FINANCING MODALITIES OF THE CLEAN DEVELOPMENT MECHANISM (CDM)

A 2-DAY WORKSHOP SUMMARY

Crowne Plaza, Jakarta, Indonesia, June 27-28, 2005

Aims
- To explore the financial feasibility behind CDM projects as well as existing constraints from viewpoints of financial institutions;
- To consider possible solutions to mitigate such barriers;
- To identify policy options taken by host countries for project developers and financial institutions in implementing CDM projects.

Objectives
1. To identify the risks and issues on financial appraisals when CDM projects are to be implemented;
2. To consider ways of risk mitigation;
3. To find out policy solutions to solve those problems to project developers and government of host countries.

Expected output:
Identified financial barriers on and possible solutions to CDM projects.

Hosted by:
- Institute for Global Environmental Strategies (IGES), Japan
- UNEP RISØ Center on Energy, Climate and Sustainable Development (URC), Denmark
- United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)
- Japan Bank for International Cooperation (JBIC), Japan

Workshop Materials
Electronic forms of Presented materials are available at IGES website (URL: http://www.iges.or.jp/en/cdm/)

Opening Remarks

Ms. Liana Bratasida, Ministry of the Environment, Indonesia, after touching on the background information on CDM and Indonesia, expressed her view that there requires both national and international commitments to support financing CDM projects. Acknowledging that the financial issue is only a tip of the iceberg and there would be more issues to tackle, she urged the identification of roles for governments to play in resolving the financial barriers as well as the roles for financial and business sectors.

Dr. Tae Yong Jung, Project Leader of the Climate Policy Project of IGES, gave a brief summary of how this workshop was conceived with Dr. Chung of UNESCAP and Dr. Lee of UNEP-RISØ. He emphasized on having stories from both sides—Annex I and Non Anne-I countries, to identify real barriers for financing CDM projects. He expressed his appreciation for the Government of Indonesia for hosting the workshop as well as the co-organizers, UNESCAP, UNEP-RISØ and JBIC.

Mr. Rae Kwon Chung, Director of the Environment and Sustainable Development Division of UNESCAP, gave a brief introduction to his organization and highlighted the importance of financing issues for CDM due to the role that the private sector plays. He remarked his support for promoting CDM.

Dr. Myung-Kyoon Lee, UNEP Risø Center on Energy, Climate and Sustainable Development (URC), explained the CDM capacity building activities the UNEP RISO has been engaged in the past three years. He summarized the current carbon market situation with the emergence of EU-ETS and some of the barriers he has observed with the implementation of CDM. He emphasized the importance of establishing financial modalities for all stakeholders.

SESSION 1: Introduction of workshop

Mr. Rae Kwon Chung, Director, Environment and Sustainable Development Division, UNESCAP

Based on his personal experience, Mr. Chung provided audience with some historical insight to the process involving a round of negotiations prior to the adoption of the unilateral approach to CDM.

- Unilateral approach to CDM, which was only recently approved by CDM Executive Board, can be a Market Instrument for developing countries to participate in Emission Reduction of GHGs.
- Points of departure: 1) Implications and impacts of CDM design have not been fully understood even by the negotiators. 2) If properly designed, unilateral CDM can function as a market or economic incentive for voluntary participation by developing countries.
- Current realities are such that CDM is still being regarded as a limited CER producing convenience mechanism. CDM can alter the conventional market paradigm by incorporating emission reduction into the price mechanism, and further understanding of its full benefits vis-à-vis voluntary emission reduction by non Annex-I countries need to be established.

Dr. Myung-Kyoon Lee, UNEP Risø Center

- A brief introduction on the Capacity Development for the Clean Development Mechanism (CD4CDM), i.e. aims, objectives, strategies, key output, current progress, publication, and expansion plan.
- Dr. Lee shared the lessons learned and recommendations from this institute, as well as issues for further support. Some of the lessons and recommendations he emphasized included the importance of mutual trust and self-confidence in local partners as a key to overcome many barriers in practice; necessity of addressing the issue of long-term perspectives and incorporation of climate change in national development plans.

Mr. Tomonori Sudo, Senior Policy Researcher, IGES and **Ms. Yukimi Shimura**, Country Officer, CDP Programme, IGES

- A brief introduction on IGES by Ms. Shimura: background information, IGES' climate change research and CDM capacity building activities.
- Mr. Sudo addressed a wide array of fundamentals in the CDM development: problems and risks of CDM as a Kyoto mechanism, characteristics of CDM, existing countries-players, role of financing, financial issues (e.g. financial flow and cash flow in CDM projects), "additionality" of CDM both as a concept and financial consequence.

