Chair's Summary

1. Introduction

The GEA International Conference 2009 on "Promoting Technologies and Policies toward a Low-Carbon Society" was held in Tokyo, Japan, on 16 and 17 October 2009. The conference was organized by Global Environmental Action (GEA).

The conference was held with the attendance of H.I.H. Crown Prince Naruhito. GEA Chairman Juro Saito and Japan Prime Minister Yukio Hatoyama addressed the conference, and GEA Director-General Hiroshi Ohki presided over the conference as its Chair.

Supported by the Government of Japan, the conference was co-organized by the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Education, Culture, Sports, Science and Technology, the Ministry of Agriculture, Forestry and Fisheries, the Ministry of Economy, Trade and Industry, the Ministry of Land, Infrastructure, Transport and Tourism, and the Ministry of the Environment, and supported by the United Nations University (UNU), the United Nations Development Programme (UNDP), and the United Nations Environment Programme (UNEP). The conference aimed to undertake high-level multi-stakeholder policy dialogue in order to articulate policy achievements and challenges and to facilitate technology and policy innovation toward a low-carbon society.

2. Opening of the Conference

Mr. Juro Saito, chairman of GEA, gave the opening speech at the GEA International Conference 2009. He warmly welcomed all participants and expressed his expectations that the two-day conference would provide a good opportunity to exchange innovative ideas and insight for facilitating technology and policy innovation toward achieving a low-carbon society.

H.I.H. Crown Prince Naruhito gave an address, noting the substantial degradation of the natural environment, including fresh water and ecosystems, and emphasizing the importance of building a society that is in harmony with the environment.

Japan Prime Minister Yukio Hatoyama gave a guest speech reiterating his determination to pursue the commitment made by his new government at the United Nations Climate Change Summit in New York in September 2009 on Japan's greenhouse gas (GHG) emissions reduction targets and the Hatoyama Initiative to support developing countries in tackling climate change challenges.

Dr. Emil Salim, former Indonesian Minister of the Environment and member of the

President's Council of Advisors, gave a special speech entitled "*Rashomon* in Climate Change." He related today's indecisive policies on climate change challenges to Akira Kurosawa's movie where people debated over the culprit of a serious crime. He stated that climate change and its negative impacts are already manifesting, and the international community must be united in taking prompt action and reaching agreements on effective policies to tackle climate change.

3. Thematic Sessions

In each thematic session, the facilitator moderated the discussion based on the keynote presentations in accordance with the conference programme. Presentations and general discussions are summarized below.

(1) Session 1: Toward a Low-Carbon Society: Shared Vision and Actions

Facilitator:

Myung Ja Kim
(Former Minister of the Environment, Korea; COB, Green Korea 21 Forum)

Keynote Speakers:

Bindu N. Lohani (Vice President of F&A, Asian Development Bank [ADB])
Ernst R. Ligteringen (Chief Executive, Global Reporting Initiative [GRI])
Tadahiro Mitsuhashi
(Professor, Faculty of Policy Informatics, Chiba University of Commerce)

Technology for transitioning to a low-carbon Asia

- Asian philosophy of *Mottainai* and sufficiency economy can be leveraged to achieve sustainability objectives.
- Promote low-carbon transition by transforming (i) energy, (ii) transport, (iii) agriculture and land use change, and (iv) financing mechanisms.
- Capitalize on win-win opportunities in (i) energy efficiency, (ii) renewable energy, (iii) transport, and (iv) carbon markets.
- It is important to make low-carbon technology viable at affordable prices.
- Japan is expected to lead in low-carbon technology diffusion.
- Policy mix is required to generate synergy with technology innovation.

Sharing visions and actions through sustainability reporting

- Measuring and reporting environmental and socioeconomic performance are important to achieve sustainability.
- Sustainability reporting under GRI is useful to "rethink, rebuild, and report sustainability."

- Business models must achieve optimal balance of convenience and environmental costs.
- Voters and investors need to change mind-set to influence decision-makers and business leaders.
- CEOs and investors should mainstream sustainability and long-term perspectives in corporate policies.
- World needs to act now as cost of climate change (e.g., biodiversity loss) far surpasses cost of countermeasures.

Green recovery

- Decoupling economic growth from fossil fuel use/GHG emissions is vital for achieving sustainability.
- Porter Hypothesis has merit that environmental regulations induce efficiency and encourage innovations that strengthen competitiveness.
- Market-based measures need to be devised to achieve GHG emission reductions and improve human well-being.
- Taxing carbon is important, but tax revenue should also be used to promote low-carbon products and technologies.
- Differentiated road tariffs based on vehicles' energy efficiency is suggested.
- It is worth considering introducing global warming tax not only to end-users of vehicles, but also to vehicle producers to encourage industries to develop low-emission vehicles.

