is to implement fiscal policies and government support to intensively stimulate private investment. These policies should focus on three strategic climate change issues: i) Renewable Energy ii) REDD Mechanism and iii) Carbon Market Development.

A first step towards implementing an appropriate fiscal policy is to review the existing regulations and capacity of institutions on a regular basis, then to scope the availability of sources of financing, and to implement tools for formulating fiscal policy. Finally, the most important strategy is to facilitate serious private sector involvement in order to contribute to national development. The main benefit of this policy action is to explore low carbon production and investment as opportunities to develop new export commodities and to access cheap sources of funds such as concession loans and guarantees. Finally, it is possible to raise government revenue from CERs and Value Added tax.

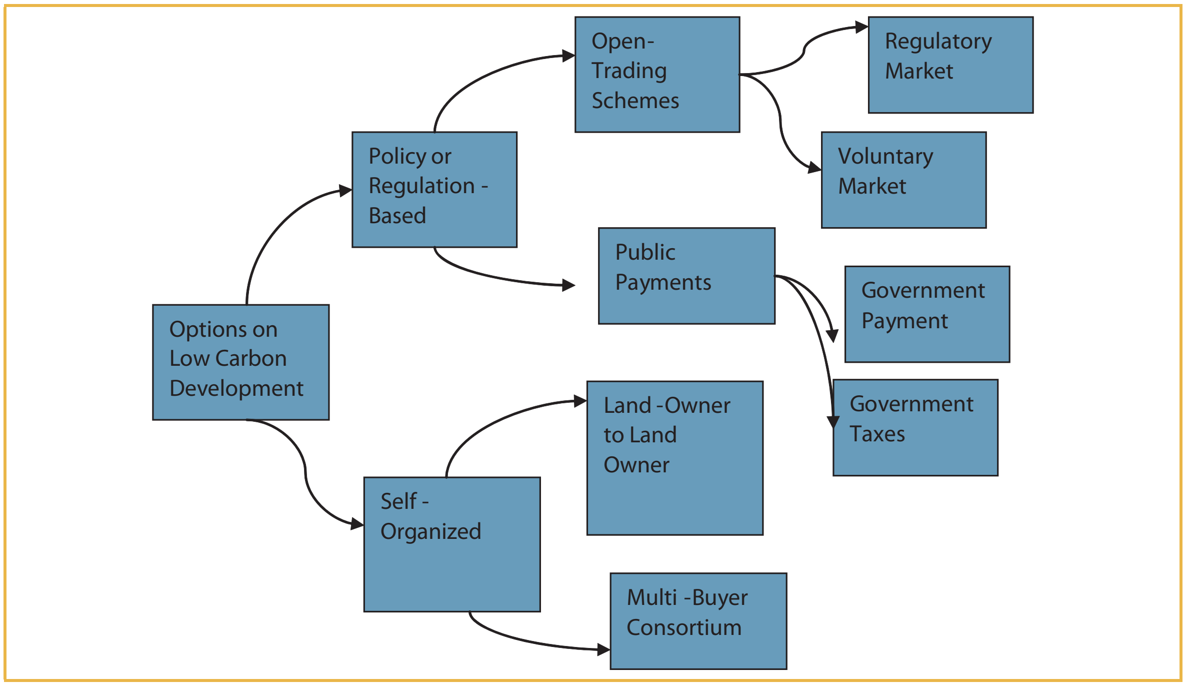
Methodological approach of analysis

Determining appropriate fiscal policies for dealing with climate change issues requires a methodological approach. A qualitative approach seeks to explore strategic issues on climate change. This should be followed by quantitative studies to support fiscal and non fiscal policy actions based on best practice public finance principles. In other words, these approaches are designed to analyse the feasibility of policy recomendations implemented by government, especially by the Ministry of Finance to adapt or mitigate climate change. Ultimately, it means that the MoF acts as a faciltator by developing regulations on the financial sector and also provide fiscal incentives to promote more private sector involement. This can be done through existing schemes such as Public Private Partnerships (PPP) and Corporate Social Responsibility (CSR).

Policy options to achieve a low carbon economy

There are two main options based on the principles of payment for environmental services to develop a low carbon economy (Waage and Stewart, 2007). The first one is policy or regulation based which can be further divided into two activities: 1) open trading scheme such as (i) regulatory market and ii) voluntary market and 2) public payments such as (i) government payment and ii) government tax. The second track consists of voluntary busines to business or self organized deals which is divided into: i) landowner (NGO) to landowner, an ii) multi buyer consortium). The main activities option can be seen in Figure 1 as below:

Figure 1 : The main activities on low carbon development.



Source: Waage and Stewart (2007)

Institutional arrangement

Based on the above Figure 1, there are three options to design an appropriate institutional arrangement:

Option 1: Market Based

1. Compliance market still inexistent, possibly after 2012
2. Voluntary market emerges due to CSR and compliance

Option 2: Public fund Based

The assumption of public fund based development is to raise funds mostly from public investors, international donors optimally.