Q/A (1)

Questions, clarifications, and comments raised and responded to in the session revolved around the following issues:

- Need for building the capacity of lawyers in Indonesia (by Ms. Bratasida, Deputy Minister of Environment, Indonesia);
- Ways to encourage other developing countries, for instance China, through incentives to promote and actually implement CDM projects;
- How the IRR concept can be more expounded;
- How to overcome the risks surrounding CDM implementation;

- How to support the national government, and whether the Indonesian Chamber of Commerce can be assisted in raising awareness towards and financing of CDM projects (by Mr. Ilyas, Indonesian Chamber of Commerce)
- There is no such fixed regulation but market mechanism on the IRR. CDM is a new concept, yes, but project implementation isn't. India was once in a state of qualms, but is progressing ahead now with the first CDMs being launched. China will certainly join the wagon. CDM is still fluid and flexible. The most important thing to do with workshops like today's is provide strong recommendations to Governments.
- Agencies of development such as JICA, GTZ should take part to thwart prolonged learning curves or indecisiveness in the part of bureaucrats.
- The need for capacity building is huge and this is agreed to by many. In near future it should be addressed. Political resistance is also huge. The argument is if you already start your projects, why not set target. But Annex 1 countries have to realize that the most important thing is not target, but real actions towards GHG reduction.
- Settlements of problems can be done locally or nationally. How to simplify procedures is an urgent call.
- The future of CDM is a bit of a mixture between unilateral and bilateral approaches, with a level playing field envisaged.

SESSION 2: Introduction of candidate/potential CDM project

Mr. Tony Liwang, Vice President, SMART Research Institute (SMARTRI), PT SMART Tbk, Sinar Mas Group, and **Mr. Jun Ichihara**, Country Officer, CDM Programme, IGES

- Integrated Capacity Strengthening for CDM in Indonesia and its Model Project: (*Banter Gebang LF Bio-Gas Project*), which collects biogas from landfill by installing vertical & horizontal pipelines and generates electricity using the collected biogas

- **Identified Barriers to develop CDM:** No governmental incentive to facilitate CDM; lack of DNA; risk in changing policy/regulation; length of project; bundling CDM projects.

- **Identified Financial Barriers:** Fluctuation of the amount of biogas (Methane) to be generated; uncertainty in CER price (fluctuation – insurance); subsidy on the electricity price (compensation); currency risk; payback mechanism

Mr. Ouk Navann, Climate Change Office, Ministry of Environment, Cambodia

- Background; CDM Projects Pipelined in Cambodia. This includes 1) Angkor bio-cogen project with 1.5 MW rice husk-fired cogeneration plan generating roughly 45 thousand ton of Co_2-eq. reductions/year; 2) solar and wind power project in Mondul kiri Province with 1.4MW installed capacity generating 2.7 thousand ton of CO_2-eq. reductions/ year; and 3) land fill project with 85.8 thousand ton of CO_2-eq. reductions/year.

Mr. Pascual Beltran, Business Manager, Philippine Biosciences, Inc.

- Identified social, political, economic, and financial barriers to CDM within the Filipino context, although relevant to most developing countries, specifically regarding conversion of landfill gas to energy CDM projects.

- Proposed measures to address those barriers, eg. installation of regional landfills to serve a cluster of local government units; a pilot LFG project for energy facility to prove the viability of technology; regulatory incentives for renewable energy facilities, including priority dispatch of power; loan facilities with lower interest rates and softer terms; pool of renewable energy and gas experts to evaluate loan applications; integrate CDM as major component of renewable energy project; use emissions reduction purchasing agreement (ERPA) as an enhancement to loan applications; and bundle contiguous LFG projects to decrease CDM documentation cost

Mr. Hoang Manh Hoa, Senior officer, International Cooperation Department, Ministry of Natural Resources and Environment of Vietnam

- Background; CDM Projects Potential in Viet Nam. This includes 1) Rang Dong oil field associated gas recovery and utilization project with 674 thousand tons of CO_2-eq. reductions/year; 2) energy efficiency project in brewery in Thanh Hoa with 10 thousand ton of CO_2-eq. reductions/year; 3) landfill closure and gas recovery in Hai Phong city with 6.5 CO_2-eq. reductions/year; 4) reforestation project in north central part of Viet Nam with 27 ton of CO_2-eq. sequestration/year; and 5) Thank Hoa Rice Husk power plan in Tien Giang Province with 56 thousand ton of CO_2-eq. reductions/year; just to name a few projects in pipeline.