(2) Session 2: Innovative Technology Development and Dissemination of Existing Advanced Technologies: Part I

Facilitator:

Jose Antonio Puppim de Oliveira
(Assistant Director, Institute of Advanced Studies, UNU)

Keynote Speakers:

Peter Hennicke
(Former President, Wuppertal Institute for Climate, Environment and Energy)

Kenji Yamaji
(Professor, Dept. of Electrical Engineering, School of Engineering, The University of Tokyo)

Key points

- World primary energy demand is unsustainable with business-as-usual scenario.
- Decoupling economic growth and use of fossil fuel is key and possible to achieve sustainable growth.
- Lower-carbon society is achievable by changing energy supply matrix, encouraging technological innovation, and promoting sustainable consumption and production.

- GDP and high energy use do not necessarily guarantee higher human satisfaction.

Innovative technology development and dissemination: Trends

- New and emerging technologies have great potential for large-scale use, such as solar, wind, biofuels (including next generations), hybrid cars (PHEVs) and geothermal.
- Marginal cost is expected to be significantly reduced with increase in scale.
- Energy systems can be improved by promoting cogeneration and smart grids.

Key points for policymakers

- Financial and economic systems need to be reformed to facilitate dissemination of renewable energy technology (e.g., green taxes, FIT).
- Also consider decentralized and integrated systems.
- Linkage between energy supply and demand (e.g., PHEVs charged at night with wind energy) is important.
- IPRs and standardization are crucial for technology diffusion and transfer, especially to LDCs.
- More than technical innovation, it is important to create right institutions for innovative technology development and dissemination.

(3) Session 3: Innovative Technology Development and Dissemination of Existing Advanced Technologies: Part II

Facilitator:

Hironori Hamanaka

(Chair, Board of Directors, Institute of Global Environmental Strategies; Professor, Keio University)

Keynote Speakers:

Yoshitsugu Hayashi

(Professor, Graduate School of Environmental Studies, Nagoya University)

Bernard Delmas (President and CEO, Nihon Michelin Tire Co., Ltd.)

Shuzo Murakami (Chief Executive, Building Research Institute)

Low-carbon transport

- Rapid urbanization and inadequate social infrastructure are major causes of energy-inefficient transport in megacities.
- Measures should be introduced to discourage vehicle use through road pricing, etc.
- Transport efficiency needs to be improved through changing bus routing, etc.
- Fiscal support must be provided then phased out in a timely manner to help market become self-reliant.
- Choice of transportation mode should be more rational based on energy efficiency and carbon emissions.

Proposed measures for the transition to low-carbon transport

- Promote and provide incentives for optimal mode of transport from life-cycle and holistic viewpoints that take into account efficiency in economy and urban land use.
- Incentives can be given for choosing energy efficient vehicles and using mass transport and bicycles.
- Provide incentives to landowners for promoting compact cities.
- Tax can be charged on cars and revenue invested in development of mass-transport infrastructure.
- Information-based measures should be used in addition to market-based measures.

Role of business for sustainable and low-carbon mobility

- Safer, more efficient, enjoyable, and greener mobility of people and goods are key to development.
- Business corporations must lead innovation and better use local knowledge and practice.
- Promote products that contribute to improving fuel efficiency.
- Raise awareness and promote green consumption through information dissemination.
- Eco-innovation should be promoted despite current economic conditions.

Transition to a low-carbon building sector

- Persistent obstacles remain, such as applying existing and innovative low-carbon technology to residential houses.
- Cutting-edge eco-housing technologies have been already developed; the challenge of how to apply them remains.
- Energy can be saved in heating and air conditioning, water heating, ventilation, lighting, and energy generation through solar power, etc.
- Dissemination of Life Cycle Carbon Minus (LCCM) housing requires (1) strengthening regulations, (2) providing incentives, and (3) visualizing energy saving.

(4) Session 4: Financing for a Low-Carbon Society

Facilitator:

Bindu N. Lohani (Vice President of F&A, Asian Development Bank)

Keynote Speakers:

Henry Derwent CB
(President and CEO, International Emissions Trading Association [IETA])
Young-Woo Park (Director, Regional Office for Asia and the Pacific, UNEP)
Takejiro Sueyoshi (Special Advisor, Finance Initiative, UNEP)
Yannick Glemarec
(UNDP-GEF Executive Coordinator & Director of Environmental Finance, Environment & Energy Group, BDP)

Financing for promoting a low-carbon society

- Funding for low-carbon society needs to come from multiple sources, and carbon cap and trade is one of efficient funding schemes.
- Europe, Australia, and U.S. models of carbon trading provide prospects and show avenue for global trading system, but some improvements/refinements may be needed.
- Involvement of major Asian developing economies in carbon trading is important.
- Carbon management is important part of competitiveness, and harmonized regulations are important to restrain business leakage due to regulation havens.
- Policy mix and political will remain vital.