Option 3: Combination of option1 and option 2

The assumption of combination of market and public fund based development is market and funds can coexist. In this approach fund can also be replenished by levy applied to the proceeds from the markets. Option 3 is more appropriate to develop institutional arrangements in Indonesia.

Towards renewable energy

A process to develop renewable energy can be developed based on the following principles:

1. Renewable energy is part of the system of a national energy power plan including hydro power and geothermal power plants.
2. Accelerating the development of renewable energy resources will not be based only on the ownership scheme of Electric State Enterprise (PLN) but also on Independent Power Providers

(IPPs). There will also be cooperation and partnership between local communities and PLN (PLTMH Karangasem, PLT Bayu Nusa Penida)

3. To develop a concept that directly benefits local communities and fosters sustainable development based on a national program for renewable energy.

Towards subsidy reduction

A process to evaluate reducing subsidy on energy can be developed as follows:

1. As long as the production cost of the good is more than the selling price (cost of good of PLN, i.e. electricity supplied), subsidy is still needed for compensating public service obligation (PSO).
2. Subsidy is still needed to fulfil operational cost of PLN (self- sufficiency) and to accommodate the growth of Electric National Enterprise.
3. The magnitude of subsidy should be based on adjusted certain margin of growth of demand.
4. Theoretically, the magnitude of subsidy can be reduced gradually since PLN can optimize its efficiency based on a certain willingness to pay of the society on feasible tariff.

Towards REDD mechanism

The most important mitigation policy for Indonesia is to reduce impact from climate change in forestry sector by using the future mechanisms under the proposed scheme of Reducing Emissions from Deforestation and Forest Degradation (REDD).

As stated on **Bali Action Plan** (COP-13 Decision on REDD), the status of REDD as a national and international issue needs to be strengthened. The implication of this status is how policy approach and positive incentive for REDD should be designed in way that considers important factors as follows: i) Demonstration activities (DA-REDD)**,** ii) Capacity building & technology transfer, iii) Indicative guidance *for* demonstration activities. The status of the effectiveness of REDD is entirely dependent on Annex 1 countries' commitment to agree on how deep the emission will be reduced. If COP 15 in Copenhagen 2009 can achieve a favourable international arrangement on the REDD mechanism, then the REDD mechanism will be operationalized in any new post-Kyoto Protocol arrangement.

Short term policy

In the short run, there need to be efforts made to treat (forest) carbon as a commodity and as an asset class in the domestic regulation. Moreover, there must be a policy to develop an efficient and market friendly regulatory framework and predictable price paths for CERs in the long run. Negotiations should aim to require deeper emissions cuts by the industrialized or Annex-1 countries to arround -25 to -40 percent by 2020 , creating demand for long-term and stable carbon market. To anticipate the result of international negotiation, the domestic climate regulators should intensify cooperation and support of financial regulatory agencies and the banking sector to make the carbon market work. The most important policy is how to reduce carbon transaction time and costs, so that private sector have increased incentives to invest.

Towards a carbon market

Carbon markets tend to pay on delivery, so it pays based on the results of the project, not based on plans or promises. In order to access these resources, credible policies are needed with programs and institutional arrangements in place to deliver reductions in emissions. Policy designs should ultimately aim to facilitate private sector investments and partnerships needed to capture climate change financing opportunities.

Finance barrier :

The existing carbon market financing for CDM projects is very limited. The illustration of source of *International* Financing can be seen on multilateral development bank as follow:

Term of Conditions	Carbon Finance Unit-WB	Carbon Finance Unit-ADB
➢ Upfront payment ➢ Credit Scheme ➢ Collateral	• 20% ERPA amount • 3 year 0% interest loan • Need BBB class Bank Guarantee to receive upfront	• 40% ERPA amount • 2 year low interest loan • Solvency Risk covered by Insurance policy • No collateral needed

Source : Joseph Hwang Presentation 2008

Note : ERPA=Emission Reduction Purchase Agreement; WB=World Bank; ADB=Asian Development Bank

Short term policy

In the short term, there is a need for clearer policy and regulatory guidelines to promote the most promising sector in terms of carnom emissions reduction potential. Areas considered as low hanging fruits are : i) Geothermal, ii) Flare reduction in oil and gas sectors, iii) Renewable energy (hydro and biomass) and iv) Municipal solid waste.

In the medium term, there should be increasing mutual understanding between Annex I countries and non-Annex I countries for strategic effort to mitigate climate change based on regulatory issues related to carbon trading and voluntary carbon markets. Regulation issues should be considered important factors as follows:

1. Investment from Annex I countries.
2. Technology transfer: between North and South or between South – South Countries.
3. Integration of Carbon Finance (Equity & Technology) with Project Financing.
4. Standardization of transactions.
5. Structuring new carbon products to leverage finance.

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