Mr. Chintan Shah, General Manager, SenergyGlobal, India

- Presented on some "realities" around CDM and CDM projects, while suggesting the importance of small scale CDM projects, arguing that the emergence of unilateral approach to CDM implementation by developing countries could only exist in theory but not in practice, for reasons related to registry and assumption that international transaction log (ITL) could only take effect after 2007/2008.

Q/A (2)

- Clarifications asked from a participant from Bengkulu, South Sumatra, Indonesia, about the financial scheme of NEDO to the project. It was explained that the project received a financing grant for 1 year from Tomen.
- Questions regarding barriers in proposing oil-palm related projects.
- Clarification asked to a point raised by Mr. Shah on whether CER could be transferred to EU.

SESSION 3: Donor's perspectives on financing CDM

Donor's perspectives on financing CDM (Three 20-minute presentations and a 40-minute discussion)

Mr. Toru Kubo, CDM Specialist, Asian Development Bank

- ADB is integrating CDM into its Project Cycle. Over 50 loans and technical assistances (TAs) were financed in 1994-2004 period in over 15 developing member countries in areas of: renewable energy, energy efficiency, and GHG reduction measures and technologies. Its REACH (Renewable Energy, Energy Efficiency and Climate Change) Program- Technical Assistance Program was started 2001, using four trust funds.

- **Prospective CDM Loan/TA Portfolio (2005-2006):** In China – coalmine methane (CMM) utilization, agricultural waste utilization & rural electrification and renewable energy; in Indonesia- geothermal and small hydro; in Samoa - micro hydro; in Pakistan - rural electrification and renewable energy; in India – hydropower.

- **Perspectives on Financing CDM:** ER prices surging; Kyoto Protocol coming into force; Clear penalties under EU-ETS for non-compliance; Uncertainty regarding "hot air" supply; Lack of political certainty beyond 2012; No market established yet for post-2012, therefore it will be difficult for financial sector to securitize ERs beyond 2012; Long lead-time to develop and implement projects; even if project identification initiated now, CERs can only be delivered from 2007 at the earliest; Few sectors that 3-6yrs of CERs can make significant impact on project cost/benefit; Lack of viable projects that can deliver by 2012!

- **Supply-wise**, developers among others are advised to develop concepts/PINs for projects with maximum emission reductions impact (CMM, LFG, livestock waste, agro waste). If short in cash-flow, they should maximize by investing on own and deferred selling. Multiple buyers need to be evaluated; if not, one should prioritize the buyers who provide up-front payment for the amount required for capital investment. It is important to look at projects that emission reductions can make a significant long-term impact and the project viability does not rely on emission reductions after 2012.

- **Demand-wise**, with over-supply of procurement vehicles available, their differentiation is necessary. It is time to consider equity, up-front payment, or loan backed by CER revenues, and potential upside of credits beyond 2012. Some buyers

may need to evaluate purchase of LULUCF credits; CER prices surging backed by "Linking Directive" of EU-ETS; Fact that EU companies cannot purchase LULUCF credits is an opportunity for non-EU entities.

Mr. Toshiro Nishizawa, Deputy Director General, International Finance Department I, Japan Bank for International Cooperation (JBIC)

- Provided an overview to CDM as a "mechanism to monetize environmental value", with CERs representing GHG mitigation contribution of a project, measured in metric tons of carbon dioxide equivalent. CERs are a second product (for example, after electricity) obtained by a CDM project.

- **Implications for and realities in the financial sector**: The sector's role is a key in promotion and development of CDM projects. Despite open global market opportunities, appetite is still low, due to CDM's unique risk structure; various institutional barriers; and the implementation complexity. Registry of CDM projects is a long and complex process, up to 3 years with procedural costs of c. $50,000- 250,000. Besides, the future of the CDM is unclear beyond 2012. From a financier's perspective, sales of CERs can secure additional income streams of projects. However, CDM projects entail 3 types of risks: conventional project risks; host country political risks; and additional CDM process risks.

- **Recommendations**: Simplify, standardize and streamline the CDM process; Provide prompt and clear guidance on the CDM regulations beyond 2012; Foster the development of institutional CDM capacities in host and investor countries; Rethink the interpretation of *additionality*.