Financing mechanisms under UNFCCC

- Multiple funding mechanisms have been established for tackling climate change, but need to catalyze more public and private sector funding for technology transfer while ensuring IPRs.
- Ambitious targets by developed countries and appropriate actions by developing countries remain key in mobilizing funds.
- The merit of establishing new and centralized funding mechanism compared to utilizing existing decentralized mechanisms needs to be examined.
- Capacity building and technology innovation and transfer should be facilitated.

Private finance and green economy

- Financial institutions should recognize their social responsibility to use funds for social goals.
- Green finance to invest in ecosystems and renewable energy should be promoted to address environmental and social governance (ESG).
- Proper assessment of climate change risk needs to be conducted and shared by business.
- Society needs to make financial institutions and sector accountable for promoting green finance.
- Develop systems to hedge investment risks in green financing.
- ESG should be mainstreamed in fiduciary responsibility of fund managers and financiers.

Financing the transition to a low-carbon society

- To stay within two degrees Celsius as described in IPCC report, emissions need to be cut by at least 50 percent by 2050 compared to 1990 level.
- In addition to international public funding, more private funding and cap-and-trade schemes are vital.
- Increasing access of developing countries to new funding is critical to tackle climate change and promote green economy.
- Creating scenarios and needs assessment for planning financing strategies is key.
- Provision of institutional supporting mechanisms for effective access and use of

funds is critical.

Strategic financing for climate and sustainability

- Reinforce conceptual value of "commons" as it has evolved from traditional practice of right to access and sustainable use of natural resources.
- Ensure long-term visions moving away from nearsighted perspective.
- It is vital to create mechanisms for internalizing environmental cost and promoting green investment, and to create markets for pursuing sustainability, e.g., energy efficiency.
- Political uncertainty is more detrimental than market volatility to investment.
- Ensure equity for future generations.
- Establish new fiduciary responsibility and institutionalize it through legislation.
- Fund managers need to change mind-set and consumers should choose ESG-conscious bankers to finance CO2 efficient activities.
- It is worth exploring innovative and effective international funding schemes.

(5) Session 5: Lifestyle Reforming toward a Low-Carbon Society

Facilitator:

Shigeyuki Okajima

(Executive Director, Japan Environmental Education Forum; Professor, Otsuma Women's University)

Keynote Speakers:

Vinya Ariyaratne (Executive Director, Sarvodaya Shramadana Movement, Sri Lanka)

Mary Evelyn Tucker

(Professor, School of Forestry and Environmental Studies, Yale University)

Kimiko Kozawa

(Professor Emeritus, Tokyo Gakugei University; Professor, Tokai University)

Role of NGOs for pursuing a low-carbon society

- Capitalize on cultural and philosophical commonality of Asia.
- It is important to facilitate policy formulation and strengthen implementation capacity.
- Capacity development, education, awareness raising, and partnership building are vital for community and stakeholder empowerment.
- Business must mainstream sustainability and develop partnership with multi-stakeholders.
- Capacity development and incentives are required for technology applications, including local ones.
- Media and information are critical in building low-carbon society.

Ethics and religion for sustainability

- It is important to link environmental issues with ethical and religious values.
- Recognizing environment as right of present and future generation is critical.
- Earth Charter provides useful framework and important principles to guide management of global environment from various perspectives, including cosmological context, ecological integrity, and social equity.
- It is useful to capitalize on synergy between religion and sustainability value to achieve economic, ecological, social, and spiritual well-being.

Environmental education and education for sustainable development

- Education is vital for changing people's perception and behaviors toward sustainability.
- It is important to start with children's and students' daily life in thinking about sustainability challenges.
- Conduct programmes suitable for various age groups and promote their participation and interaction.
- It is important to demonstrate actions and visualize benefits.
- EE/ESD should be promoted based upon interdisciplinary and participatory approach.

Reinforcing sustainability in people's awareness and values

- It is important to capitalize on local beliefs and traditions respecting cultural diversity.
- Population control and family planning are compatible with many world religions.
- It is vital to overcome inconsistency between religion and policy by finding common ground.
- EE/ESD should be based on local practices and cultures with multigenerational involvement.
- Greater efforts are urgently required to transform socioeconomic system by integrating ethical values.
- Music and cultural performance can be instrumental in conveying message to public.

4. Wrap-up Session

Key points of discussions at the thematic sessions were presented and endorsed as summarized in the preceding sections. Additional points were raised, for instance, the need to set more ambitious emission reduction targets, treat embedded carbon, promote a change in people's mind-sets, underline the cost of inaction regarding climate change, and strengthen social capacity.

It was also agreed that the outcome of the conference should be disseminated widely to various international fora, such as UNFCCC COP15 in Copenhagen in December.