- **About UNEP FI**: The United Nations Environment Programme Finance Initiative is a partnership between UNEP & financial sector (180 financial institutions worldwide) and its mission is "to identify, promote, and realize the adoption of best environmental and sustainability practice at all levels of financial institution operations".

- **UNEP FI Asia Pacific Task Force:** Launched in January 2005, UNEP FI Asia Pacific Task force focuses on: setting of "sustainability" priorities for the Asia Pacific financial sector; creating a critical mass of Asia Pacific members that are able to exchange ideas and best practice facilitated by a UNEP FI network; and integrating a triple bottom line approach to the operations of the Asia Pacific financial sector.

- **About JBIC**: an official financial institution providing policy-based financing to implement Japanese Government's external economic policy; A UNEP FI member, as Chair of the UNEP FI Asia Pacific Task Force Outreach Group since April 2005; supports projects to alleviate greenhouse gas (GHG) effects through various operational instruments.

- **Its projects in renewable energy**: Export loan for geothermal power plant in Mexico, June 2000; Guarantee for private placement bonds to finance geothermal projects in the Philippines, June 2000; ODA loan to Zafarana wind power generation project in Egypt, December 2003; ODA loan to Lahendong geothermal power plant project in Indonesia, March 2004; ODA loan to Ulubelu geothermal power plant project in Indonesia, March 2005.

- Its **CDM candidate projects**: Wind power generation project in Zafarana, Egypt, December 2003 (ODA); geothermal power plant project in Lahendong, Indonesia, March 2004 (ODA); geothermal power plant project in Ulubelu, Indonesia, March 2005 (ODA); methane gas recovery project in Shanxi Province, China, March 2005, supported by untied loan

Mr. Yoichiro Matsushita, Deal Manager, Japan Carbon Finance Ltd.

Introducing: **Japan Carbon Finance, Ltd**

- **Main Business**: To purchase CERs and ERUs issued until 2012 from CDM/JI projects; **Fund Pool**: Called "Japan GHG Reduction Fund (**JGRF**)", all can be spent to purchase

ERs; **Committed Fund Amount:** Approx. US$ 140 million; **Establishment**: December 1, 2004; **Location**: Tokyo, Japan; **Fund Providers**: Policy-lending Institutions (Governmental Banks) and 31 Major Japanese Private Enterprises.

- **Services:**
  Assistance for Project Development:
  JCF are ready to bear following costs for development of CDM/JI projects in principle with a certain ceiling amount: (No need to refund in principle) PDD preparation; validation; initial verification.

  Purchase of Carbon Credits (CERs, ERUs): JCF commits purchase of carbon credits under ERPA (Emission Reduction Purchase Agreement) at a fixed price, payment on delivery principle. Purchasing price is decided project-by-project basis.

  Upfront Payment: Upfront Payment for carbon credits can be considered.

- **Purchase Method (Ref.):** Other buyers' case or sweep method (in both cases, purchase volume is 70% of original assumption in PDD)

- **Risks in development & implementation of CDM projects:** 1) Risks specifically involved in CDM projects; 2) registration risks; 3) Risks in Fluctuation of CERs Volume; 4) Risks in Monitoring, Verification and Issuance of Credits; 5) Risks in Additional Policy by CDM Executive Board; 6) Political Risks in Host Country; 7Risks in Administrative Process for Credit Transfer; and 8) Risks in Renewal of Crediting Period.

- **General Principles:**
  No Need to Compensate, even in case of shortage of carbon credits in spite of best endeavors by project participants. project participants are not required to make up for the shortage (with Credits from other projects or sellers); and to pay any penalty to JCF. Project development costs are borne by JCF, thus there is no need to refund to JCF (JCF will not deduct these amounts from payment of credits in future.)

- **Merits for Projects**

  Additional Cash Flow: Improvement of project viability with additional cash inflow by selling CERs in US$; securing of stable profitability by getting commitment for purchase of CERs; front-loaded revenue in sweep method

  Assistance in Development: Saving of development costs (PDD, validation, initial verification etc.); getting of assistance and orientation for development of CDM projects;

  Possibility of Parallel-purchase / Equity participation: A part or all of the remaining carbon credits may be purchased by our fund providers in collaboration with JCF; participation as investors by some our fund providers may be possible.

  Collaboration with and Support from JBIC & DBJ: Strong ties with Japanese Government issuing Written Approvals for CDM/JI Projects; Cooperation and strong ties with Host Governments and Development Financial Institutions; Underlying Financing from JBIC, such as: Export Loan , Overseas Investment Loan, Untied Loan, ODA Loan, etc.

- **Key Criteria at Screening of PINs/PDDs:**
  Fulfillment of Kyoto rules, additionality, environmental & social safeguard requirements, project feasibility, contribution to sustainable development of host country, and purchase conditions (volume of More than 50,000t-CO2e/year and early commissioning project are preferable).

Q/A (3)

- On ODA loan underlying finance, is it not against prevailing regulation? No deviation; CDM and ODA do not contradict each other; in fact, all the more justification.
- What if there is a shortage of products with many demands? JCF will resort to *option*.
- What about other social aspects such as poverty reduction?
- Why has not forestry been mentioned in this workshop? Low relevance to today's workshop, but among the most important concerns in the Kyoto Protocol.
- Will JCF monopolize CERs? Is there a plan to provide guarantee? How would it facilitate the private sector/private banks interested in it? These questions were left unanswered.

SESSION 4: Commercial Banks perspectives on Financing CDM

Mr. Rey Guarin, Sr. Assistant VP, The Development Bank of Philippines

- Development Bank of the Philippines (DBP) is a state owned development bank, an ODA fund on-lender, ISO 14001 certified, and environment Management Systems Compliant.

- CDM Projects can be funded through: 1) Leveraging the ODA via GFI for CDM Projects; 2) GFI On-Lending ODA via PFI for CDM Projects; 3) An Alternative to the ODA via GFI model Funding Scheme

- In enhancing the Investments Features of Underlying Projects using the Carbon Revenues, CDM Projects can be financially structured among others through: interest rate risks hedging, and shortening loan terms.

- Among lessons from DBP through its climate change program: Attracting Carbon Buyers and Investors; creating Good Guidelines or Best Practices on Search Time and Costs; Lowering CDM Project Development Costs; Improving Monitoring and Verification Processing Time and Costs; Maximizing funding availability by Leveraging Dedicated ODA Funds for CDM Eligible Projects; Enhancing Revenue Potentials and Risk Mgt. Capacities.

- Areas that can be improved among CDM Stakeholders are: 1) Awareness and Understanding Levels of CDM; 2) Institutional Capacity Building and Development; 3) Total CDM Project Development

- **Recommendations**:
  - Employ a Banker for CDM Project Aggregator;
  - Make carbon assets fungible and standardize features;
  - Link carbon asset price to SD impact;
  - Create Independent Carbon Asset Rating Agency;
  - Create new Investment vehicles with CDM oriented guidelines;
  - Accept CERs as new financial commodity among Financial Institutions;
  - Be transparent and provide access to information re Pricing of CERs;
  - Create a developing country Carbon Fund for bundling Small Scale Project, and as an asset and risk management tool

Mr. Masahiko Umezono, General Manager, Structured Finance Division, Bank of Tokyo-Mitsubishi, Tokyo, Japan

- Mitshubishi Tokyo Financial Group (MTFG) was formed in April 2001. Core subsidiaries include; The **Bank of Tokyo-Mitsubishi** (BTM), Ltd; The Mitsubishi Trust and Banking Corporation; Mitsubishi Securities, and; Union Bank of California. MTFG has started process to integrate its holding companies, banks, trust banks and securities with UFJ Holdings, Inc. It will create the world largest financial group in terms of its asset in October 2005. Total Asset: U$987 billion; Risk Adjusted Capital Ratio: 12.95%; the first and only Japanese bank listed on NYSE; Rating: S&P A-, Moody's A1. World's #6 Rank 6 with Assets of U$ 987 billion; Market CapU$) 64 billion.

- **MTFG's** perspectives on CDM
  - Climate change is one of the most serious environmental issues.
  - BTM will endeavour to develop financial solutions for global warming, thus enabling and encouraging our client base to further reduce their GHG emissions.

- BTM will continue to reduce its own emissions of GHGs as much as possible.
- BTM is ready to obtain CDM credits in order to neutralize any residual GHGs that cannot be covered by the activities mentioned above starting from its Head Quarter facility in Tokyo.

Mr. Monjit Singh, Vice President, Infrastructure-Advisory&Finance, Yes Bank, India

YES Bank, newest entrant in Indian commercial banking, is based in New Delhi with a branch in Mumbai. Its paid-up capital amounts USD 47 Million; operations: Investment Banking; Commercial Banking; Retail Banking; Private Client Banking; Investment Banking:

CDM Market In India

- India has been at the forefront of the nascent yet evolving CDM market ….
- Ministry of Environment & Forests has been chosen as the DNA
- Renewable Energy projects comprise a major share of the 46 projects that have received host country approval: Biomass/ Cogeneration (16), Industrial Processes (15), Municipal Solid Waste (1), Fuel Switching (2) and Renewables (12), Energy Efficiency and Forestry (0);
- Total CER potential of 35 mn ton of CO2 eq. Major buyers: Netherlands, PCF (World Bank) and Japan. However, many new buyers entering the market – Canada, Austria, Spain. Project Development has been balanced across the country: South (16), North (14), East (11) and West (3).
- India has again been ranked as the top CDM country (Source: Pointcarbon)
- As the carbon market moves to maturity, Indian CDM market offers tremendous opportunities for CER buyers. Development of unilateral projects would create a new league of "off-the-shelf" projects for CER buyers and further consolidate India's position as the eminent CDM nation.

Positive Development In International CDM Market

- Kyoto Protocol has moved from the realms of shelves to reality
- First few projects registered with CDM EB; DOEs announced
- CERs volumes traded are increasing exponentially
- Market picking up despite uncertainties as corporates and governments are forced to act on internal pressures
- Price of CERs remain stable
- First unilateral CDM project registered in April 2005 - Cuyamapa Hydroelectric project.

Caveat Emptor

- Market remains heavily skewed: HFC23 projects (2) comprised 1/3rd of emissions & Japan, World Bank & Netherlands accounted for 90% of the market; 5 countries supplied 2/3rd of ERs;
- Although termed a "commodity", CERs continue to be heterogeneous.

CDM Project Financing

- The CDM transaction builds on the existing structure for the underlying project
- Identification of risks is the first step in evolving a suitable contractual structure for the project: Typical Project Risks, and Carbon Risks
- Lenders typically follow principle of allocation of risk to the party best positioned to manage it, some examples: *CER Delivery risk, Baseline risk, Sponsor risk, Host Country risk, Reduction of transaction costs, and Buyer risks.*

Unilateral Projects –Next Challenges

In a market not adequately equipped to assess such projects, unilateral CDM project represents an additional risk for the lenders.

- Since the risk assessment of the project would vary with the offtake arrangement, a lender has to make crucial assumptions regarding the same for a unilateral project
- Major stakeholders involved in financing of the projects include: Project developers; Equipment suppliers; CER Buyers; Commercial banks; Insurance agencies; Multilateral agencies.

- Most of the institutions mentioned are not fully equipped to appraise carbon mitigation projects.

Facilities to develop unilateral projects

- Standardization of the market in order to ease recognition and movement between markets, minimize risks involving cross-border cross-regulatory systems, and impart liquidity and transparency in the market
- Presence of large corporate project developers, due to experience of working in international markets and of developing large projects unilaterally; and presence of a large balance sheet as a contingent back-up
- Implementation of projects with proven technology, to surrogate for level and vintage of CERs being generated.
- Working through an institution (bank / intermediary) that can act as a "bridge" between project developer – buyer and financial markets
- Development of hybrid projects for the first few transactions.
- Till the CDM market is commoditized, differential criteria would be used to finance balance sheet & SPV projects

Mr. N.Yuvaraj Dinesh Babu, Head of Climate Change, Asia Carbon International B.V (Incorporated in The Netherlands)

- CDM has been expected to trigger technology transfer; new project investments to harvest CERs; new structures or models of financing by IFs; integration of carbon finance with underlying project finance; high CER price levels to influence project investment, CDM as risk mitigation tools and, models for high SD oriented rural energy projects).

- **Some international FIs** are still reluctant, due to additional risks that come with uncertainties, lack of linkages with local Fis, and low CER revenues. CER revenues are yet to be recognized by local FIs for leveraging financing. There are still low awareness levels and skills, low CER revenues. Nevertheless, market players are already into it. FIs, Banks and Corporates are developing innovative concepts and implementing. The benefits may still be lopsided–the cost of innovation.

- **Models for CDM financing** are such through equity participation, debt, project P&M costs, and ERPA based loan/equity promissory notes. The equity participation is still heavily discounted but it serves the purpose of the project promoters (sellers). Debt financing is characterized with a mismatch between CER returns and debt. Financing through Project O&M cost is still limited in application (e.g. only wind farms and bundling). ERPA based loan/equity-Promissory notes issuing involves a delivery risk, so the need is great for insurance.

- **ACI Group of Companies** was founded Feb 4 2003, headquartered in the Netherlands with regional presence in Singapore. Research centre in Vietnam; offices in Malaysia, Indonesia and Australia; and working partners in Sri Lanka, Thailand, India, Philippines, and Suriname. The Asia Carbon Group offers capacity building, project & carbon advisory, project/carbon finance, AC X-Change™, and Asia Carbon Fund.

Q/A (4)

- Mr. Chung asked who the project owners generally were in the Filipino CDM projects. Based on Mr. Guerin's answer, Chung explained that no matter who the offtakers would be, as long as its conception originated in a non-Annex 1 country, the project would be identified as unilateral.
- How to evaluate credits beyond 2012? From banker's perspective, the value of them would be discounted as zero beyond 2012.

SESSION 5: Host countries' policy on the CDM implementation

Chair: Mr. Shinichi IIOKA, Programme Manager, CDM Programme, IGES

Mr. Haneda Sri Mulyanto, Climate Change Mitigation, Ministry of Environment, the Republic of Indonesia

Presented on general background of CDM and CDM related institutions. Regarding to policies related to CDM of the Republic of Indonesia, Policies on Energy. Forestry and Environment are introduced.

On energy: CDM Working group on Electric state Own Company (PLN); CDM Working group on Ministry of Energy and mineral; Reduce fossil fuel consumption (used renewable energy 5% in 2007); Used non oil (huge amount of coal, and natural gas); Explore alternative fuel (biomass, solar etc); Program of primary energy supply security; Priority of non oil fuel power plant development; Product label scheme for electrical appliances; Energy efficiency campaign; Reduce the subsidy for fuel

On forestry: Ministerial Regulation on CDM forestry No.14/2004; CDM Working group on forestry sector; Project should support sustainable forest

On environment: Act no 23/1997 on environmental management; Blue sky Program (used unleaded gasoline); Industrial rating program; Clean city program; EIA program; Center of Cleaner Production; National Strategy Study on CDM Energy and Forestry

To mitigate financing risk, it is necessary to establish incentive on CDM project and regulation on taxation of CERs.
According to Mr. Mulyanto, Indonesia has had an ad hoc 1-year-tenured committee for CDM under the Ministry of Environment.

Dr. Roberto C. Yap, Environmental Economist klima-Climate Change Center
Manila Observatory, Philippines

Presented on policy measures which might attract commercial financing of CDM projects in the Philippines.

Major barriers in the financial structure of CDM Project lie in the underlying projects.
Carbon revenues are only enhancement, as elements for "icing"; underlying Project Finance is needed to "bake the cake."

Investment Incentives

- Inclusion by the Board of Investments – Department of Trade and Industry of CDM project activities as a "Preferred Investment Area" in the Philippine Investment Priority Plan
- Inclusion would qualify CDM projects for tax exemptions and concessions
- Income tax holiday
  - For between first 4 to 6 years of commercial operation
  - Question: Would CER revenue be covered under this income tax holiday?
- Tax & duty exemption on imported capital equipment & accompanying spare parts
- Tax credit on domestic capital equipment
- Tax credit for taxes and duties on raw materials

Guidelines on ERPA to be issued by Central Bank and Bankers Association of the Philippines. Some issues that must be covered: e.g. how commercial banks can use the Emission Reductions Purchase Agreement (ERPA) in their appraisal of loan applications; criteria to judge the credit-worthiness of the ERPA; how much of the contracted value of the ERPA can be considered in the project cash flow assessment by the bank?

CDM-project financing through bonds can be facilitated and guaranteed by the Department of Finance

Incentives for renewable energy projects can be in the forms of: proposed Renewable Energy Bill; higher tariffs for power produced by renewable energy; and Priority dispatch for power produced by renewable energy.

Mr. Heng Chan Thoeun, Team Leader for Capacity Building, CD4CDM Project Ministry of Environment, Cambodia

Cambodia background

- Party to both the UNFCCC (1995) and the Kyoto Protocol (2002)
- The Ministry of Environment (MoE) is the National Focal Point for the UNFCCC and the Kyoto Protocol
- MoE is the Designated National Authority (DNA) working with other concerned ministries/institutions.

Potential Risks

- Political instability of host countries (sovereign risks)
- New international legal framework
- Inadequate legal framework of host countries
- Uncertainty beyond first commitment period
- Price uncertainty, no disclosure of CERs prices
- Illiquid and complex market (hard to make, hard to sell, hard to buy)
- Difficulties for host countries to monitor and verify SD benefits
- Lack of funding for the EB to function.

Policy Measures to Mitigate and Share the Risks on CDM

- Insurance (for sovereign risks)
- Clarification of rules (for new international legal framework)
- Establish legal framework (for inadequate legal framework of host countries)
- Improved commitment to COP/MOP negotiations (for uncertainty beyond first commitment period)
- Disclosure of CER market prices (for price uncertainty, no disclosure of CERs prices)
- More projects approved in shorter timeframe, improve CDM registration and approval processes (for illiquid and complex market)
- Conditional approval based on SD performance, requirement of DOE to verify SD performance (for difficulties for host countries to monitor and verify SD benefits)
- Immediate payments from Annex-1 countries (for lack of funding for the EB to function).

Dr. Nguyen Chi Quang, Senior Expert and Advisor, CDM Project and Climate Change Viet Nam

Dr. Quang covered a variety of issues from the general to specific--from the Finance Mechanism for CDM projects in Viet Nam, Present and Future on CDM Projects Financial Mechanism, CDM Funds, Risks and Possible Solutions, as well as lessons learned.

On CDM in Vietnam

- Implementation of CDM projects in Viet Nam plays an important role in the sustainable socio-economic development, hunger eradication and poverty reduction together with environmental protection
- Legal framework for CDM activities are being developed
- Viet Nam has potential to joint CDM Market
- Of 271 CDM Project Feasibility Studies in 48 Countries through December 2004 (FY1998-2004), 12 were in Viet Nam.

A CDM Fund supporting for in-country CDM activities need establishing

Structural Barriers to CDM Project Implementation Barriers
1. Cumbersome Procedures to Obtain CDM Approval
2. Contradiction Between Profitability and Financial Additionality

General Difficulties and Barriers

- Viet Nam Political and Sovereign Risk
- Keys barriers and Risk for CDM project
- Policy Options to Remove the Barriers and Facilitate to Financing for CDM project
- Business model of CDM Fund for a CDM project
- Relationships between CDM/CP Fund and

- stakeholders and institutions in a CDM project

Q/A (5)

- The issue raised by Mr. Yap on the importance of underlying projects or underlying finance was the main point of interest in this session. Some participants expressed agreement.

SESSION 6: Panel Discussion: Policy measures to be taken by Non-Annex-I countries' governments mitigate and share the risks on the CDM project financing by commercial lenders and investors

Chair: Prof. Akio Morishima, President, Board of Directors, IGES

- CDM regime is still laden with uncertainties and risks, being in the early development stage (also including uncertainties of Post-Kyoto regime).
- Three barriers; country risk; uncertainty of CERs in terms of prices and values; and institutional and regulatory risks (complexity of CDM).
- According to Ms. Liana Bratasida, Assistant Minister for Global Environmental Affairs, MOE Indonesia, and Member of CDM Executive Board, among the most crucial is how to disseminate the current developments to other government officials, particularly in the Ministry of Finance, Ministry of Industry, Ministry of Forestry, Ministry of Energy, and Indonesia's Investment Coordination Board (BKPM). It is expected there can be arranged a meeting between ministers and bankers at a forthcoming meeting in Canada. Also very important is dissemination to the local, private sectors e.g. business sectors; bankers in Indonesia, for example, need to be provided with guidelines.
- Dr. Edi Effendi Tedjakusuma, Director for Forestry and Water Resources Conservation at the Indonesian's National Planning Board (Bappenas) stresses the importance to strengthen implementation of underlying projects. Institutional capacity building cannot be detached from this need, both to the central and local governments, especially in the wake of Indonesia's regional autonomy.
- Matters pertaining to the trading of emission need further clarification and socialization.
- The role of governments of developing countries needs to be more enhanced.
- Development of legal systems to reduce risks and uncertainties (e.g. regulation of CERs) is needed.
- There is few underlying finance. Capacity of financial society needs to be strengthened.
- New concepts are needed for helping finance CDM projects in protected areas.
- Opportunity to match developers and financiers is important.
- The importance of the workshop and yet more workshop in future was acknowledged.
- The purpose of this 2-day workshop is to elicit barriers to financial modalities of CDM and possible ways to solve them. Most of the workshop participants have brought these issues and possible solutions in their presentation.

The session was closed with a wrap up summary by Mr. Sudo of IGES.

(No Q/A Session)